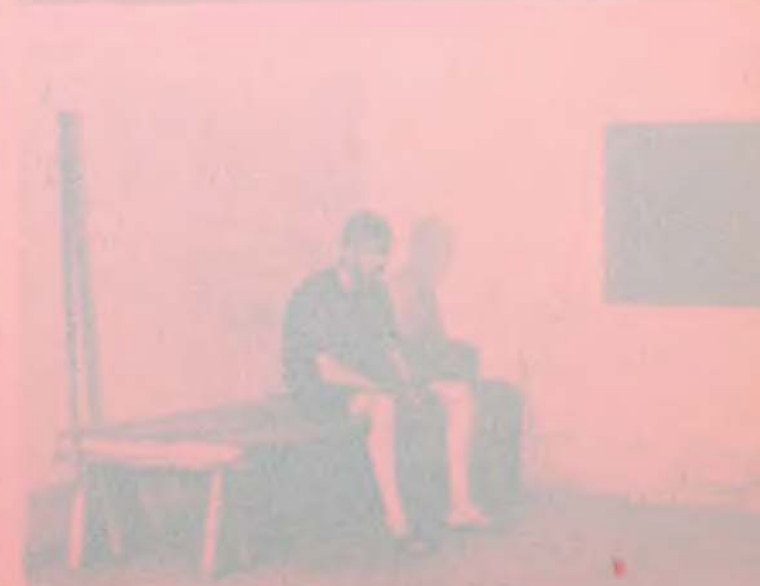
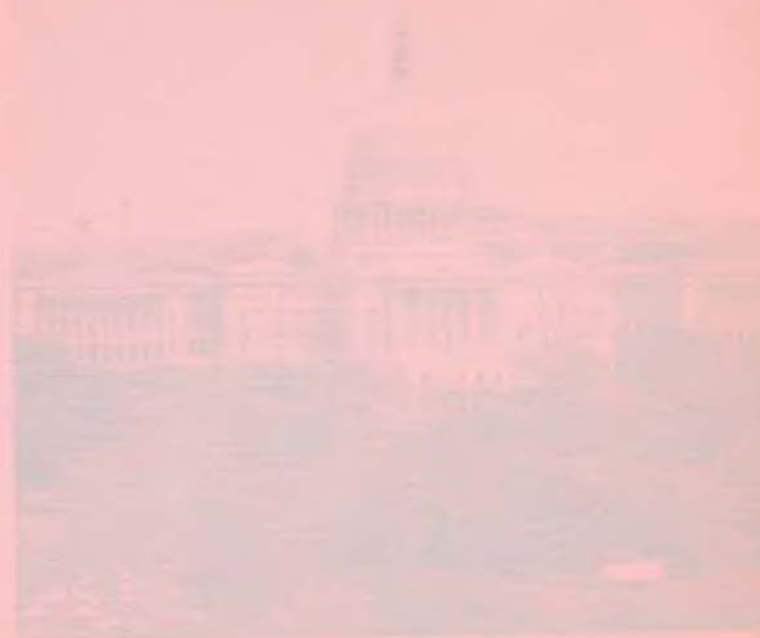




AIR
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review

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The Professional Journal of the United States Air Force

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REVIEW



The *Air University Review* is the professional journal of the United States Air Force and serves as an open forum for exploratory discussion. Its purpose is to present innovative thinking and stimulate dialogue concerning Air Force doctrine, strategy, tactics, and related national defense matters. The *Review* should not be construed as representing policies of the Department of Defense, the Air Force, or Air University. Rather, the contents reflect the authors' ideas and do not necessarily bear official sanction. Thoughtful and informed contributions are always welcomed.



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the cover

The beginning of the Nation's Bicentennial calendar year seems an appropriate time to reconsider ethical standards. In this issue of the *Review* military ethics is examined from the point of view of a senior officer, Major General Robert N. Ginsburgh, USAF (Ret), who has seen professional ethics strained by the advent of atomic weapons, challenges to civil/military supremacy, the Nuremberg trials, treatment of prisoners of war, guerrilla warfare, etc. Also Major Peter L. Henderson reflects the concern of junior officers, who perceive senior officer practices that occasionally fall short of desired ethical standards.

MILITARY ETHICS IN A CHANGING WORLD

MAJOR GENERAL ROBERT N. GINSBURGH, USAF (RET)





AS a junior officer—and before that as a senior Army brat (teen-aged)—I took part in bull sessions where a favorite topic was “the military mind.” Was there such a thing as “the military mind”? If so, how did it differ from the civilian mind?

As a “junior colonel,” I found that the semantics had changed. The topic for debate was whether or not the military was a profession. In view of the spate of writings on military professionalism over the past fifteen years, we are inclined to forget that the very term “military professionalism” was virtually unknown until Professor Samuel Huntington’s landmark work *The Soldier and the State*, published in 1957.*

Now there seems to be a consensus, both inside and outside the military, that there is a military profession. Thus, today, the topic for debate in the professional military schools has become: Is there such a thing as a “professional military ethic”?

My answer is: “Yes. If there is no ethic, there is no profession.”

There is in fact a general recognition of the existence of a military ethic which differs from a personal ethic or from the ethics of other recognized professions.

It is not just ethics that makes the military profession unique. Professor Huntington, for example, points out that there are three characteristics of any profession: expertise, corporateness, and responsibility. All three of these characteristics have aspects which uniquely define the military profession. But what about professional military ethics? Simply speaking, ethics is en-

compassed in the characteristic of professional responsibility.

All systems of human ethics have some common elements; at the same time there are some elements that make the military ethic unique.

The military, of course, is a public service profession, and a public service profession establishes certain values that are different from those of professions that are not part of the public service.

It is true that all professions have a responsibility to the public and to society, but the public service professions are more sharply defined in terms of their responsibility to duly established civic authority.

Still, the military as a public service profession differs from other public service professions. First of all, the military profession deals with matters of life and death—life and death of individuals and life and death of nations. This leads to a special emphasis within the military ethic on the value of the organization as opposed to the value of individual survival. Another important distinction is that the military profession sanctions the use of violence, which is not permissible in other situations (except to a certain degree in such organizations as the police forces). Some analysts have described the military professionals as experts in the management of organized violence. The fourth factor is that the military professional works for a monopoly. Unlike the military, a lawyer can change his law firm without changing his profession. A doctor can change hospitals or go into private practice. Even a city or state employee can change jurisdictions without affecting his professional status. A military officer, however, cannot quit the military and still follow his profession—except perhaps

* One of the first published references to “military professionalism” by a military professional was my “Challenge to Military Professionalism” in *Foreign Affairs*, January 1964.

to become a soldier of fortune. This is a minor exception in that the demand for soldiers of fortune is relatively small and usually confined to a few subspecialties of the military profession. In any event, barring that exception, a military man cannot quit his nation's armed forces and still follow his profession.

These unique factors lead the military to emphasize certain principles. Not all these principles are exclusive to military ethics, but they are especially emphasized in the ethics of the military profession. These factors have also led many people, both in and outside the military, to think of the ethics of the military as being higher than or morally superior to those of other professions such as business, law, or the press.

For example, there is a long tradition that an officer's word is his bond. His signature is not to be given lightly. There is widespread acceptance of the idea that a certain action may constitute "conduct unbecoming an officer and a gentleman" even though it violates no specific law or regulation. Making a false official statement, orally or in writing, is in violation of the military ethic whether or not the statement is a sworn one and whether or not the crime of perjury is involved. The military ethic requires that the officer be above quibbling; "guardhouse lawyer" becomes a term of derision. From his earliest days as a cadet, the officer is expected to accept the consequences of his act or failure to act. He is so indoctrinated that often the only acceptable answer is: "No excuse, sir."

It is true that many professions tend to have a higher view of their own ethics than do outsiders. Nevertheless, there is a generally high respect of the United States public for the U.S. military—a respect that is not always extended to for-

eign military. This generally high respect of the U.S. public for the military stems from the great respect for what they think of as the military ethic.

There are, of course, a number of well-publicized recent events that have caused doubt to be cast on military ethics—events that have, in fact, eroded public support for the military profession. Nevertheless, there is still a high level of public respect for the U.S. military as compared to many other U.S. institutions now being criticized.

In its simplest—perhaps oversimplified—form, the military ethic is well stated by the West Point motto: duty, honor, country.

But there is more to it than that. Philosophically, military ethics are founded on a pessimistic view of mankind. Without a pessimistic view of mankind, there would be no necessity for a military establishment to protect the country. Many of the severest critics of the military (for example, those who favor unilateral disarmament) start with a basically optimistic view of the nature of man—that is, the basic view of man's innate goodness.

The concepts of duty and honor put an extremely high premium on mission, especially unit mission—a premium not reflected in most of the more traditional professions. This emphasis can cause some problems. Overemphasis on mission can lead to the age-old ethical problem of subordination of means to ends. It leads to familiar but questionable practices too frequently winked at simply as a way of life in the military: moonlight requisitioning (the notion that a really good supply officer must be a thief at heart); inflated OER's (an officer must look out for his subordinates); or unit parochialism ("my" outfit is always the "best").

Military ethics also puts a great premium on obedience, basically because the lives of people, the lives of nations, are at stake. The military man is indoctrinated with the slogan: "Theirs not to reason why, theirs but to do and die." The military man is also imbued with the idea: "Don't just stand there, do something"—the idea that vigorous pursuit of a less-than-perfect plan will bring better results than a lackadaisical pursuit of a better plan. By contrast, there is the bureaucratic or diplomatic approach: "If we delay long enough, maybe the problem will go away."

The military man believes that once a decision is reached he should salute smartly, say "Yes, sir," and then try to carry out that decision as vigorously as though that was what he had originally recommended to his boss. At the same time the military man takes pride in his manifestation of obedience, the critics say that military people are simply yes-men who tell their boss what they know he wants to hear.

The concept of military obedience is qualified by the requirement that the orders must be "legal" orders. This, of course, causes the problem of who is going to decide whether they are legal orders or not. As a matter of practice, the burden of proof is on the recipient of those orders and not on the giver. Thus the recipient has the difficult problem of whether or not to obey an order when no decision has been reached in a court of law as to whether or not it is legal.

The military ethic puts a premium on loyalty. This, like the premium on obedience, raises a question: one must weigh the importance of the mission and organization or unit as opposed to that of the individual. Loyalty ought to carry the obligation of not being a yes-man—the obligation of giving the best

advice possible prior to a decision's being made—and, once the decision is made, of carrying it out loyally. In this respect the military profession gets very high marks in comparison with some of the other public service bureaucracies. The premium on loyalty, of course, does raise the issue of loyalty to whom or to what level of the organization.

These traditional pillars are still today essential elements of the structure of military ethics, but they have been subjected to severe strains by the impact of events since World War II.

First of all, we have seen, during the last thirty years, the progressive erosion of the authority of the commander and the progressive erosion of the concept of military paternalism, combined with the expansion of the rights of the individual in uniform. These trends initially accompanied the large influx of citizen soldiers during World War II, which brought about a conflict between the ethic of the average or ordinary citizen and the ethic of the military profession. The trend continued as a result of the long-term continuation of the draft, and more recently as a result of the need to attract large numbers into the volunteer force.

Immediately after World War II the Doolittle Board, reacting to widely alleged abuses in the military system, greatly expanded the rights of the individual serviceman and confined or restricted the authority of the commanders. We have seen over this period of time successive revisions to the court-martial system, including challenges by civil courts on the constitutionality of some of the provisions of the Uniform Code of Military Justice. At the same time we have seen a progressive centralization of authority, which has been made possible by continuing advances

in communication—all of these tending to erode the previous authority of the commander.

We have seen continued and expanding Congressional interest in individuals and Congressional interest in the advice that subordinates render to their superiors—leading, in fact, to legislation that President Eisenhower characterized as sanctioning “legalized insubordination.” This legislation highlighted the issue of loyalty to military and civilian superiors in the chain of command versus constitutional and legislative responsibility to Congress, especially in those cases when original military advice has been overruled by a superior. Thus the military professional may often find himself in the difficult and delicate position of being asked to explain and justify to a Congressional committee his original recommendation as opposed to the contrary decision made by a lawfully authorized superior.

There is the related issue of going along with the decision made by a superior officer, requesting reassignment, or, in the classic Stonewall Jackson tradition, submitting one’s resignation. It is part of the military folklore that if one does not go along he can always resign, but people who say that too easily, too flippantly, ignore the fact that resignation separates the military man from his profession, unlike resignation in another profession. The military professional does not enjoy the flexibility of other professionals. Resignation is often considered but only very rarely submitted.

Other changes contributing to the progressive erosion of the authority of the commander include the proliferation of all sorts of councils—airman councils, NCO councils, junior officer councils, racial councils. These have

been combined with a proliferation of methods for legally bypassing the chain of command—that chain of command which traditionally the military has thought of as being the inviolate necessity to effective discipline and effective action in war. This is not to argue against these changes but simply to point out that there is a price tag for their adoption.

Another factor that has had a significant effect in the last twenty-five or thirty years is the war crimes trials following the Second World War. The Allied position on war crimes was consistent with the military ethic, that is, the concept that orders need not, indeed should not, be obeyed if they are illegal. There is also the obligation for the military profession to observe the laws of war with respect to prisoners of war and noncombatants. There is the recognition that the sanction of the use of violence by military professionals requires that they limit that violence to “reasonable force.” Certainly the U.S. military shared the opinion of the American people on the heinous nature of the Nazi crimes against humanity. Nevertheless, the war crimes trials were disturbing, unsettling, to the military profession the world over. Military professionals were concerned about whether the courts really had jurisdiction. They were bothered by the *ex post facto* nature of the trials and punishment. Many military professionals thought that the trials placed an unfair burden on the military in trying to resolve the ethical issue of obedience and loyalty versus legality. It led many to the cynical conclusion that the moral to be learned from the war crimes trials was that the U.S. military had better never lose a war.

A third major factor impacting on

military ethics since World War II was the Korean War. Accompanying the Korean War was the spread of the concept of limited war, which had a profound impact on the ethics of the military profession as well as all the other aspects of military professionalism. Most American military people, especially at the outset, found it extremely difficult to accept the goal of a limited objective (restoration of the status quo) versus victory. This was, in part, a matter of training and education, but a moral question was involved too: How can a commander morally send men to their possible death if victory is not the object for which the war is being waged? Thus while most, but by no means all, of the military accepted the right and the duty of President Truman to exert civil control over General MacArthur, many also felt that victory was a more moral goal than limited war with its limited objective of restoring the status quo.

Many military people were also disturbed by a war that was not a war but a police action—a war that did not follow what they had been led to believe was the Constitutional process of declaring war—a war that led to the involuntary recall of thousands of Reservists simply for a police action or a war not declared by Congress.

Hardly had U.S. military personnel adjusted intellectually and emotionally to the necessity of a limited war in a nuclear age when they suffered the trauma of guerrilla wars and wars of insurgency. The U.S. experience of the American Indian wars and the guerrilla war in the Philippines had largely been buried in the institutional memory, in part because of the great traumas those experiences had caused in the U.S. military profession in the late 1800s and

early 1900s. There was also the fact that regular forces simply do not like guerrilla wars because regular forces are ill-suited to wage these “dirty little wars” that do not follow the rules of “civilized warfare.”

Guerrilla wars and wars of counter-insurgency introduce ethical questions that the professional military man would prefer to avoid if he could. There is the question of treatment of non-combatants. In a guerrilla war, how can you tell who is a noncombatant? What is “reasonable” force by a modern military unit when confronted by an unsophisticated guerrilla force? How does the traditionally recognized practice of reprisals square with humane treatment of noncombatants? In the aftermath of Vietnam, early involvement of U.S. forces in future guerrilla or counter-insurgency adventures seems unlikely. However, the continuing spread and effectiveness of terrorism seem likely to pose similar difficult ethical problems for both the military profession and the society of which it is part. Will Western governments be able to provide the protection against terrorism to which their citizens are entitled, without destroying the fabric of Western society and culture?

Throughout the period since World War II there has been a continuing debate on the morality of war and the specific methods of waging war. This debate is by no means a new one; it goes back at least to the Middle Ages. But it is a debate about which a pragmatic U.S. military had not worried very much before World War II. In effect, the military professional's attitude was that if Congress declared war it was a just war. This attitude has been complicated since World War II, however, by the issue of the war crimes trials and by the

question of the morality or immorality of the World War II objective of unconditional surrender. It has also been complicated by questions on the morality of bombing, especially the bombing of civilian populations but also bombing in general.

During the war in Europe the bombing issue was usually addressed in terms of relative military effectiveness rather than morality, although there was the underlying thought that the most effective militarily is also the most moral in that it results in shortening the war. Thus the question was whether the Royal Air Force's night bombing of industrial and population centers was more or less effective in shortening the war than the American strategy of precision daylight bombing. Undoubtedly the American capability for more precise bombing made the precision bombing concept more appealing to American leaders while satisfying the moral injunction of seeking to avoid unnecessary casualties to noncombatants.

In the strategic bombing campaign against Japan, however, the apparent limited effectiveness of the early precision bombing tactics soon gave way to the fire-bombing of Japanese industrial cities. It was argued that this was the most effective way of attacking Japanese war industry, which was decentralized into thousands of small cottage industrial home-workshops. Destroying the Japanese industrial war machine would save many American lives, an objective that would have been lost in invading the Japanese home islands. After the war it became apparent that the earlier precision attacks had been more effective than was realized. Hence the issue continues in historical terms as to which should have been the preferred method of attack.

Interestingly, unrestricted submarine warfare had been a great moral issue in World War I and was responsible, in part, for the early enthusiasm of the American public for that war. By and large, submarine warfare died out as a moral issue during World War II. There was, however, continued interest during that war in avoiding gas warfare, an interest since heightened by development of nerve gases and biological warfare.

Also out of World War II came the issue of the morality of nuclear weapons because of their indiscriminate nature, their impact on noncombatants, and the follow-on death and injury by radiation (as opposed to being killed outright by conventional bombs or bullets). Ironically, one of the results of moral aversion to the use of nuclear weapons has been the widely accepted concept of deterring nuclear war primarily through a capability for assured destruction of hostage noncombatant civilian populations.

All these issues on the morality of war were capped by the general public revulsion to the Vietnam war amid debates as to the fundamental morality of the U.S. engagement—the revival of the issue of war crimes intensified by the antibombing campaign conducted by Hanoi; the charges of indiscriminate use of air and artillery fire; the use of gas, napalm, cluster bombs, and defoliation; the morality of actions by some of our Special Forces, the Lavelle affair, My Lai, and so on. In some quarters it was argued that the individual soldier, the individual airman, ought to take it upon himself to decide whether or not the war was just and hence whether or not to fight it. Not only was the individual citizen to make this decision but also the individual military man wearing a

uniform. It is ironic that many of those who argued this case most strongly were strongest also for civilian control of the military.

A final factor impinging on military ethics is the increased politicalization of the military establishment since World War II. Many post-World War II analyses led to a much greater emphasis on the fact that war—or any use of military force—must be subordinate to political objectives. Thus the United States came to abandon the concept of peace *or* war, to recognize that war should not be left just to the generals but that neither should peace be left wholly to the diplomats. The postwar era evolved into a long-lasting cold war situation, which continually emphasized the intimate relationship between international politics and the military. Conceptually, the United States abandoned the goal of unconditional surrender in wartime in favor of limited war for limited objectives.

One of the characteristics of this postwar era was a pervasive influence of the military in American society unlike anything at any time in our previous history. In the years immediately after World War II many of our top civilian leadership positions were assumed by those who had been military heroes during the war. Unlike the situation after previous wars, the United States was faced with a continuing heavy impact of the defense budget on the nation's peacetime economy. The United States maintained large standing forces unprecedented in peacetime. All these factors caused military issues to become important political and economic issues in the United States—issues in which the military professional frequently found that he had to take sides and in the process of which the profession be-

came politicalized.

The importance of the American military in our society, as compared to its importance before World War II, has also led to a greater socialization of the military, thus leading to a greater likelihood of conflict between the ethics of the military profession and the ethics of American society at large; leading also to the possible confrontation of the military profession and other professions that cut across both military and civil life.

The politico-military nature of the post-World War II security arrangements led to NATO, SEATO, CENTO, mutual security agreements with a wide variety of nations around the world, and foreign military aid. Most of these military arrangements and procedures were created especially for political and economic purposes rather than being military objectives in themselves. Nevertheless, the military establishment, as implementers of foreign policy, became deeply involved in the explanation of, and the defense of, the nation's foreign and economic policy—and at a time when bipartisan foreign policy became more partisan. It is always difficult, of course, to draw the line between policy and implementation, and as a result there was a significant erosion of the military ethic that emphasized the importance of being nonpolitical or apolitical.

Taken together, these post-World War II events have had a dramatic impact on the traditional simple soldier's code of duty, honor, country. Many professionals yearn for new, up-to-date beacons—a military version of the Ten Commandments. The development of a restated Code of Conduct after the Korean War experience is illustrative of that yearning, as well as of the difficulty

of stating a simple, understandable code, valid for all seasons.

The important thing is not the inability of the military profession to issue a modern Ten Commandments or a revised version of the fighting man's bible. The important thing is that the

military profession is aware of the problem and is determined to grope toward a solution that is morally right, militarily sound, and socially consistent with the ethics of the American nation.

Washington, D.C.

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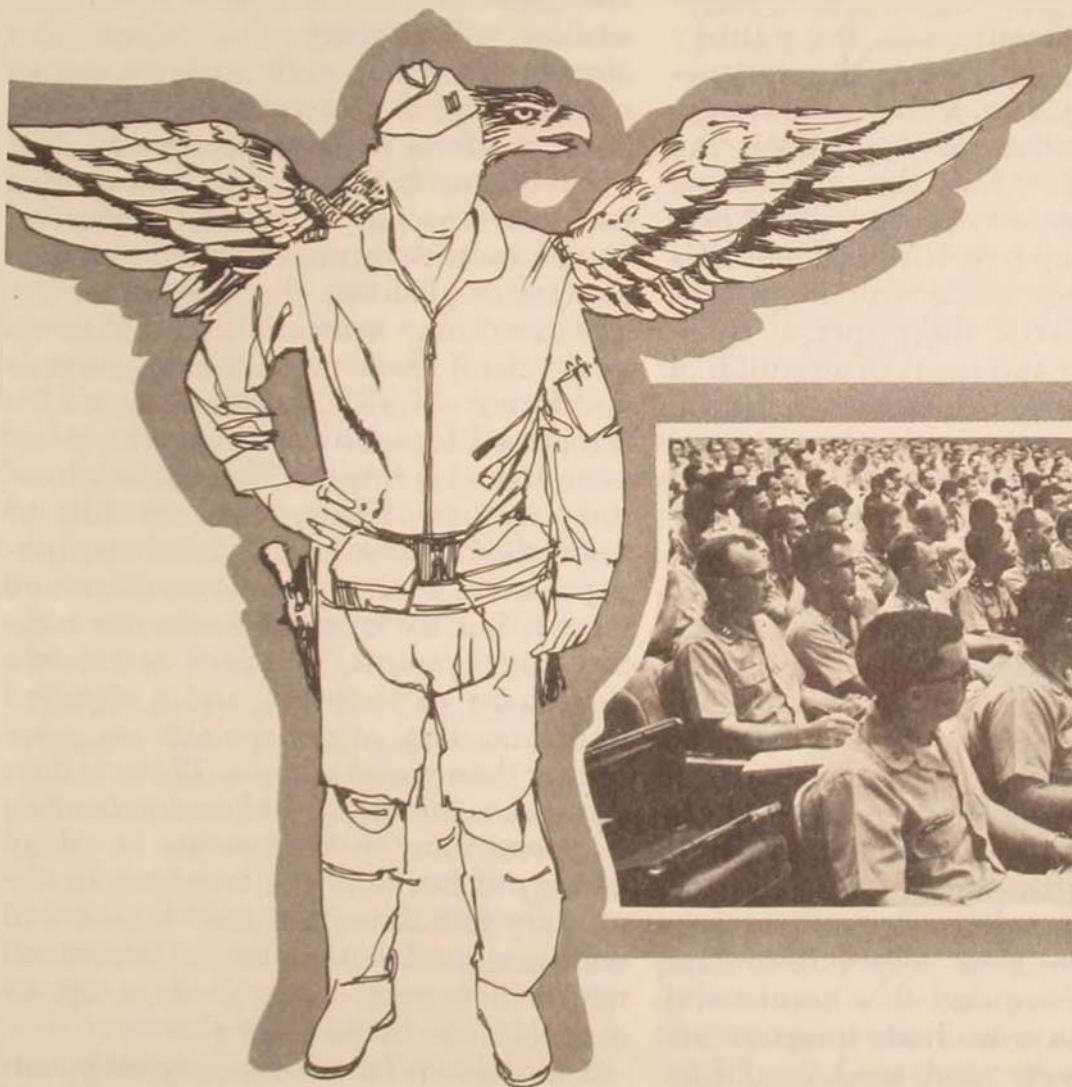
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THE EDITOR

PROFESSIONAL IDENTITY IN A PLURAL WORLD

*the focus of junior officer
education in the
U.S. Air Force*

BRIGADIER GENERAL JOHN E. RALPH



STUDENTS of diverse interests and persuasions may find military education a fascinating subject because the phrase itself, in the context of Western history and values, contains an inherent tension. Since the Renaissance, with its emphasis on humanism and its overwhelming enthusiasm for education, the central threads running through theories of education have been creativity and betterment. Education has been seen as a means to make better human beings and better societies; it molds and tints the quality of life.

In respect to its own society, the military plays a protective role. But in carrying out that protective role, the military must focus on destruction: the destruction of property, life, and symbols in external societies that may be challenging or threatening. While the purpose of this destruction is to preserve and perpetuate the property, life, and symbols of its own society, along with the institutions that underlie their special qualities, the action and focus of attention of the military are on destruction. In the latter half of the twentieth century, mass communications in general and television in particular have stressed the inhumanity and agony of combat to such a degree that the fundamental purpose of that combat is neglected and hence widely misunderstood. The Air Force, in its institutional popular history, has responded to this assault on the self-image and public image of combat forces by stressing the heroic: the one-on-one dogfight, the tight bomber formations flying through heavy flak, the third strafing pass down the valley when the second seemed impossible. But television has avoided this heroic emphasis. The power to create images rests with the cameras, and modern drama focuses on the suffering, not the heroics.

This dichotomy intensifies the dilemma of military education. The central impulse of the military is to improve the human lot. Yet military forces kill in ways that make gruesome pictures, and pictures dominate the consciousness of the society the military forces are charged to protect. When the military focuses on the individual officer and structures his education, it responds to the deep current of humanism in Western life and to the pressures of modern imagery. Military education has been broadened in the hope that greater emphasis on the humanities will preclude My Lai's, that more sophisticated area studies will preclude the naïveté that characterized our early experiences in warfare, and that eloquence will somehow transform itself to substance.

In the recent past, this broadening had gone too far. It was too pervasive. It was another form of naïveté in its expectations. During the decade of the sixties military education tended to divorce itself from the ultimate purpose and forms of military utilization, which the armed forces must remember when everyone else forgets. The military likes universalists. Military officers like to view themselves as universalists, perceptive in a range of disciplines and issues. But we must also win our military engagements, in which determination, hard experience, and a detailed understanding of equipment are more telling than grand visions. There is danger that a broad pool of understanding in peacetime will become a deep swamp of hesitancy in wartime. In the military profession the most logical and well-reasoned explanation of failure, no matter how well articulated, is not an acceptable substitute for success.

I am not in favor of a purposely narrow education aimed at blind commit-

ment and unquestioning action. I fully endorse the value and spirit of what is called a liberal education. What concerns me is the absorptive capacity of the liberal concern, its vastness. We push all our people to investigate a range of subjects that would exhaust the most dedicated scholar. We leave too little time and place for attention to specific military functions. As a profession, the military must comprehend the great issues of our society and accommodate its internal plans and structure to the guidance received from the leaders of our society in responding to these issues. While we in the military cannot neglect the great issues, neither can we dwell on them at the expense of functional proficiency. A meager, irrelevant, or vague education in the area of combat employment will diminish military effectiveness. There is no alternative, no substitute for professional proficiency. There is little comfort in knowing that a defeated army was the best-educated ever fielded.

These pressures posed by universalism (in the form of liberal education) and specialization (in the form of military training and proficiency) are not peculiar to the military. In a *Daedalus* article, "Memorandum on Youth," the noted psychiatrist Erik H. Erikson asked,

Has not every major era in history been characterized by a division into a new class of *power-specialists* (who 'know what they are doing') and an intense new group of *universalists* (who 'mean what they are saying')? And do not these two poles determine an era's character?¹

The interaction of these forces has taken on a peculiar form in America. It is reflected not only in its history of violence in support of high ideals but also in its literature. An example is the character

Natty Bumppo, hero of James Fenimore Cooper's *Leatherstocking Tales*, a dead shot wandering the frontier with simple convictions and quick insights into good and evil, like a saint with a gun.

The military is the societal crossroads where these tensions and ironies seem to be most visible. The struggle over values and purpose in military education has received special attention at the service academies, where, as Joseph Ellis and Robert Moore point out with regard to West Point in their recently published *School for Soldiers*:

Public confusion is a natural consequence of two related developments: first, West Point has come to regard itself as both an undergraduate college with an academic purpose and as a professional school for Army officers with an essentially military mission; second, the pressure to combine these antithetical goals, to be both Athens and Sparta, has meant that the Academy has evolved in a way that makes it unlike any other educational or military institution in America.²

The professional schools attended in the course of a military career are less spectacular, less drenched in publicity and tradition than the service academies, and therefore they have greater opportunities for redirection and realistic adjustment. The mid-career schools have other advantages. They catch officers with greater career commitment and student motivation, officers with more experience and a better understanding of issues and limits. These schools have, in general, all the advantages so often cited in support of adult education. They are an ideal ground in which to let the legitimate differences between a military and a civilian education grow and bear fruit.

Before I turn to Air Force junior officers and their particular professional

situation, I would like to list three trends in military education at all levels which are now evident and which should be further encouraged.

- *Re-emphasis on the military arts.* We all have opinions and hoards of information on Vietnam, Watergate, social injustice, crime in the streets, and the dangers of polluted air. Because these subjects are topical, we tend to use our formal education to reinforce what we know, or sense. We know much less about Russian armor, Chinese infantry tactics, terrorist communications, and desert camouflage. Yet in the crunch, with little or no time to search through libraries and chat with experts, this kind of military knowledge is the indispensable portion of our education. It does not seem very likely that the military will collapse and fail the nation because of its marginal knowledge of social issues. It is far more likely that the military will falter and fail the nation because of its inability to meet demands of combat.

- *Recognition of diversity.* This is a polymorphous world. Colonialism has faded slowly over two centuries while technology and communication seem to be undergoing revolutionary changes in ever shorter periods. In this world of diversity, we can expect to face diverse commitments, shifting alignments, and an experimental approach to organization and employment. We need to stop beating the old drums of tradition and ideology and focus on objective effectiveness. That does not mean that we disregard our history and our convictions. Rather, we need to sort through them for those central lessons that have made us successful in combat. We need to hold tight to strategic essentials and set aside the irrelevant.

- *Recognition of special socialization and disciplinary requirements.* In introducing this section, I mentioned the vital tension between creative and destructive impulses that affect military education. We have tended to shy away from this tension. I think that we should meet it head on. We should stress that glamor in military combat is a fool's gold, that our professional tasks will require distasteful acts, that our institution will be abhorrent to many people, that our employment is a function of civilian decisions upon which we only advise, and that this series of pressures and constraints demands a special quality of sacrifice and discipline. In a world of rapid changes, lethal weapons, and vivid communications, the military establishment must strive for detachment and make it a key quality in its definition of professionalism.

The Eclectic Profession

Once we focus on the military as subject and object of the education process, we find another puzzle. The military is not a bundle of symmetrical combat elements tied neatly together with organizational string; it is a mobile hodgepodge of combat elements and support elements, many of which constitute, relate to, and even identify with external professions—lawyers, doctors, teachers, police, and so on.

The importance and pace of activity in these subprofessions within the military vary greatly from place to place, from service to service, from command to command, and from peacetime to combat. Many individual officers feel responsive to standards, trends, enthusiasms, disappointments, journals, and issues that reach beyond their military role. For these officers, routine

work and day-to-day pride are bound tightly to the ethos and energies of their subprofession. They hear its criticisms. They often speak in its voice.

In the course of a career, moreover, an officer normally moves at least twice among the subprofessions. This is part of the nurturing and growth process that we like to call "career broadening." Career broadening exposes new kinds of problems, stimulates new kinds of appreciations, tests different skills, and involves another set of standards. It is designed to groom the officer for later, expanded responsibilities. It also links him to a new group of people with different values and emphases.

Within the military, the subprofessions are expressed in various ways. They may be explicitly functional; e.g., training for combat in an F-4, running a finance office on a base, implementing a flight-safety program in a demanding overseas weather and traffic environment, and so on. Subprofessions may be advisory at operational or management levels; e.g., staff work to coordinate, refine, and monitor broad programs. They may be advisory at a level that allows the officer to define and establish programs. Finally, they may be expressed in a truly universal way, as small elements in an overlying pattern of strategy, principle, and initiative that make up the military contribution to national policy. I will say now and emphasize later that few reach this level and that in an age of quick, pervasive communications, even fewer are likely to reach it in the future.

But the point germane to this section is that the military officer responds to many audiences: superior and subordinate, staff and command, military professional and civilian subprofessional. In addition to this direct contact and

influence, he responds to an overlay of broader guidance and reaction, much of it jumbled and sporadically critical. He hears the Congress, the media, the alumni. From this pluralistic audience, he hungers for applause and suffers its silence. He relates what he hears (all of what I have just elaborated) to himself as an individual who is part of a service, an establishment, a profession, a community, a family, and, by some counts, a corporate mind.

In Greek mythology there was a brigand named Procrustes who caught passersby and laid them in his bed. If they were too short, he stretched them. If they were too long, he cut off their feet. The military officer today often feels as if he is revolving past Procrustes's lair—someone is always trying to adjust him to fit a certain bed. The professor, for example, makes demands and poses incentives that reflect traditions and goals of the academic community. The businessman excites expectations and standards appropriate to the business community. The lawyer expresses bureaucratic formalities and evidential concerns that are representative of the legal community. Molds as varied as the range of modern professions pass by the military officer and arouse changing enthusiasms and anxieties. He is especially vulnerable to these diversionary attentions and standards because his core military professional activity is typically latent while his subprofession is active. Probably no other profession is impacted by so many divergent influences, thereby vesting a persistent and intense level of role stress. This phenomenon creates a compelling reason for periodic professional military education. From time to time, as military officers, we need to assemble and focus on the specific military center



The Squadron Officer School uses computers in a number of ways, as in balancing the composition of the sections into which the class is divided.



A section commander and a student go over a writing assignment. Effective written and oral communication receives careful consideration in the SOS curriculum.

SOS faculty members discuss a change in the lecture schedule. In a seminar, the faculty representative facilitates reaching the goals, without, however, being an authority figure.



of our professional lives, to appreciate the demands of the flanking subprofessions, to explicitly identify our role and unique relationship to the civilian community, and to go through a learning process which meshes the burning issues with each other and with their military ramifications. And most important, we need collectively to identify ourselves as a military profession with a unique role in the society, one having unique problems, a unique perspective, a unique need for discipline, and a unique form of service. This need is especially great for the junior officer, whose opinions are firming and who is pressing down the seal on his commitments.

The Air Force Is Special

Soldiers are special. Sailors are special. And so are the Marines. In stress-

ing the military core of a profession which sometimes seems a hopeless mix of technical, bureaucratic, and political aspects, we find that we can identify patterns of combat employment that are unique to the individual service. These patterns are psychological, technical, and organizational. They weigh heavily on the structure and content of professional education, and they should weigh even more heavily than they do. Among the services, the character of combat varies widely, the demands and focus of leadership vary, the pressures of confinement vary, the forms and pace of teamwork vary, the nature of fear and the nature of pride vary. This variance is especially wide for the junior officer, which is a powerful argument for single-service professional education at that level.

An elaboration of the qualities that make Air Force combat—or perhaps I should say combat for air forces—different from that of land and sea forces would make up a study in its own right. I will note a few of these qualities to illustrate. First, and most fundamental, a significant percentage of Air Force officers engage in direct combat as crew members in aircraft. Of the 108,000 officers in the Air Force in April 1975, more than 48,000 are flyers. This is reflected in organizational structure, largely centered around squadrons of rated officers, college educated, working for and with each other, supported locally by other organizations which usually consist of one or two officers “running a shop” of enlisted and civilian personnel to provide transportation, financial, maintenance, safety, and other forms of support. These focuses are backed by command-size research and support organizations such as Systems Command (AFSC) and Logistics Command (AFLC),

educational organizations such as the Air Force Academy and Air University, etc. Manning in these large organizations varies with the mission and consists of a mix of rated and nonrated officers. The rated officer is always susceptible to the call of combat.

The character of air combat—or to make it more inclusive, air operations in a combat theater—is interesting and instructive. Air forces deal with bursts of combat. Their work may involve long periods of relative sanctuary and stability, both on the ground and in the air, as well as short, intense periods of combat that range from running the gauntlet of surface-to-air missiles and anti-aircraft artillery to a dogfight or a helicopter rescue. They plunge and recover. They are divers, not swimmers. These short, decisive moments require the most intensive forms of preparation and discipline. The telling decisions are instantaneous and frequent.

The officers who fight in this compressed atmosphere normally fly in teams and work as crews. Their interdependence is extreme, and the need for discipline is accordingly extreme. Leadership and authority, which rested with rank on the ground, rest with skill and immediate combat experience in the air. If the major is lead and the colonel is his wingman, the colonel works for the major until the airplanes are put back to bed. At the point of combat, the feeling is like that of a basketball team on a fast break. The need to anticipate with confidence is absolute. There is no room for mavericks or pedants. This intense teamwork illustrates discipline whose source of authority is demonstrated skill and whose demands for compliance are total.

A final point that makes the combat engagements of air forces unique is that

the basic contact is not man-enemy but man-machine. The pilot, with his crew, makes the machine do what it is supposed to do, and when the situation threatens collapse, more than it is supposed to do. The machine makes the immediate demands, cries for attention, draws the focus, the feelings. The target is background, important but distant, like the target beyond a properly sighted rifle. The combination of physical perspective from the air and the bond between crew and aircraft leads to a sense of abstraction, of detachment, which is as eerie on the one hand as it is fundamental to training and psychological conditioning on the other.

In contrast, land forces deal with an intense geophysical environment, large and less cohesive combat organization, more prolonged exposure to fear, and repeated visual contact with death. This requires different emphases in leadership, different conditioning and discipline for the combat experience, and a different style and program of professional education. In the course of his career, the officer deals with thousands of problems, thousands of interpersonal contacts, through situations and requirements totally removed from combat. He evolves toward a staff or management hub in a slowly turning set of bureaucratic gears. Many issues and challenges that surround him are common to all sizable organizations, and it is easy to let concern and enthusiasm for the combat role slip away. Professional education can serve in an important way by recalling that role, illuminating its special characteristics, and exercising the qualities it will demand.

With this in mind, I believe that the general thrust of Air Force professional education, particularly for the junior officer, experienced a phase which was

too esoteric, too anxious to treat the officer as if he were on the threshold of a career breakthrough to the National Security Council, too ready to stimulate his expectations and dilute his interest in combat itself, its history, its technical evolution, its leadership demands. Education for combat roles is not available in any other setting. I think it important for young officers to be conversant with the great issues, to be fluent spokesmen for their personal and professional interests. It is wrong, however, to give this ancillary aspect of professional life such emphasis that it feeds later frustration and impatience.

The young officer should understand issues, but he should also understand his role in these issues. Perhaps that is the key point. We have to relate our education to anticipated military roles and requirements in a realistic way. We have to train and educate to fight wars. In this regard, I would like to mention briefly the prisoner of war (POW) as a highlight of symbolism. Every junior officer who is facing combat should understand that while he is not likely to use his insights for great high-level decisions in the immediate future, he is likely to exercise his discipline in a spotlight role that will make him a symbol for all his home institutions: his family, his community, his service, his country, and his people. As a POW he would face a role as hostage and focus of the national pride. Pain would bring him celebrity, and he would have to deal with the two of them together. The seriousness of even a small number of failures was emphasized after the Korean War, when a wave of publicity and simplistic treatises (like Eugene Kinkead's *In Every War but One*) exaggerated issues and statistics to make the 4.3 percent of all repatriated prisoners

of war found guilty of prisoner misconduct or collaboration into a national shame that worked to erode the confidence between the military and the nation for years.³

In an age of mass communications, any officer of any grade and specialty is subject to instant, highly selective publicity. His words may be immortalized in ways that he would not choose to have them remembered. The anonymous major at Ben Tre who said, "It became necessary to destroy the town to save it,"⁴ is a case in point. We should ensure that every officer understands his vulnerability to instant symbolism and its potential distortions. I am not asking for muzzles, only understanding. I believe that we should encourage reticence, along with skill and discipline, because symbolism and publicity are modern facts of life that demand attention and respect, just as rain suggests a raincoat.

Squadron Officer School

To support what it has seen as an important requirement for junior officer professional education, the Air Force established an introductory school at Tyndall Air Force Base, Florida, in 1946 under the auspices of Air University. This initial course, with many expansions, contractions, and shifts in emphasis, has evolved into the present Squadron Officer School (SOS) of Air University at Maxwell AFB.

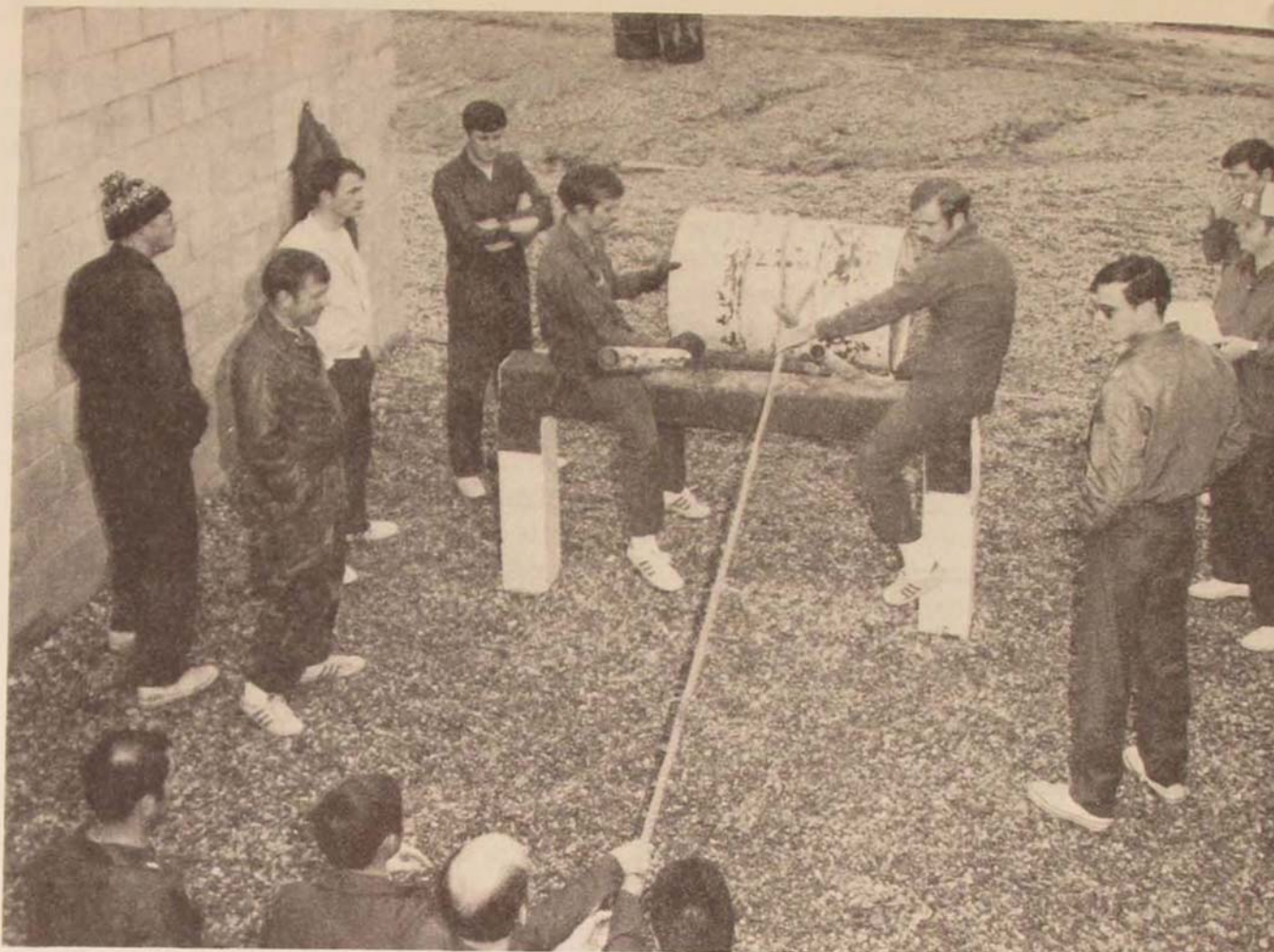
Officers attending SOS are selected from among Air Force lieutenants and captains with two to seven years' active commissioned service. Age is not a criterion. Four 11-week classes, of approximately 780 officers each, pass through the school every year. The Air Force

goal is to send 85 percent of the career-officer force (those who will stay in service for at least 20 years) through SOS. Due to budget constraints, specialty demands, contingency demands, and so on, the Air Force falls short of the 85 percent figure, though we are moving steadily toward it. Officers not able to attend can complete the course by correspondence.

The curriculum is divided into four major areas, with 68 hours devoted to Communications Skills; 133 hours to Leadership in the Air Force, which involves both classroom and field activity; 46 hours to Management; 86 hours to a subject called "The U.S. Air Force and Force Employment," which blends a "great issues and grand strategy" outlook with the study of force capabilities and structure; and a few miscellaneous hours to administration, testing, and the like.⁵

The basic thrust of the curriculum and spirit of the school is toward a socialization process that recognizes some of the concerns addressed in the earlier sections of this article. We want the junior officer to see and understand his military role so that he can either reject it at this early point or relate to it and use it as a basis for professional development throughout the rest of his career. SOS emphasizes the special demands of combat and links both explanation and conditioning in the education process to those demands. Much of this emphasis appears in the Leadership and the Force Employment blocks.

The SOS Communications Skills area recognizes that in its bureaucratic role especially the Air Force is a highly verbal institution, relying in large measure on polished speech and writing for much of its effectiveness and image, and that in its combat role clarity of



Project X develops leadership through surmounting obstacles.

At the Army Day display in Medal of Honor Hall, Army ground equipment attracts much attention.



Allied officers in SOS enhance the exchange of diverse ideas.



communication is vital. The instructional technique is largely practical exercise, with pressures of time and audience to enhance the realism of speaking and writing experiences. This forced activity is a form of therapy aimed as much at confidence as at skill.

The Leadership in the Air Force block is the heart of the SOS program. It takes up more than a third of the formal instruction and a higher percentage of the spirit and energies of the school. The formal part of the block includes the normal lecture and discussion of exemplary cases, contemporary problems, and theories of human behavior. This theoretical and verbal backdrop is brought to life in a number of special field exercises, in a strenuous physical conditioning program, and in the dynamics of the seminar relationship.

The Management area is designed to familiarize and make the student conversant with classic or topical theories and current techniques and to open his way to individual research. The twofold intent is to excite the student with levels and subtleties of perspective and to offer him vocabularies and conceptual models he will find useful in his professional undertakings.

The U.S. Air Force and Force Employment subject presents information and theory on the exercise of national power, the character and dynamics of the international environment, a review of U.S. forces and weapon systems, and discussion of the role of the U.S. Air Force in conflict resolution. The presentation is dominated by platform lecture and background reading, with seminar appraisals to allow students to crystallize and articulate their own thoughts. At the end of the block, as a culmination and integration of the diverse material presented, the students undertake

a scenario-type force employment exercise, to increase their understanding of the complexities in operational planning and conventional force application.

Nearly half of the scheduled SOS instruction time is spent in seminar, which serves as the school's organizational core. Internally, the seminar is a convenient, compact exchange market for experiences and ideas. Each seminar consists of 12 to 15 officers, with a calculated diversity of background and specialty. A sprinkling of foreign officers (usually one per seminar) extends and spices that diversity. Students and faculty agree that the students learn much from each other. In seminar, they gain appreciations and insights in the most direct, meaningful way possible, from the sources of experience at the working level.

The seminar is also a test bed. All students start the SOS program with expectations and façades that shift with changes in pressure, familiarity, and competitive opportunity. They deal with exposure and critique of unusual intensity in a program that intentionally drives a relentless pace, with sudden swerves in demands and direction. They see group dynamics in action, and they examine the results explicitly.

As a former commandant of the school, I believe the SOS experience is as total as a school experience can be. Demands on time alone are purposefully enormous, and the forces pushing or pulling toward involvement are purposefully great. Individual and inter-seminar competition is pervasive; achievement and failure are highly visible. Student wives are encouraged to accompany their husbands, to attend open lectures, to cheer the seminar athletic teams, and to share directly in the interests, triumphs, and disappoint-

ments that develop in the program. Social life in and beyond the seminar is spirited. School activity as a whole is slanted toward the sense of community and participation that is so important in the context of disruption and rootlessness typical of military life. Like other aspects of SOS viewed independently, it reflects the Air Force in microcosm.

Another important aspect of seminar activity is the informality of its selection process for functional leadership roles and the process of internalized motivation. The faculty representative in the seminar is a facilitator, not an authority figure. The seminar chooses its own academic chairman, its own athletic chairman and team captains, its own project leaders. The seminar sets its own goals, decides from the outset how it will approach the school experience, and continually reappraises that decision. This is not military traditionalism but a reflection of organizational dynamics in the Air Force, with contemporaries mingling in a kaleidoscope of formal and informal patterns to pursue goals in a flux.

This kind of organization, with the imposed pressures and group interdependence, with the strong accent on wins and losses, especially reflects the combat environment for the Air Force officer. Other aspects of the SOS program intensify that reflection. In a part of the Leadership block called "Project X," officers are confronted with problems of improvisation and time through a series of obstacles. For example, a seminar group has to cross a stream. They have two logs (shorter than the width of the stream), a rope, a plank, and a barrel. They have eleven minutes to get everyone across, with the barrel. A leader is designated. He coordinates suggestions and makes decisions. If he

fails or falters, an informal leader usually emerges and takes the initiative. The clock and the goal dominate the situation, just as they do in combat. The group disciplines itself toward achievement. It is intense discipline, but fluid in its focus of authority. Success or failure often depends on the degree to which pressures are handled and cooperation and interdependence are fostered.

The intent of the field portion of the curriculum, along with such other aspects of the SOS program as quick-reaction games during calisthenics, is to reinforce explanations of the combat experience with miniature reflections of that experience. This whole process disciplines and educates the officer in the most relevant sense to recognize his own strengths and shortcomings so that he can tailor his future efforts toward growth and can react to unexpected demands with realistic self-appraisal. For the noncombat officer, this portion of the curriculum may appear less relevant. Experience, however, has shown that without an open marriage of combatant and noncombatant skills, based on understanding and, most important, attitudes, the most dynamic combat force can be vitiated by hesitant or imperceptive support. The noncombat officer must gain his combatant insights through vicarious experience. These insights provide him a creative frame of reference that will make his support of the combat force more meaningful.

The information passed through the SOS curriculum could be summarized in textbooks and briefings and distributed to the junior officer corps in the field. That would save money. But the spirit, trials, relationships, and personal growth that accompany that curriculum cannot be sent through the mail. They

need a formal setting and heightened excitement, personalities and audiences, tests and triumphs, false starts and failures, to come alive. SOS is a liberal education in the sense that a broad array of subjects is presented and a wide range of new appreciations is awakened. It is not a liberal education in the sense that its purpose is open-ended, with an eye to relaxed musing and meandering personal growth. The ultimate purpose of SOS is to make the Air Force a better combat force.

A Long Look

I am pleased with the present system and structure of junior officer professional education in the Air Force. That may be the most radical thing I have said so far. I am convinced that professional education is vital to excite the awareness as well as influence the orientation of the junior officer; that its effectiveness in a formal setting is far superior to its effectiveness in more diffuse forms; and that its focus should be on the combat role of the officer and the military in general. Squadron Officer School reflects those convictions.

Obviously, education is a dynamic art but still a surprisingly crude art. Any educational process, any school should be periodically re-examined, from the depth of its assumptions to the tips of its pencils. With regard to SOS, we can adjust the time and timing, as we recently have, without serious impact. We can alter the pace. We can track the students with different criteria. We can waver from elitist to democratic approaches and back. We can juggle the balance among skills, information, and socialization. We can perpetuate the education process by insisting on more deep and pervasive professional studies in

the field. These are refinements, not revolutions.

My recommendations are directed toward a continuing refinement process at the deepest level, or, more explicitly, toward the fundamentals on which further refinements should be based:

(1) Squadron Officer School, along with other professional military schools, can serve itself well by more explicit recognition of the role it plays in a democracy in which power and decision are channeled through an array of institutions, most of them interacting at some point and level with the military. The military is not and cannot be all things to all groups in society. When it allows that impulse to emerge, through either persuasion or relaxation, confusion and frustration eventually wallow together through the ranks. The business and the proper focuses for 95 percent of the officer corps are combat and its compatriot, combat readiness.

(2) Squadron Officer School should continue to explore the nature of combat and the combat experience of air forces and then relate the curriculum to that experience. As an adjunct, there should be more explicit recognition of the legitimate tensions between combat and Western ideals and of the differences in discipline driven by combat from discipline driven by organizational imperatives. No more than a handful of officers in the Air Force can afford to settle into an office or an office routine. Tomorrow can bring armed conflict, with its sudden disruptions and demands. That thought should never drift too far back in the mind.

(3) Squadron Officer School should take cognizance of the nature of symbolism, with one officer, one graphic sentence, one event, susceptible to explosion and a grand myth-making pro-

cess. He should leave his early professional education knowing the power of images and the dangers of individual excess.

SINCE a gentle caveat is always good form and a classic route toward exit, let me say in partial conclusion that we should shy away from great expectations and grandiose claims for professional officer education or any specific educational system and institution in contemporary society. Our age is drenched in communications and opportunities to learn. Past his adolescence, an individual whose mind is on the prowl will learn. He will learn with us, above us, below us, and around us. He will read and listen and learn. An individual whose mind is stagnant will, like a sleepy pig, move a few feet with a lot of grunting and squealing if we prod him, and then go back to sleep, having relearned only what he already knew.

In other words, the institutional program and intent are important, but indi-

vidual motivation is central, and the process of education goes on at some level ahead of, around, and behind the formal schools. Squadron Officer School intensifies the education process because its program is systematic, structured, and intense and because we are conditioned to open our minds to formal presentations and situations stamped important. The things it can do alone are good, but neither great nor wonderful. It can improve certain professional skills. It can clarify an officer's role in society. It can accelerate his enthusiasms and interests. It can serve as part of a broader socialization process that will make him more perceptive, with greater personal and professional balance. But all these things it does in moderation, in fits and starts, with partial failure and modest success.

To cope with the inherent tensions discussed throughout this article, the core of the military educational effort, especially for the junior officer, must be professional identity. The junior officer must understand and accept the rela-

Flicker ball is a popular sport in the strenuous physical conditioning program at SOS.



tionship of the military to the society in which it exists. He, as a military professional, must be committed to fight in support of that society and, at the same time, endure its pulses of enmity. This is the dilemma, the paradox, with which he has to live. Military men are called upon to commit violent acts. For the junior officer who is a military combatant, there is no clean path away from the ethics of his society or his own conscience.

Junior officers must accept the fact that their business is national security, the most comprehensive business of all, embracing history, science, technology, psychology, philosophy, and wile. Military officers must be cognizant of a complex world. For many junior officers, the overarching imperative in the business of national security is success in battle. Victory in warfare and the forms it might take rely on critical decisions and perceptions that come down from the national political leadership. A discourse on the meaning of victory is beyond the scope of this study. Whether it is "victory" or "concluding the hostilities on terms favorable to our objectives," few officers will ever play an important role in influencing that type of key decision. But success in battle is another thing. The insights, skills, advice, and motivation of junior officers will be vital in combat. National security is the busi-

ness of the junior officer, and success in battle is his specific job in that business. The junior officer must avoid distractions. He must beware of a diffusion of interest so far-flung that it leaves him shallow and bewildered. He must beware of deep grooves of comfort and the sense that words can take the place of physical things. These are hazards and temptations to all military professionals and are not easy to escape in modern life.

This is not an appeal for Spartan education. War is not simple, not at any level nor in any aspect. Only fools pretend that it is. Officers cannot afford to be simplistic. The expansion of professional education into new disciplines and concerns is a healthy thing. What is not healthy is the pursuit of these disciplines and concerns outside or beyond their links to combat and combat preparation. Professional military education should first illuminate the centrality of combat, then emphasize the linkage of its subject matter to combat. When we let our interests and enthusiasms stray too far, as we sometimes have, we practice a form of self-deception. It is as if we have been invited to so many masquerades that we have become more comfortable with our masks than our faces. Neither the military profession nor Western civilization can afford that.

Hq United States Air Force

Notes

1. Erik H. Erikson, "Memorandum on Youth," *Daedalus*, Summer 1967, p. 867.

2. Joseph Ellis and Robert Moore, *School for Soldiers: West Point and the Profession of Arms* (New York: Oxford University Press, 1974), p. 30.

3. Albert D. Biderman, *March to Calumny: The Truth about American POW's in Korea* (New York: Macmillan, 1963), p. 28. Mr. Biderman's book is a balanced corrective to the Kinkead report. Throughout, he

emphasizes the special characteristics of POW groupings based on nationality, service, background, etc., and avoids swollen generalizations.

4. Don Oberdorfer, *Tet!* (Garden City, New York: Doubleday, 1971), p. 184.

5. This is the curriculum now projected for January 1976. The numbers and block titles reflect minor changes from the existing curriculum, and in all likelihood they will be further adjusted prior to their formal implementation.

General Ralph's article will appear in a book, *Educating the American Military Officer*, edited and introduced by Dr. Lawrence J. Korb, Naval War College. The book will be published in 1976 by the International Studies Association.

WITHIN the past decade, and more precisely during the last six or seven years, two significant changes have taken place in many of those insurgent movements active within the non-Communist world. The first concerns a shift in the locus of most guerrilla activity from rural to urban areas. The second, which seems closely linked with this urbanization of insurgency, involves the increasingly transnational nature of modern terrorist operations. Whereas terrorist activity in the past involved operations within a single nation, carried out by groups indigenous to that state, these activities now reflect an increasing degree of collaboration between terrorist forces in widely separated geographic areas. In some cases this cooperation has extended to an exchange of personnel, weapons, and funding. Accordingly, it is no longer unusual for Asian and Middle Eastern terrorists to collaborate on joint operations, for Latin American and European revolutionaries to cooperate in the training of operational cadres, or for Asian, Middle Eastern, and Latin American urban guerrilla groups to support European-based revolutionary elements. In brief, the previously national scope of most terrorist activity is a thing of the past. Terrorism today, involving collaboration between widely separated and often ideologically divergent groups, is effectively transnational in scope.¹

The expanding boundaries of terrorist activity may well be linked with the rural-to-urban migration of numerous guerrilla organizations during the last decade. Formed in the early 1960s, many of these groups were led by Marxist-influenced students and intellectuals drawn from a growing urban middle class in the nations of Africa, Asia, the

TRANSNATIONAL TERRORISM

DR. CHARLES A. RUSSELL

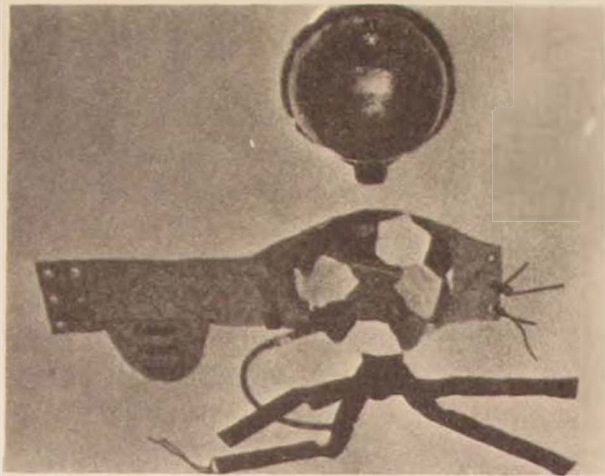


Middle East, and Latin America. Sharing a common ideological outlook (usually anarchism or Marxism of the Maoist or Castroite variety), a disenchantment with the effectiveness of representative government, and a belief in the importance of guerrilla warfare and terrorism as the only effective tools for generating rapid sociopolitical change, these students-turned-insurgents attempted to implement the revolutionary doctrines of rural guerrilla strategists such as Mao Tse-tung, Ho Chi Minh, and Ernesto "Che" Guevara. Often operating in the underpopulated rural backlands of a nation, the young revolutionaries encountered severe difficulties in developing effective guerrilla forces, much less in identifying with the problems of the peasantry and attracting them to a revolutionary cause. As a result, these rural guerrilla efforts collapsed during the mid-1960s, and their surviving members returned to the cities.

At the same time these failures were taking place, revolutionary theories stressing the primacy of urban terrorism began to attract increased attention. Articulated effectively by the Spanish exile Abraham Guillen (who formulated the strategy and tactics of the Uruguayan Tupamaro guerrillas), the Vietnamese Truong Chinh, and the Brazilian Carlos Marighella (whose *Manual of the Urban Guerrilla* has been translated into numerous languages), this new approach to guerrilla warfare was particularly appealing to the urban revolutionaries who had been defeated in their efforts to implement rural guerrilla warfare during the 1960s. In urban terrorism they saw a strategy ideally suited to their metropolitan background as well as an effective mechanism for renewing the guerrilla effort. Of pos-

sibly even greater importance, however, was the fact that this new doctrine provided a single strategy which could be implemented with equal effectiveness, regardless of location. In contrast to the often radically different approaches to rural guerrilla operations (e.g., Maoist, Vietnamese, Cuban, etc.), urban guerrillas in Asia, the Middle East, Africa, Latin America, and even Europe could now utilize a common strategy, thereby facilitating increased cooperation and the implementation of joint operations. Taken together, the similarity in ideology, cultural background, and operational strategy of these urban terrorists provided a substantial push toward the growth of transnational terrorism.

Moves toward collaboration between geographically separated urban insurgent and terrorist elements were noted first on a regional basis, in Latin America. As early as February 1970, representatives of city-based guerrilla organizations in Argentina, Brazil, Bolivia, and Uruguay met in Córdoba, Argentina, to develop mutual support mechanisms, communication nets, and a joint operational strategy. By 1973-74 these initial contacts had developed into an active interchange of funds and personnel between the Uruguayan Tupamaros, the Argentine People's Revolutionary Army (*Ejército Revolucionario del Pueblo*—ERP), the Movement of the Revolutionary Left in Chile (*Movimiento de Izquierda Revolucionaria*—MIR), and the Bolivian Army of National Liberation (*Ejército de Liberación Nacional*—ELN). In early 1974, Domingo Mena, a spokesman for the ERP, announced creation of a Revolutionary Coordinating Council (*Junta de Coordinación Revolucionaria*) to facilitate the expansion of joint operations and an acceleration of personnel exchanges



and mutual support activities between these groups. By mid-1974 numerous reports indicated Uruguayan Tupamaros were being accorded sanctuary in Argentina as well as training by the ERP. Other sources reported the two groups had participated in joint operations. In the area of mutual support and financial assistance, the ERP loaned the Tupamaros and the Chilean MIR \$5 million during late 1974. These funds were a portion of the \$14.2-million ransom paid the ERP for release of Esso Argentina executive Victor Samuelson, who had been kidnapped on 6 December 1973.²

Besides cooperating on a regional level, Latin American terrorists have worked closely with various Japanese, Palestinian, and European urban guerilla groups. Spanish authorities report that at least one of those terrorists, who affiliated with the Basque liberation movement (*Euskadi Ta Askatsuma*—ETA) and was implicated in the August 1974 bombing of a Madrid cafe, underwent training with the Argentine ERP. From January to March 1974, this terrorist trained in Argentina and took part in several ERP operations, possibly including the unsuccessful kidnapping of U.S. Information Service Officer Alfred C. Laun III in Córdoba. Returning to Spain in March 1974, the Basque terrorist brought plans of those “people’s jails” used by the ERP to house its kidnap victims. During August and September, Spanish authorities discovered a num-

The German Red Army Faction (RAF) “baby bomb” can be worn under a dress, the wearer feigning pregnancy to avoid detection. After the bomb is placed, the rubber balloon under the explosive can be inflated by a tube at the neck, making it seem more “lifelike.”

ber of these facilities in Madrid, constructed according to ERP plans.

In addition to links between the ERP and Basque terrorist elements, similar ties connect the ERP with French urban guerrilla units. During December 1974 a female ERP member was arrested at Ezeiza Airport, Buenos Aires, en route to Paris. In her possession were a number of coded messages to French terrorist cadres in Paris and Nice. Other Latin American-French guerrilla ties were evident in the 20 December 1974 assassination of Uruguayan Colonel Ramón Trabal in Paris. Serving as Uruguayan military attaché to France, Trabal previously had directed intelligence operations against Tupamaro guerrillas in Montevideo. In reprisal for these actions, he was assassinated by French terrorists on behalf of the Tupamaros.³

Not only have Latin American urban guerrillas collaborated with other such groups in Latin America, Spain, and France but they have also participated in joint operations with Japanese and Palestinian revolutionaries. During July 1972 two Latin American terrorists traveling on Peruvian passports assisted members of the radical Marxist Japanese Red Army Faction (RAF) in hijacking a Japan Airlines (JAL) Boeing 747 over Utrecht in the Netherlands. Two years later, in the same month, a female Latin American terrorist was killed by a grenade during the hijacking of another JAL 747. In this case the team also included members of the Japanese RAF and a Palestinian. The aircraft eventually landed in Benghazi, Libya, where it was destroyed by the surviving guerrillas.⁴

Close transnational linkages have developed also between the Basque liberation movement in Spain (*Euskadi Ta*

Askatsuma—ETA) and several French anarchist groups, particularly the Groups of International Revolutionary Action (GARI). Composed of French nationals and exiled Spanish Basques, GARI has worked effectively with ETA. During 1973–74 these two groups collaborated in efforts to bomb the “Topo” trains between Paris and Madrid. More recently, both groups have been active in arms smuggling. During early February 1975 a French national, working as a member of an ETA arms-smuggling unit, was apprehended at the Belgian-French border with 39 Sten guns in his possession. The weapons were destined for delivery to ETA after movement from Belgium to GARI units in France. In addition to joint activities such as these, GARI, operating in behalf of ETA, kidnapped the Paris branch manager of the Spanish Bank of Bilbao during May 1974, executed three bombing efforts during the same year against the Tour de France bicycle race, kidnapped a Spanish citizen in Madrid during July, and placed bombs at Spanish consulates in several French cities. In Brussels, Belgium, GARI bombed Iberia Airline offices as well as several Spanish banks. A bombing was also attempted at a Paris soccer match between teams from Barcelona and Paris but failed. In January 1975, GARI cadres detonated bombs at a Spanish exhibit in the French maritime museum and at the Palace of Justice in Paris. Other GARI units burned a police headquarters in the French city of Clermont-Ferrand. Of particular interest in regard to all these operations is the fact that they were carried out by a French terrorist organization solely on behalf of another guerrilla group, the Spanish ETA.⁵

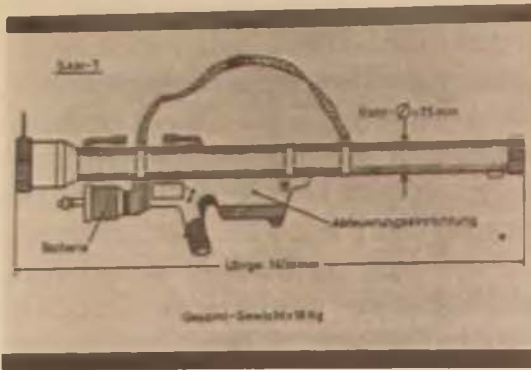
While transnational terrorist ties exist between Latin American, European,

Japanese, and Palestinian groups, as well as Spanish and French revolutionary organizations, the best-known linkages of this type developed between the Marxist Japanese Red Army Faction and the Popular Front for the Liberation of Palestine (PFLP). Although both groups are now somewhat fragmented, their close collaboration during the 1970–74 time span was facilitated by a shared ideology (radical Marxism that viewed guerrilla warfare as an essential tool for accelerating sociopolitical change within “imperialist” nations); a similarity in the social and cultural backgrounds of group members (both organizations were composed primarily of urban middle-class students and intellectuals); and a common revolutionary strategy (terrorism and urban guerrilla warfare). In late 1970 the two groups agreed to develop joint operations, exchange personnel, and create a mutual training facility. Moves toward this latter goal were implemented by a female RAF leader and Lelia Khalid, the Palestinian woman who participated in an unsuccessful hijacking of a New York–London *El Al* airliner in September 1970. By January 1971 a joint Red Army Faction/Popular Front for the Liberation of Palestine (RAF/PFLP) training base had been established near Baalbek, Lebanon. Links between the two organizations were strengthened in November 1971 when the Popular Front for the Liberation of Palestine created a permanent liaison office in Tokyo. As might have been anticipated, this collaboration resulted in expanded RAF/PFLP operations. The first and most significant was the 30 May 1972 attack on Lod International Airport, Tel Aviv, Israel. Operating on behalf of the PFLP, three Japanese RAF members (trained at the camp in Baalbek) machine-gunned

passengers and airline personnel in the waiting room at Lod, killing 28 and wounding an additional 78 persons. Traveling on false passports obtained in Frankfurt, Federal Republic of Germany, the terrorists entered Israel on a regular commercial flight from Rome.⁶

Following the Lod “massacre,” RAF and PFLP units participated in a number of highly successful joint operations during the years 1972 through 1974. In July 1972, collaborating with Latin American revolutionaries, the two groups hijacked a Japan Airlines Boeing 747 in the air over the Netherlands. Less than two years later, during February 1974, an RAF/PFLP terrorist team attempted to blow up the Shell Oil Corporation refinery in Singapore. Failing in this effort, the terrorists seized a local ferry boat and held a number of passengers hostage to secure safe passage from the country. When there was some governmental reluctance to take this action, another team of four RAF and five PFLP members captured the Japanese Embassy in Kuwait. Holding the ambassador and some staff members prisoner, the terrorists demanded—and obtained—the release of their Singapore unit as well as their own freedom. A few months later, RAF/PFLP units, again collaborating with Latin American terrorists, seized another JAL 747 and diverted it to Benghazi, Libya, where it was destroyed after landing.⁷

The RAF and PFLP maintained close ties on the European continent as well as in the Middle East. In France the RAF developed a highly sophisticated support net for PFLP activities. Not detected by French police until the summer of 1974, this net recruited members from the relatively large Japanese community in France. Headquartered in Paris, the RAF organization also had branches



A SAM 7 (Strella) Soviet-manufactured surface-to-air missile and launcher. They are known to be in the arms inventory of Palestinian terrorist groups; those shown were taken by Italian security personnel from Palestinians captured in Rome on 5 September 1973. The weapon was to have been used in shooting down an Israeli El Al airliner over Rome International Airport.

in various European cities; as of mid-February 1975 at least one top-level RAF leader was still in Stockholm. Besides providing logistic support for PFLP operations, the RAF net conducted terrorist activities on behalf of the PFLP, as evidenced in the 13 September 1974 capture of the French Embassy in The Hague by a three-member RAF team. As an integral part of its assistance to the PFLP, the RAF maintained close contact with other European terrorist organizations. Key among these was the Baader-Meinhof (BM) gang in the Federal Republic of Germany.⁸

Organized in April 1968, the BM group engaged in numerous terrorist acts during early 1970. In May of that year, members of the group traveled to the Middle East, where they made contact with the PFLP as well as the RAF and apparently underwent guerrilla training. Anarchistic in political outlook,

group members returned to the Federal Republic after several months and resumed terrorist operations against German business firms and personalities. During the spring and summer of 1972, these activities were expanded to include the 5 May 1972 bombing of U.S. Fifth Army Corps Headquarters in Frankfurt and a 24 May 1972 bombing of the Headquarters of U.S. Army Europe, located in Heidelberg. In these two operations several U.S. personnel were killed and others wounded. Despite the June 1972 arrest of Andreas Baader, Ulrike Meinhof, and other group leaders, the remaining members of the gang reorganized under the name Red Army Faction (RAF) and continued to carry out acts of terrorism throughout Germany. Also known as the "Berlin Tupamaros," this group patterned its operations after those of the Uruguayan Tupamaro urban guerrilla organization. Recruited

primarily from middle-class students at various Berlin universities, RAF members carried out the December 1974 execution of Dr. Gunter von Drenkmann, President of the West Berlin Supreme Court, as well as the attempted assassination, in Frankfurt, of a deputy to the West German parliament.⁹

Of particular interest in regard to the Baader-Meinhof organization are its links to the PFLP and the Japanese Red Army Faction. In this latter context, it seems quite possible that the false travel documents obtained in Frankfurt and used by the Japanese RAF team that attacked Lod Airport came from Baader-Meinhof. In connection with linkages between BM and the Japanese RAF, it is also interesting to note mid-February 1975 reports from Stockholm indicating Japanese RAF members were still in that city. The objective of these individuals appeared to be a joinder of forces with Baader-Meinhof in a terrorist campaign to obtain freedom for BM members still imprisoned in the Federal Republic. The anarchist Second of June Movement in the FRG—an organization responsible for the sensational late February 1975 abduction of West Berlin Christian Democratic Union leader Peter Lorenz, also has close ties with Baader-Meinhof and its splinter element, the German Red Army Faction. Other equally close linkages exist between these three organizations and the Italian "Red Brigades" led by Renato Curcio. Anarchist in outlook, the Red Brigades have mounted an active terrorist campaign in numerous Italian cities during recent years. Paralleling a similarity in political views, the Red Brigades and the Second of June Movement also utilize almost identical terrorist tactics. For example, the abduction of West Berlin politician Lorenz bears a

striking resemblance to the earlier Red Brigade kidnapping of Mario Rossi, a Genoa legal official.¹⁰

In contrast to the rather spectacular events that have characterized collaboration between the Palestinian and the Japanese groups or between the Italian Red Brigades and the German groups, considerably less attention has been given to Palestinian ties with Turkish revolutionary organizations and the Irish Republican Army. Of note among the Turkish groups cooperating with the Palestinians is the Popular Liberation Front. Hard evidence of collaboration between this group and Palestinian liberation organizations came to light in the December 1973 arrest, by Paris police, of ten Turkish citizens, two Palestinians, and an Algerian. In their possession were substantial quantities of explosives, including those fabricated into book and letter bombs, as well as weapons, ammunition, and false documentation. The group was planning a European terrorist campaign for late 1973 and early 1974.¹¹

In addition to linkages between the PFLP and various terrorist groups in Latin America, Europe, and Japan, PFLP ties to the Irish Republican Army (IRA) are worth noting. According to several sources, these links date back to 1968-69, when IRA cadres reportedly began training in various Palestinian guerrilla camps. During May 1972 this informal arrangement was formalized at a Dublin conference of several terrorist organizations. At this gathering the PFLP pledged assistance to the IRA in the form of arms shipments as well as diplomatic support from various radical Arab states. Among these, Libya had been prominent in its vocal endorsement of the IRA and reportedly has provided five million pounds sterling for IRA operations.

Libya also seems to have become a significant source for IRA's weapons, as evidenced in the April 1973 capture of a West German gunrunning vessel, the *Claudia*, off the Irish coast. The ship was loaded with arms sent from Libya to the IRA.¹²

WHILE the initiation and growth of ties between diverse terrorist organizations in widely separated geographic areas is now an established fact, little attention has been focused on those social, political, and technological factors facilitating the development of transnational terrorism or the problem of how to cope with this growing phenomenon. In regard to the social and political elements associated with the growth of terrorism, mention already has been made of the common characteristics of most terrorist organizations today: similar social origins (urban

middle class), similar ideological outlook (often a combination of radical Marxism or anarchism with virulent nationalism), and a standard operational strategy (terrorism and urban guerrilla warfare). Beyond these similarities, however, a more deeply seated element common to these groups is their total lack of faith in the ability of representative government to bring about effective, significant, and lasting sociopolitical change. Distrusting "democratic" governments and the electoral process, these minority elements are unwilling and unable to exert influence through the ballot box. Accordingly, they have turned to terrorism as the best weapon available in their efforts to destroy "established governments," the "capitalist economic system," and those "exploitive classes" which—in their view—dominate both. Although numerically minuscule, these organizations publicize their goals as well as confront, and



Four Palestinian terrorists, apprehended in West Berlin on 18 October 1973 after illegal entry, carried 4.75 kilo plastique explosive concealed in the lining of a double-bottom suitcase.

sometimes defeat, national governments through the selective use of terror. The assassination or kidnapping of prominent national figures, attacks against domestic and foreign business facilities, or the hijacking of commercial airliners—all focus world attention on terrorist goals. They also demonstrate graphically the inability of a government to protect its nationals, and foreign guests, from terrorist violence.

Difficult to detect and hard to eliminate, the small and cohesive terrorist group is adept at exploiting the vulnerabilities of Western society as well as the advantages provided by modern technology. Making excellent use of those limited passport and other travel controls in force within the West, terrorist cadres encounter little difficulty in crossing national frontiers. The movement of units from one country through another to a target within a third nation has been accomplished with ease. Where legitimate travel documents cannot be used, fraudulent passports, visas, and other documentation seem to suffice. Facilitating this travel is the mobility provided by international air carriers. All these elements, coupled with technological advances in explosives, timing devices, and the miniaturization of weaponry have made the modern transnational terrorist group a formidable adversary.

While terrorist organizations have been relatively successful in solving their operational problems, governments within the free world have had considerably less success in coping with the continued growth of terrorism. To a significant degree, this failure may stem from a misreading of terrorist aims. In contrast to most rural guerrillas, the indigenous urban terrorist or transnational terrorist group has no desire to

engage the armed forces of any nation in face-to-face combat. Instead, these terrorist organizations carry out acts of violence to embarrass an established regime; to demonstrate the regime's inability to protect its nationals or foreign visitors; to create a feeling of insecurity and lack of confidence within the general populace and business community; to publicize terrorist goals and objectives; and, finally, to force the imposition of highly restrictive antiterrorist controls that will alienate the populace and possibly spark a general revolutionary uprising.¹³

In attempting to meet the challenge of transnational terrorism, some nations have chosen the path of least resistance and adopted a general policy of acceding to terrorist demands for the release of prisoners or the payment of a substantial ransom in exchange for a kidnapped hostage. In general, these same states have adopted a generous policy toward captured terrorists, sometimes freeing them on their own recognizance or meting out only limited prison sentences, which often are revoked subsequently.

In contrast, countries, such as the United States, United Kingdom, and several others, have opted for a much harder line, often refusing to negotiate with any terrorist organization. These same nations have accelerated the exchange of data on terrorist operations gathered by their intelligence organs. In this context, most of these states also mete out relatively severe prison sentences (and sometimes the death penalty) for terrorist acts. While this hard-line approach may appear somewhat harsh from the short-term point of view—particularly when it results in the death of a hostage—it seems essential for the reduction and ultimate elimina-

tion of transnational terrorism.¹⁴

These goals will not be realized, however, until substantially stronger and more resolute governmental action on an international scale convinces terrorist organizations that acts of violence do

not advance their cause and will not result in political, financial, or propaganda gain. Until that time, transnational terrorism will continue to pose a significant security problem for the international community.

Washington, D.C.

Notes

1. For additional information on the subject of transnational terrorism, see the following papers by RAND Corporation member Brian M. Jenkins: *Soldiers Versus Gunmen: The Challenge of Urban Guerrilla Warfare*, RAND Paper 5182, March 1974; *International Terrorism: A New Kind of Warfare*, RAND Paper 5261, June 1974; *Terrorism and Kidnapping*, RAND Paper 5255, June 1974; *Terrorism Works—Sometimes*, RAND Paper 5217, April 1974.

2. For detailed information on the transnational aspects of urban terrorism in Latin America see Charles A. Russell, James A. Miller, Robert E. Hildner, "The Urban Guerrilla in Latin America: A Select Bibliography," *Latin American Research Review*, vol. 9, no. 1 (Spring 1974), pp. 37-79; Charles A. Russell, James E. Schenkel, James A. Miller, "Urban Guerrillas in Argentina: A Select Bibliography," *Latin American Research Review*, vol. 9, no. 3 (Fall 1974), pp. 53-89.

3. "El ERP se conecta con la IV internacional asentada en Francia", *Arriba* (Madrid), 14 December 1974, p. 15; "Captura de ocho personas que intervinieron en el atentado de la calle de correo", *Ya* (Madrid), 24 September 1974, pp. 1-2; "Dicen que son franceses los asesinos del coronel Trabal", *Ya*, 21 December 1974, p. 10; "Segundo comunicado tupamaro", *Arriba*, 2 December 1974, p. 15; "Bordaberry condena el terrorismo internacional", *Arriba*, 21 December 1974, p. 15.

4. "JAL Jetliner Hijacked to Middle East," *Washington Post*, 21 July 1972; "Kuwait Bows to Guerrillas," *Washington Post*, 8 February 1974.

5. As a result of links between GARI and the Basque ETA, the Spanish press has published a number of excellent articles on the former group. See "Atentados de GARI en Paris y Clermont-Ferrand", *ABC* (Madrid), 16 January 1975, p. 25; "Atentado del GARI en el museo de la marina en Paris", *ABC*, 7 January 1975, p. 16; "Irritacion en Francia por los ultimos atentados del GARI", *Ya*, 17 January 1975, p. 8; "Es fácil confundir las ventas oficiales de armas con las clandestinas", *Ya*, 4 February 1975, p. 1; "Explosion de dos artefactos al paso de un tren fronterizo", *ABC*, 21

September 1974, p. 21; "Los siete del GARI detenidos en Francia no serán considerados presos políticos", *Ya*, 15 March 1975, p. 3; "Tres miembros del GARI encarcelados", *Arriba*, 12 December 1974, p. 14.

6. Tad Szulc, "World Terrorist Link Hinted," *Washington Star*, 14 July 1972.

7. "Kuwait Bows to Guerrillas," *Washington Post*, 8 February 1974; "4 Terrorists Attack Singapore Refinery," *Washington Post*, 1 February 1974.

8. "Ejército rojo japonés", *Arriba*, 11 February 1975, p. 16.

9. "Notable triunfo electoral demócrata cristiano en Berlín", *Informaciones* (Madrid), 3 March 1975, p. 3; "La banda Baader-Meinhof no ha cesado de actuar", *Arriba*, 30 November 1974, p. 12; "Se preparaba un vasto plan terrorista", *Arriba*, 28 November 1974, p. 16.

10. "Terroristas japoneses en Europa", *Ya*, 11 February 1974, p. 6; "Ejército rojo japonés", *Arriba*, 5 March 1975, p. 11; "Los cinco anarquistas rumbo a Siria", *Informaciones*, 3 March 1975, p. 1.

11. "Paris Police Arrest Terror Ring," *Washington Post*, 27 December 1973.

12. "Palestinian Guerrillas and IRA Establish Fraternal Ties," *Washington Post*, 5 October 1972; "Gadhafi ayuda al IRA según informa 'Sunday Telegraph'", *ABC*, 24 December 1974, p. 40; "Gun Runner Links Libya to IRA," *Washington Post*, 3 April 1973.

13. For example, these were, essentially, the goals of the urban resistance element (Llano Wing) in Fidel Castro's 26 of July Movement. In the view of most analysts of the Cuban Revolution, it was the largely unheralded activities of the Llano Wing which were responsible for provoking the Batista government into the increasingly harsh antiterrorist measures that ultimately alienated most of the Cuban population.

14. In this context, most nations adopting the hard-line approach have been less frequent targets for transnational terrorist operations than those that have endorsed the softer position.

The views expressed in this article are those of the author and do not necessarily represent those of the Department of Defense or United States Government.



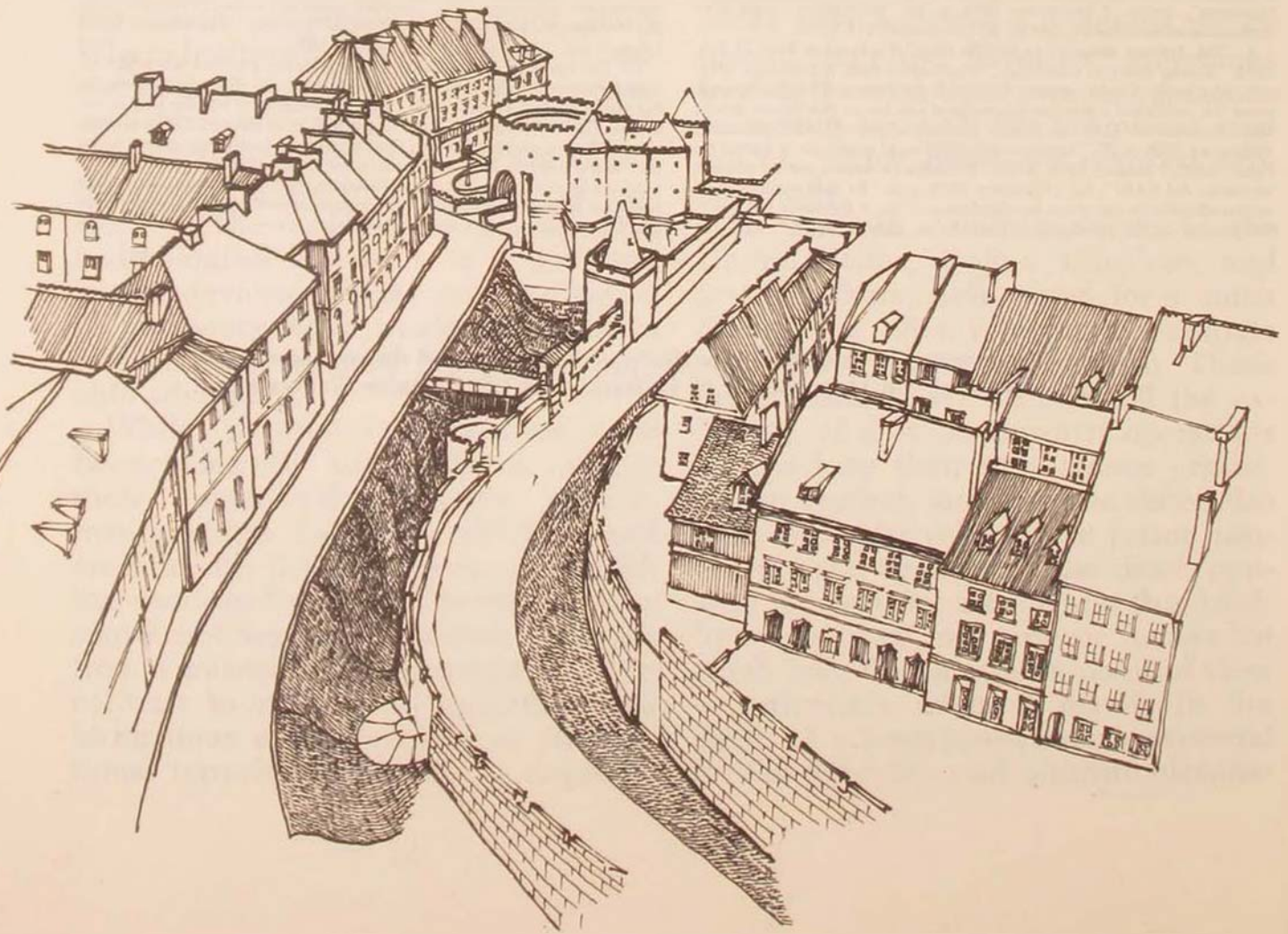
*A person who is not inwardly prepared for
the use of violence against him is always
weaker than the person committing the violence.*

ALEKSANDR I. SOLZHENITSYN¹

DOVE IN THE COCKPIT

*peace in today's
Europe*

MAJOR EDD D. WHEELER



SCENE of frequent war and struggle, the plains of Belgium and northern Germany have been called "the 'Cockpit' of Europe."² But the dubious honor is contested. In Roman times, Iberia was known as the cockpit of war, while more recently the world wars of our century have seen sufficient blood spilt at such places as Caporetto and Stalingrad to give southern and eastern Europe some claim to the painful title, also. Europe's many fronts seldom have been quiet.

The perch of peace in contemporary Europe is still perilous. Echoes of Soviet tanks rumbling through the streets of Prague have not yet wholly subsided. News headlines include references to undeclared war in Northern Ireland, disrupting leftist tensions in Portugal, work of urban terrorists in West Germany. More important for our purposes is the fact that today in Central Europe there converges the largest concentration of opposing forces in the world. They are superbly trained, formidably equipped, and ready for instant combat. There is ample reason that the dove's flight at times should be skittish.

My thesis can be stated neither simply nor without paradox. Like one of Horace's subjects, it deals with harmony in discord. Nonetheless, because my purpose is to try at least to illuminate rather than to riddle, a statement must be attempted. It might go something like this: In order to preserve a second generation of relative, though fragile, peace in Europe, we must be prepared there for the possible use of violence against us. If the dove is to find a safe haven, it cannot be through measures aimed exclusively at such safety. Our policy must be both dynamic and irenic. There must be give as well as take if an equal order is to be maintained in Europe, and

the military, of course, will continue to figure prominently in this exchange.

The tragic scenario of Southeast Asia cannot be tolerated either for Europe or, indeed, for any place where our major interests and commitments are inextricably interconnected. Europe cannot be defended by waiting until it is the only continent outside North America left to defend. Detractors of this position might too glibly call it a preoccupation with "dominoes"; yet not to heed this approach is to participate in a far more dangerous game of chance, in which possibly the highest of stakes and gravest of losses may be involved.

Though peace in Europe is yoked strongly to our national honor and commitments, we should realize that honor is also linked to peace. Since the stakes are immense in Europe, so too is the price we are willing to pay in order to protect them. Certainly, this is not to indulge in the absurd and nihilistic syllogism that suggests, because Europe matters greatly, we must be prepared to destroy it if necessary in order to save it. Rather, our position simply must be that the highly industrialized, culturally invaluable continent, which is home for over 300 million of our NATO allies, demands an unyielding commitment on our part. But total commitment is conceivably translatable into total war. Therefore, we must recognize that, just as, given Europe's intrinsic worth, there can be no peace without honor; likewise, given the nature of large-scale war in Europe, there can be no honor without peace.

This, then, is the elusive context. Lest I find myself in the position of the hapless philosopher who, after speaking on the secret of Hegel, was wryly congratulated for having kept the secret, let me move now to more specific issues. What are our

objectives in Europe, the resources available to achieve those objectives, the obstacles involved, the shape of the future there?

Objectives in Europe

What we hope to achieve in Europe is largely a function and reflection of our foreign policy. That policy is determined by Presidential decision. Its development is primarily the responsibility of the Secretary of State. The present Secretary, perhaps more than his recent predecessors, has been actively engaged in the role of chief architect of U.S. foreign policy. He has done so with a masterful, if at times temperamental, hand. It is too early to judge if the structures he has had a significant part in building will stand as great monuments to diplomatic genius.

The medium of Secretary of State Henry Kissinger's construction is granite. He has expressed the objective as the building of a lasting international order, though, in an existential vein, he as much as anyone seems to recognize that such orders have a way of not enduring.

Still, a vision of a stable European order is part of Kissinger's outlook and dates back as far as his first major work, *A World Restored* (1957). This book possibly reveals much about Kissinger, especially as it mirrors his fascination with that great architect of early nineteenth century Europe, Prince Klemens von Metternich. Yet the temptation should be resisted to view the Secretary as an intentional copy of the Austrian statesman. No, Kissinger is not Prince Metternich, nor was meant to be.³

But what should be derived from the book is Kissinger's hypothesis that the fundamental objective in Europe since Napoleon's defeat has been the establishment of "a legitimate order."⁴ The word "legitimate" is important for Kissinger, and by it he means that which is "accepted by all the

major powers."⁵ One can conclude, therefore, that he hopes to assist in achieving a European diplomatic order that is acceptable to both sides, East and West, and particularly to the protagonists, the Soviet Union and the United States. This is not to say that such countries as Bulgaria and Belgium are not very much a part of the European order. Nonetheless, if another important objective (to turn one of Kissinger's own phrases) is to demonstrate the necessity of peace by proving the impossibility of war, then that proof must be demonstrated at the level where it is most meaningful. Only an order and peace agreeable to the two superpowers are likely to endure for any length of time.

On the other hand, great or small, statesmen do not abide. For good or ill, neither do their policies. The grand design that might be used for a legitimate order and peace in Europe can be overturned by time and events. Neither diplomats nor strategists have unlimited tenure in office as decision-makers. Everywhere whirl is king.

Despite the transient nature of our designs, however, certain measures must be undertaken in Europe if our policies are to approximate success. All these objectives must be sounded on a pragmatic note, and for many of them expeditious accomplishment can only be termed critical. Four of the most apparent and pressing of these objectives follow, listed from the general to the specific:

- NATO demands immediate rejuvenation. It was said more than six years ago that "NATO is far gone on the road to extinction."⁶ If this were true then, there can be no doubt now that, without swift change, NATO—at least the NATO of old—will soon be ready for the taxidermist. The southern flank is not as steady as it might be: Greece and Turkey are finding that it remains difficult to end old differences; Italy has severe economic problems; and Portu-

gal is a capital Question Mark. Canada has cut its defense spending, expressed as a percentage of gross national product, by more than half since 1960. Thus, NATO as a military body comes very close today to being an alliance solely between the United States and northwestern Europe. Astute critics have noted recently that NATO needs more combat manpower, a higher "teeth-to-tail" ratio—particularly in Central Europe.⁷ This is doubtless true, and improvements are being made. But what is also needed for the Alliance as a whole is drastically better participation, willingly accomplished.

- Continued additional improvements are still needed in financial burden-sharing arrangements for the maintenance of U.S. forces in Europe. Progress has been made in this area. As Secretary of Defense James R. Schlesinger has noted, the U.S. share of spendings for NATO military construction has been reduced of late. The most recent of these infrastructure programs "have provided, on the average, over \$5 worth of facilities for U.S. forces for every \$3 of U.S. contributions."⁸ Yet, still further improvements are necessary. With the United States in the most narrow economic straits since the Depression, it becomes difficult to justify, especially to the unemployed, why Europe should not do more by way of cost sharing. Such formulations may seem simplistic, both militarily and economically, but not to American voters, who continue their demand to be heard—and rightly so.

- Increased standardization is overdue in such fields as procurement and logistics. This subject is presently being given attention within the NATO complex. Even so, NATO's European nations conduct themselves today in a manner not unlike that which characterized the American states under the Articles of Confederation (and, for alliance purposes, to similarly unsatisfactory effect). Each member originates its

own budget, maintains its separate armed forces, and promulgates its distinct schedule of priorities. Understandably, the results are often separateness and redundancy rather than unity and coordination. Of course, it would be utterly naïve to suggest that the differences between, say, Italy and Denmark are no greater than those between Georgia and Connecticut. But it is almost as foolish to assert, in the area of standardization, that differences between European support systems cannot be surmounted.

- General Andrew J. Goodpaster, retired Supreme Allied Commander, Europe (SACEUR), has estimated "that lack of standardization costs NATO 30 to 50 percent of its potential capability."⁹ This represents a truly appalling waste.

- It is obvious that there will not soon be a United States of Europe or, for that matter, even an economic and monetary union in the near future.¹⁰ What is not obvious is why there cannot be a common wrench, turned on a common engine, by mechanics schooled at a common training center, in accordance with directions in a common technical manual. It would be one of the benign ironies of history, and a welcome one, if smudged mechanics might show elegant statesmen the way to concrete cooperation.

- Command and control has recently been the subject of intense discussion and concern, all of it well deserved. At this moment, construction is under way to modify an existing facility in Germany into an elaborate, hardened (against conventional attack) wartime headquarters for the NATO air commander in Central Europe. I am old enough to know better when it comes to the "Emperor's new clothes," but I must confess that when I view this array I discern not a stitch.

- The lessons of warfare are far from

clear. History mumbles; there is noise in the background; we are beguiled by half-truths; we hear what we want to hear. Yet one lesson that does come through without phantom-like form is that where a force can be fixed, it can either be circumvented or, with modern weaponry, destroyed. Such a target would be extremely attractive, so much so that an enemy might succumb to the nuclear temptation with a "surgical strike."

- This mode of operation worked in Southeast Asia, where the Air Command and Control Center in Saigon was known as "Blue Chip." But there it was not subjected to the sophisticated threat that would fill the skies in an air campaign over Germany. When the chips are down in Central Europe, a semihard "Blue Chip" might be worthless, since it could be one of the first targets on which a determined enemy will cash in.

- More feasible, I believe, for a secure command and control center is one that is mobile. This might be achieved either by motor on the ground or by jet engine in the air, perhaps something in the class of the Airborne Warning and Control System (AWACS). Although the AWACS has been criticized for alleged vulnerability to enemy air attack, its flight plan at least is not already a matter of record at Warsaw Pact military headquarters in Potsdam.

Resources and Obstacles

The resources available to achieve our objectives in Europe and the obstacles to such achievement will be dealt with jointly for two reasons. To begin with, our resources and strengths assume real meaning only when measured against that which stands in opposition to them. Next, there is an occasional tendency to forget something quite fundamental: that the chief obstacle in our path is in fact the opposi-

tion. Resources are necessary because we have resourceful adversaries.

Although outnumbered in what is known as the NATO Guidelines Area (NGA),^o the West's ground forces do not compare unfavorably with those of the East. However, as can be seen in the following table, the East's numerical lead is more substantial in aircraft and tanks:¹¹

	Guidelines Area			
	NATO		Warsaw Pact	
	Total	U.S.	Total	U.S.S.R.
Ground forces	788,000	190,000	935,000	460,000
Tanks	6,880	2,100	15,500	7,850
Aircraft	1,710	240	2,810	1,250

Two observations can be made readily from this table. First, the Pact's tank advantage is commanding. These are primarily offensive weapons, used for shock, breakthrough, and rapid battlefield exploitation. This heavy emphasis on armor suggests that the East does not plan to fight any future engagement by hanging back. Their objective likely would be to seize the offensive from the beginning. Some have tended to discount the East's numerical advantage in armor by pointing to NATO's solid antitank defenses and the superior quality of its tank. Issues of this type ultimately are resolvable only through the gunsight, not through spilled ink, though it might be noted in passing that at some early point in a contest, given reasonably equal weapon systems, sheer numbers are as determinative of the outcome as technology. Indeed, simplicity can be a virtue, and mud does not always discriminate between this year's model and last.

The second observation concerns the striking fact that in this NATO Guidelines

^o The NGA includes West Germany and Benelux as well as, curiously, the non-NATO countries of East Germany, Poland, and Czechoslovakia.

comparison the Soviet Union represents by far the largest national military presence. The Soviets provide half of the Pact's NGA strength in troops and tanks (compared to the U.S. share for NATO of 24 and 30 percent, respectively), while in aircraft the Soviet share for the Pact is 45 percent (versus the U.S. input of 14 percent for NATO). These Soviet forces are among the best combat personnel in the world. Their equipment is first-rate. They are not ten feet tall, but neither are they midgets. They are the Motherland's finest.

neither fairyland nor no-man's-land

If there were a mutual withdrawal of American and Soviet forces from the NGA, then a more approximate parity would exist between those forces remaining in the area. But the NGA is not fairyland, and the Soviets have no intention of total withdrawal. The plain fact is that they are in eastern Europe as much for reasons of political stability, otherwise known as occupation, as for forward defense. Still, if the NGA is not fairyland, neither is there reason that it must be no-man's-land. It need not necessarily continue as harsh, vestigial ground of the Cold War. To ease some of the tensions that have gripped this region for thirty years and to promote détente, East and West began Mutual and Balanced Force Reduction (MBFR) talks in October 1973.

The purpose of MBFR is to lessen the size of opposing forces maintained in the Guidelines Area. After eighteen months, the talks have deadlocked, as announced in the following press release: "Vienna, April 17 (UPI).—The fifth round of East-West talks on troop cuts in Central Europe ended today with no agreement in sight. Each side blamed the other for lack of progress."¹² That such news was relegated to page five is perhaps indicative of hopes entertained for the talks. The West, seeking a ceiling

of 700,000 ground troops for each side, claims that it cannot accept a position of permanent numerical inferiority in Central Europe. The East, claiming that its numerical superiority derives from factors of historical providence (whatever that means), states that the West's figures are incorrect but offers no figures of its own. Apparently, champagne for toasts flows more freely than does true concord.

the economics of détente

One of the driving forces behind both MBFR and the appeal of détente in general is economics. It has become frightfully expensive to behave like a world power. It always has been expensive to be a world power. Like Senator Mike Mansfield, I cannot claim expertise in economics—micro, macro, or echo. Nonetheless, some of the economic lines on the face of détente seem to warrant elementary inspection.

The first fact to be dealt with, one of basic importance, is that the economics of détente thus far have seen the United States spend less and the Soviet Union more on defense. From FY70 to FY75, U.S. defense expenditures fell, in terms of 1973 dollars, from \$92 billion to \$72 billion (a decrease of 22 percent), while in the same period and terms the Soviet defense budget increased from \$88 billion to \$95 billion (an 8 percent increase).¹³ Too often, especially to the uninitiated, charts and figures tend to mesmerize. Yet we should clear our heads long enough to realize that, according to these DOD figures, the Soviets are outstripping our comparative defense spending by almost a third.

Against this sobering background, we might examine the economic picture as it relates to defense in Europe. Here the economics of détente translate into reduced defense spendings, when expressed as a percentage of GNP:¹⁴

**Defense Spending as
Percentage of GNP**

	1970	1974
		(estimate)
Belgium	3.3	3.1
Denmark	2.8	2.6
France	4.7	3.8
West Germany*	4.3	4.9
Greece	5.6	5.0
Italy	3.0	3.0
Luxembourg	0.9	0.9
Netherlands	3.8	3.8
Norway	4.1	3.8
Portugal	7.9	6.4
Turkey	4.7	4.1
United Kingdom	5.6	5.8
Total Europe	4.2	4.1
Canada	2.8	2.4
United States	8.7	6.6
Total NATO	6.7	5.3

*Includes expenditures on Berlin.

From an American vantage point it might be argued that some NATO members need to do more in sharing the financial burden of defense expenditures. Although the subject was touched on previously, it is important enough to merit reiteration here. The Benelux, Canada, Denmark, and Norway, all relatively prosperous military members of the Alliance's northern tier, should be requested to increase their defense budgets. Even West Germany, which has sustained the greatest increase in defense spending, should be encouraged to do still more. Such an initiative is justifiable because of both the strong economy of Germany and its proximity to the threat. The Germans seem acutely aware of this proximity, but more awareness is needed by many of the other members of NATO.

In attempting to describe desired levels of economic support for NATO members, one cannot be mechanical or categorical. The general prescription of "more and faster" is unsatisfactory; it might well serve only to choke rather than to stimulate the defense effort, particularly for a country already reeling from economic difficulties. The United States, with vast resources and with a per capita income almost nine times that of Turkey and actually twice that of the United Kingdom, should reasonably be expected to do more, both absolutely and proportionately.¹⁵ But how much more? For how long? And does this same formula of economic justice, however crude, apply also to such nations as West Germany, Canada, and Denmark, where the standard of living is only slightly below that of the United States? Should the average American bear, by any measure, more than twice the economic burden for defense as the average Dane? These are obviously broad and intricate questions, and they will not be answered in this limited space, nor soon possibly even in the expansive chambers of NATO headquarters in Brussels. But answered they must be, and without inordinate delay.

oil a source of friction

Given the lack of reliable economic data on the East, it is difficult to compare precisely their economic resources with those of the West. Certain facts, of course, are relatively well known. For example, Western Europe is much more industrialized than Eastern Europe; but in the last few years the economic growth rate has been generally larger for the East. One factor, though, that looms large in East-West comparison is that the West currently is suffering serious economic problems. With the exception of Germany, inflation has strained most Western economies. Although scant learned consensus exists on how best to counter inflation, there

is little mystique about its nature. Its woes are known to everyone, and its effect in the West has been wrenching, especially in such countries as Italy and the United Kingdom.

There are many complex reasons for this inflation, but a major one is the fivefold increase in prices by the oil cartel. A few countries, chiefly West Germany, have been able to forestall adverse economic effects through significant sales of industry and technology to the increasingly wealthy oil-producing nations. But for most in the West, oil has become a source of friction. The gears of Western economies have slowed, in part because of the price spiral of this vital lubricant. Oil, in fact, has been used by the Arab states as both an economic and a political weapon, at times even as a slick Sword of Damocles over selected Western heads.

In contrast, the economies of Eastern Europe have been buffeted by few of these inflationary winds. The East has been largely insulated in that most of its oil is obtained from the Soviet Union. As a matter of fact, this could be a consideration of fundamental importance in future growth patterns. While much of Western Europe may be subjected in coming years to the interplay of whim and responsibility among oil sheikdoms, the East can look to a more constant, if monolithic, source. To the discomfort of many Western observers, particularly in an Age of Energy, the Soviet Union has up to 60 percent of the world's oil and coal reserves, along with the world's largest potential mineral resources.¹⁶ That such statistics are deeply significant cannot be doubted; that they will not prove decisive can only be hoped.

Shape of the Future

Fortunately, the future seems to have no predetermined shape, perhaps not even a determinable one. Or, if it does, surely that

shape must be etched upon water—very difficult to decipher. The safest prophecy is that the shores of the future will be littered with the bones of dead prophets.

"Buy spear from side or bear it"

In looking, though, to future shores, we are likely to find them peaceful in Europe. But it well may be the same tenuous peace found there today. It may be indeed a continuation of that peace suggested in an ancient Anglo-Saxon legal maxim, "Buy spear from side or bear it," that is, buy off the feud or fight it out. The Europe of the future, like that of past and present, probably will not be without feuds. Therefore, if future Europeans are found at peace, it will be because modern feuds remain prohibitively expensive: it is cheaper to buy them off than to fight them out. This is not to say that the maintenance of peace will be inexpensive. Far from it. Yet if, as King Henri IV of France once said, "Paris is well worth a Mass," then Western Europe is certainly worth the entire liturgy of defense spending.

As for the French, no view of Europe would be complete without them. They no doubt will remain the most independent and enigmatic of our European allies. They are likely also to remain outside the formal NATO military structure but very much involved in the total defense picture. One might sooner visualize Rumania remaining aloof from any future widespread engagement in Europe than France. Perhaps we should attempt something very daring—an attempt to understand the French. Perhaps we should realize that whenever we announce that the defense of Europe is second only in importance to the defense of the United States itself, such an announcement accomplishes two things: it rings well for publication of priorities, perhaps even for candor; but it also rings clearly for France's *force de frappe*.

Understandably, the French, and all Europeans, desire something very close to their hearts: an unconditional commitment to their survival. And it is ever so much better if the commitment is made as a true ally, an equal, rather than as a haughty chieftain. Justice Holmes has stated that the beginning of wisdom is recognition that we are in the universe and not that the universe is in us. The corollary for America in Europe is recognition that we are in NATO and not the converse.

tranquillity and a scorched Dresden angel

Possibly, if remotely so, the future European scene will be a tranquil one. It may witness increased trade and cooperation between East and West. Already, West Germany's trade with Communist countries accounts for almost 9 percent of its total foreign trade, and by 1985 she is to receive 16 percent of her natural gas supply from the Soviet Union.¹⁷ In the coming decade Europeans may be more successful in achieving unity than they have been to date, perhaps

in some joint venture such as a unified effort in space exploration or medical research. It even is conceivable, particularly if one tends toward euphoria, that the European scene will become more settled at its navel, that foreign armies will depart German soil, that as an extension of the bold *Ostpolitik* the two Germanys will yet merge, dissolving the perhaps artificial, externally imposed bonds of political alliance that separate their national identities and cultures. Perhaps, all perhaps.

But there is another scene: Dresden at the close of the last World War. The city is in ruin. From its cathedral promontory, a watchful, scorched Dresden angel looks down, as if in both disbelief and forgiveness. Beneath the angel's outstretched hand, the shell of the city stands desolate, silent, gaunt. Here 135,000 people perished in a single night of air attacks. Although the attacks were made with conventional weapons, this is the view of ultimate war. It is a scene, a European scene, that must not be viewed again. Not by angels, not by men.

Ramstein AB, Germany

Notes

1. *The Gulag Archipelago*, trans. Thomas P. Whitney (New York: Harper & Row, 1973), p. 14.

2. *The Compact Edition of the Oxford English Dictionary* (New York: Oxford University Press, 1971), I, p. 455.

3. The allusion to T. S. Eliot's "Prufrock" aside, Kissinger simply does not conform to the best description we have of Metternich: "Not a man of strong passions and of bold measures: not a genius but a great talent; cool, calm, imperturbable and calculator *par excellence*." Quoted in *A World Restored* (Boston: Houghton Mifflin Co., 1973), pp. 11-12. Except for the last three words here, this passage would have to be stood on its head in order to be descriptive of Dr. Kissinger.

4. *Ibid.*, p. 4.

5. *Ibid.*, p. 5. Later, on p. 145, he states: "An order whose structure is accepted by all major powers is 'legitimate.' An order containing a power which considers its structure oppressive is 'revolutionary.'"

6. Morton A. Kaplan, "NATO in the International System of the 1970's," in *The World in Ferment*, Stanley L. Falk, ed. (Washington: Industrial College of the Armed Forces, 1970), p. 14.

7. For one of the most recent in a series of intelligent articles by various authors, see Alain C. Enthoven, "U.S. Forces in Europe: How Many? Doing What?" *Foreign Affairs*, April 1975, pp. 513-32.

8. *Annual Defense Department Report: FY 1976 and FY 1977* (Washington: Government Printing Office, 1975), p. IV-32.

9. Enthoven, p. 521.

10. See *International Herald Tribune*, April 23, 1975, p. 1. In two significant and related articles, framed together, announcement was made of the demise of the Action Committee for the United States of Europe, along with the announcement that an expert EEC committee "told the Common Market today [April 22] that all its attempts at economic union have failed."

11. Source for comparison is "The Military Balance 1974/75" [by the International Institute for Strategic Studies, London], in *Air Force Magazine*, December 1974, pp. 41-105.

12. "Vienna Talks on Troop Cuts Are Recessed," *International Herald Tribune*, April 18, 1975, p. 5.

13. *Annual Defense Department Report: FY 1976 and FY 1977* [chart opposite p. I-6]. Figures do not include spendings on military assistance and civil defense.

14. "Financial and Economic Data Relating to NATO Defence," *NATO Press Service Release*, December 11, 1974.

15. *Ibid.* Estimated 1974 GNP per head for United States was \$5997; United Kingdom, \$2951; Turkey, \$710; West Germany, \$5427; Canada, \$5298; Denmark, \$5213.

16. James Partington, ed., *The Book of the World 1973* (New York: Collier Books, 1972), p. 266.

17. "Focus on West Germany, 1975," *International Herald Tribune*, April 16 and 18, 1975, pp. 15A-28A and 17C-29C.

**WEATHER
PROBABILITY
FORECASTS**

**A Cost-Saving
Technique in Space
Launch and Missile
Test Operations**

MAJOR GENERAL HERBERT A. LYON, USAF (RET)

LIEUTENANT COLONEL LYNN L. LEBLANC

Minuteman II launching

THE Space and Missile Test Center (SAMTEC), an operational component of the Air Force Systems Command, manages the Western Test Range (WTR), which extends from the launch head at Vandenberg AFB, California, to the Indian Ocean. Ideally located for its mission between Point Sal and Point Conception on the rocky central California coast, SAMTEC can launch polar orbiting vehicles southward and ballistic missiles westward without overflying populated areas during the critical first few minutes of flight. The facilities of the Western Test Range, which has been designated by the Secretary of Defense as a National Range, are utilized by DOD agencies, NASA, and other DOD-approved range users for the conduct of aerospace and related test programs.

Ballistic missiles launched from Vandenberg are normally targeted so that the re-entry vehicles (RV's) re-enter the atmosphere and impact at designated, highly instrumented target areas on the Kwajalein Missile Range (KMR), operated by the U.S. Army in the Marshall Islands, or on the SAMTEC-operated Canton Island complex in the Phoenix Islands. Land-based instrumentation at those locations is frequently augmented by mobile sensors (ship-borne and air-borne) managed by the Air Force Eastern Test Range (AFETR) and the Pacific Missile Range (PMR), operated by the U.S. Navy.

The USAF operational missile fleet is an all-weather system that can accomplish its wartime objectives under virtually all weather conditions. In a test environment where the performance of every component of an aerospace system must be verified and documented, such is not the case. Although the degree of weather influence varies

greatly from mission to mission, the weather factor is present for every launch operation conducted on the WTR. On one end of the scale are launches that have only weather sensitivities imposed by Range Safety to insure a safe launch; at the other end are complex R&D ballistic missile launches with a mix of uprange, midrange, and downrange weather constraints. For these latter missions, in particular, the weather factor is extremely important. Activation of all facilities and sensors necessary to support a complex launch operation must begin several hours before scheduled launch time. If an operation is scrubbed late in the countdown after activation of supporting activities, thousands of dollars (in some cases hundreds of thousands) in range costs have been expended with no payoff. Not all scrubs are due to weather, and not all can be anticipated and avoided, but it was primarily to avoid costly "weather scrubs" due to failure to meet mandatory weather criteria that SAMTEC began using weather probability forecasts in making decisions to activate the range and continue a countdown.

A look at the many weather constraints and criteria involved in an operational test or R&D situation is requisite to an examination of the system operation.

weather constraints/criteria

Weather influences on SAMTEC launches are manifested in four ways. *First*, there are the range safety considerations. A safety hazard can exist from falling debris if the launch vehicle is destroyed near or shortly after launch, either accidentally or as a result of a destruct command from the Missile

Flight Control Officer. An additional safety hazard arises if certain missiles are destroyed near the ground: diffusion of toxic gases into a populated area. This hazard exists primarily with liquid-fueled rocket engines found in the Titan boosters and with certain upper-stage engines. The weather parameters important in these cases are upper air winds that determine debris fallout patterns and, in the case of toxic gas diffusion, low-level vertical profiles of wind and temperature.

Second, and closely related to the safety problem, is that of the vehicle's guidance capability and structural integrity during the powered flight through the lower portion of the atmosphere. Under certain conditions of high wind speeds and strong vertical wind shear, the capability of some vehicles to remain on a predetermined trajectory may be exceeded by the atmospheric forces. Structural damage may also result from excessive wind shears.

The *third* type of constraints has to do with the effects of weather on mandatory range sensors, from launch through re-entry and impact of the RV's in the target area. Optical tracking from land-based and airborne instruments is mandatory for many ballistic missile operations. Obviously, this requires a cloud-free (clear) line of sight from the sensor to the target. Another example is the possible degradation of RV impact scoring. At both KMR and Canton, splash detection radars determine the precise RV impact location by detecting the plume of water from the RV splash. Heavy precipitation in the vicinity of impact, or between the radar and the plume, will seriously limit the capability to score.

Finally, some ballistic launches have as a primary or secondary objective a requirement to encounter or avoid cer-

tain weather conditions in the re-entry corridor that are independent of any sensor requirements. These weather-sensitive launches are normally associated with tests to determine the capability of experimental RV nose tip ablative material to survive re-entry through a hostile weather environment, such as ice crystal clouds or heavy precipitation. Under severe conditions, it is conceivable that an experimental nose tip may erode to the point of RV disintegration prior to reaching detonation altitude. Although the survivability characteristics of a new RV can be examined in laboratories and by theoretical models, some actual data must be obtained under operational environmental conditions in order to validate models and laboratory experiments. Thus we seek to launch certain ballistic missile systems into prescribed weather conditions covering a wide range from "good" to "bad."

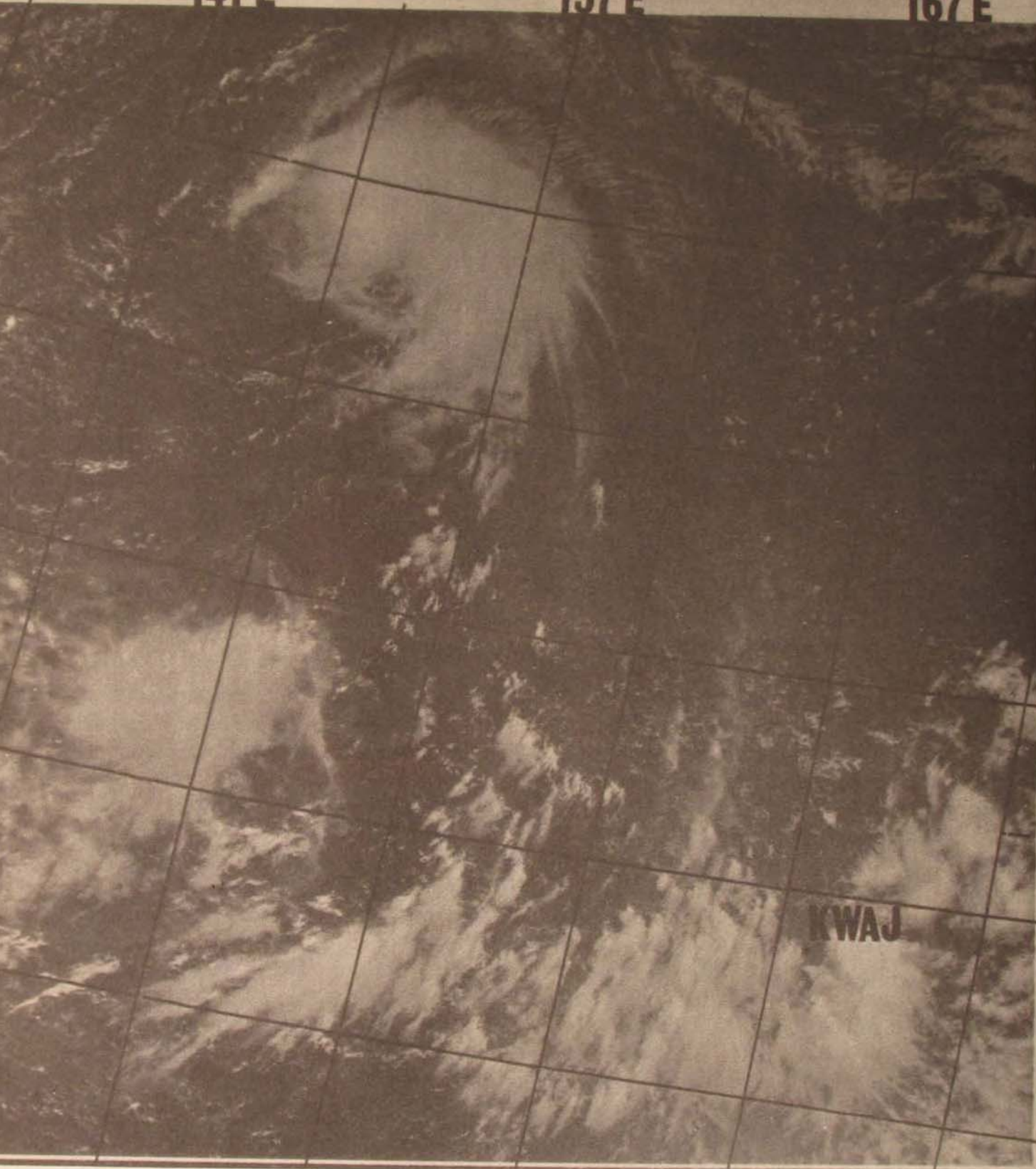
probability forecasts

Weather forecasts for most military operations are usually presented as categorical statements of what the weather will be in terms of cloud cover, visibility, precipitation, winds, severe weather, etc. When the forecast is presented, there is normally also a discussion of the synoptic weather pattern, trends, and the possibility that the weather may differ from the categorical forecast. What the decision-maker hopes to get from this information is a determination that weather will or will not hinder the accomplishment of mission objectives. In many cases a simple statement of the probability that specific mandatory weather criteria will be met is more useful. This single probability number contains everything important

147 E

157 E

167 E





Weather satellite photos (such as the one opposite) were used to forecast re-entry weather conditions for the Minuteman Natural Hazards Program. The Defense Meteorological Satellite Program (DMSP) has a mobile terminal on Kwajalein, Marshall Islands, and two satellites provide daytime visual data, $\frac{1}{3}$ nm resolution, and nighttime infrared data, 2 nm resolution, at about the same time each day. . . . Re-entry vehicles launched from the Space and Missile Test Center at Vandenberg AFB, California, (above) enter the atmosphere over Kwajalein, more than 4000 miles downrange. The success of many ballistic missile tests requires that only certain weather conditions occur in the target area during re-entry.

about the weather, its effect on a particular aspect of the mission objective, and the confidence of the meteorologist in his forecast in a particular situation. This number is much simpler to include in any objective decision-making algorithm applied to the mission.

For example, many USAF operations require a clear line of sight from one

point to another. This requirement exists for tactical bombing, close air support for ground forces, tactical reconnaissance, and, as noted previously, optical tracking in certain missile tests. Clear line of sight is a function of cloud amount and cloud thickness at each level, as well as the angle of view. A categorical forecast of clouds issued in

conventional terminology for this requirement does not answer the basic question of what is the probability that the target can be seen. The meteorologist can, however, objectively translate his forecast into probabilistic terms and give the decision-maker a single number to use in making his choice of "go" or "no go."

An important ingredient in *tailoring* of probability forecasts to optimum decision-making requires the meteorologist to be intimately informed of the mission objectives and knowledgeable about the manner in which the weather can degrade the attainment of those objectives. And the decision-maker has to understand how to interpret the probability forecast. For example, one common requirement for many ballistic programs is the need to view the re-entry from an optically instrumented aircraft. If the forecaster is aware that the aircraft cannot climb above 30,000 feet and he expects dense overcast cirrus clouds above that altitude, he will give a low probability that the objective will be met. If, on the other hand, he knows that the aircraft can operate at 50,000 feet, he will give a high probability of meeting mandatory objectives. The decision-maker in this example has to be confident that the meteorologist has been provided with the altitude capability of the aircraft.

Almost all ballistic launches require scoring of the RV impact locations, and the capability of splash detection radars to score is adversely affected by showers in the impact area. However, experience has taught the SAMTEC staff meteorologists that scattered lines or areas of showers moving through the area normally do not prohibit scoring opportunities at some time during a 3- or 4-hour launch window. In this case

the forecaster will give a high probability that the splash detection radars will be able to score the impact, but the decision-maker must be aware that later decisions to hold the launch for a scoring opportunity may be necessary.

At SAMTEC, weather briefings given at Readiness Reviews are short and to the point, consisting primarily of a statement of the probability that mandatory criteria will be satisfied during the scheduled launch window. An example of a typical briefing slide for a "moderately constrained" ballistic mission is shown in Figure 1. Here the uprange upper wind speed and wind shear limitations in the 30- to 40-thousand-foot altitude range are related to booster performance. Since the 155-knot wind speed and 35.5-knot-per-1000-foot vertical wind shear occur much less than 1 percent of the time and only in conjunction with major wintertime storms, the forecaster confidently gave a high probability that these constraints would not occur. The midrange criteria involved mandatory optical coverage by the ARPA Maui Optical Site in Hawaii. The cloud cover was expected to con-

Figure 1. Probability of acceptable weather

Uprange	Percent
Upper air wind speed 155 k (30M-40M ft altitude)	99
Upper air wind shear 35.5 k per 1000 ft (30M-40M ft alt)	99
Midrange	
Automatic Meteorological Observation Station (AMOS) (cirrus)	90
Downrange	
No Rain	85
No convective buildups	90
Optics	80
Scoring	85

sist of scattered high thin clouds that would not seriously limit optical coverage. Downrange, two mandatory criteria (no rain and no convective buildups) were related to RV performance, and two were for weather-dependent sensor requirements. For this mission the forecast was favorable, and the decision to enter the countdown was easy. If, for example, the midrange probability had been given as .10 because of an active weather system near Hawaii, the decision-maker would request an update just prior to decision time. If still unfavorable, he would scrub the operation and reschedule for a later date.

Readiness Reviews are normally held about 24 hours prior to launch. Whenever constraints are difficult to meet, additional probability forecasts are issued prior to each decision to commit resources. An example of how these procedures are used can be found in the Minuteman Natural Hazards Program.

Minuteman Natural Hazards Program

The Minuteman Natural Hazards Program involved six launches of specially designed re-entry vehicles from Vandenberg into predetermined and precisely defined weather conditions in the Kwajalein impact area. A prime objective was to evaluate RV performance and to relate that performance to meteorological conditions encountered by the RV's. The success of each of the six flights was essential for accomplishment of the overall program objective. Since each test could be conducted only during the occurrence of certain weather conditions in the impact area, test planners were faced with the problem of how to determine the best times to schedule range support. To activate the ranges and begin the missile count-

down at random times or repeatedly on a day-by-day basis would have resulted in an enormous expense and would have required virtually full-time dedicated support by range resources that were required to support other programs. We therefore relied on weather probability forecasts to limit activation of SAMTEC and other support range resources to those times when there was a reasonable likelihood that the necessary weather conditions would occur.

To provide the quality of forecast information required, the Air Weather Service deployed a Defense Meteorological Satellite Program (DMSP) mobile readout terminal and a TPQ-11 cloud-detection radar set to Kwajalein during the tests to augment existing instrumentation. Additionally, a forecaster was deployed from Vandenberg AFB by the SAMTEC staff meteorology office.

A weather team, composed of Minuteman SPO representative, the SAMTEC meteorologist, and other technical consultants, prepared probability forecasts and go/no-go recommendations, which were briefed to key test personnel at Vandenberg via telephone conference at critical decision points. This usually occurred 12 hours before the scheduled launch time. Based upon the weather team recommendations, test planners would either activate the resources of all ranges involved in the test and begin the countdown or reschedule the test and plan to evaluate the situation at the critical decision point for the new launch window.

For these tests, conventional weather forecasts were of limited value. The critical parameter upon which decisions were based was a Weather Severity Index (WSI), a complicated function of the liquid water content, ice water content,

and ice crystal structure in the re-entry corridor. This number could be directly related to expected re-entry vehicle performance. The WSI was extremely variable spatially and temporally because of the frequent convective shower activity in the area. Probability forecasts were issued based on the predominant cloud features expected, the amount and duration of expected convective activity, and the forecaster's confidence. Conventional meteorological data, plus data from instrumented aircraft and special radar equipment, were used to verify the forecasts.

It became apparent very early in the test series that the "bad" weather requirements (those requiring large WSI values) would be difficult to satisfy. It became necessary to "threshold" at a very low probability value in order not to miss an opportunity. For the high WSI launches, go decisions were generally made if the probability of success was greater than about 20 percent. In retrospect, when the tests were successfully concluded, it was determined that the high WSI values occurred only 10 percent of the time, so the 20 percent threshold value was reasonable. (This is an important concept for those who use probability forecasts to understand. If the climatological expectancy of the desired weather is small and the mission urgency is high, thresholds should be set low so as not to miss an opportunity. If, on the other hand, the weather is easy to obtain and/or the mission urgency is not great, thresholds should be set high so as not to waste resources. The decision-maker should set these threshold values in advance, although real-time adjustments will sometimes be necessary.)

Two innovative procedures were developed as a result of SAMTEC's involve-

ment with the Minuteman Natural Hazards Program. Since the high WSI requirements were hard to satisfy and since there was normally a large spatial variation in WSI values, a real-time re-targeting capability was developed that allowed targeting of the RV's into one of three widely separated impact areas as late as 20 minutes before launch. Using the sampling aircraft and radar, the weather team could then make last-minute recommendations as to which target was to be used.

The second innovation was implemented to use the range resources more efficiently. Again, since high WSI values ("bad" weather) were hard to find and low WSI values ("good" weather) were relatively easy to find, SAMTEC adopted the practice of scheduling high and low WSI missions for the same time and then making a decision based on the probability forecasts 6 to 12 hours prior to launch as to which mission would be activated. With this procedure, several "good" weather launches were completed during a period when "bad" weather launches had the highest priority, and SAMTEC avoided a potentially serious scheduling problem that could have seriously impacted other range users' programs.

Over a period of 14 months, the six Minuteman Natural Hazards Program launches were successfully completed with 13 actual countdowns, 7 of which were terminated prior to launch because the weather criteria could not be satisfied. If we assume that without special weather probability forecasts and reasonably established threshold values, the ranges would have been activated each time a launch was scheduled and scrubbed late in the count if criteria could not be met, 31 attempts would have been required. A documented

value analysis has shown that by avoiding 18 unsuccessful countdowns, through the use of weather probability forecasts, a net cost avoidance of \$3,200,000 in range support costs was achieved for this program.

AT SAMTEC it has long been apparent that both weather and the use of weather services play significant roles in our day-to-day decisions. The use of probability forecasts instead of categorical forecasts is a change introduced only recently. After almost one year's experience with probability forecasting, the consensus is that it has definitely been a step forward. Although converting to probability forecasts does not change the basic forecasting accuracy, it does provide a means of getting directly to the crux of the weather problem associated with a particular operation. Based on SAMTEC experience,

probability forecasts are more closely related to the real state of the science in that probability forecasts verify much better than categorical forecasts on a "normalized" scale. To put it another way, with probability forecasts the uncertainty is automatically included in the forecast, and meteorologists seem to be able to quantify their uncertainty very well. This can be very important for decision-makers.

To illustrate this point, the SAMTEC staff meteorologist prepared the verification graph shown in Figure 2. The verification figures include all probability forecasts issued from July through December 1974. Probability forecasts cannot be individually verified (except in the very special cases when the probability is exactly 0 or 1.0). They must be evaluated statistically. Ideally, if a probability of .03 is assigned for the occurrence of an event on 100 separate occasions, the event should occur 3 times.

Forecast probability range	.00 to .10	.11 to .25	.26 to .50	.51 to .74	.75 to .89	.90 to 1.00
Number of forecasts (in this range)	32	12	12	5	22	73
Number of times mandatory criteria occurred	2	2	5	3	21	73

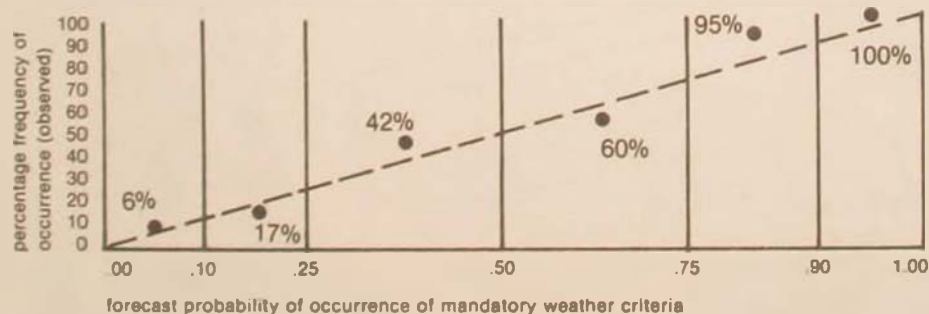


Figure 2. Record of probability forecasts issued for operational decision-making

The 3 forecasts for which the event did occur should not be considered "busts." Therefore, the dashed diagonal line in Figure 2 represents perfection. Because of the relatively small sample size, the forecasts have been grouped into the probability ranges indicated. The circles indicate the observed percentage frequency of occurrence of the criteria covered by the forecasts in that probability range. Note that throughout the forecast range there is little indication of excessive optimism or pessimism in the forecasts, although some bias toward pessimism is evident in the .75 to .89 range. All in all, the forecasts are very reliable, i.e., for a forecast of say .60, over a period of time, the event will occur 6 out of 10 times.

A user of weather forecasts who demands a categorical forecast from a meteorologist is often asking more than the meteorologist is capable of delivering—in fact is asking him to degrade his capability. In the case of the .60 forecast, for example, he is asking that this be changed to 1.0. Obviously, 6 out of 10 will verify, but 4 will not. By asking for and receiving a categorical forecast, this uncertainty may not be conveyed, and a significant piece of information is not available to the decision-maker.

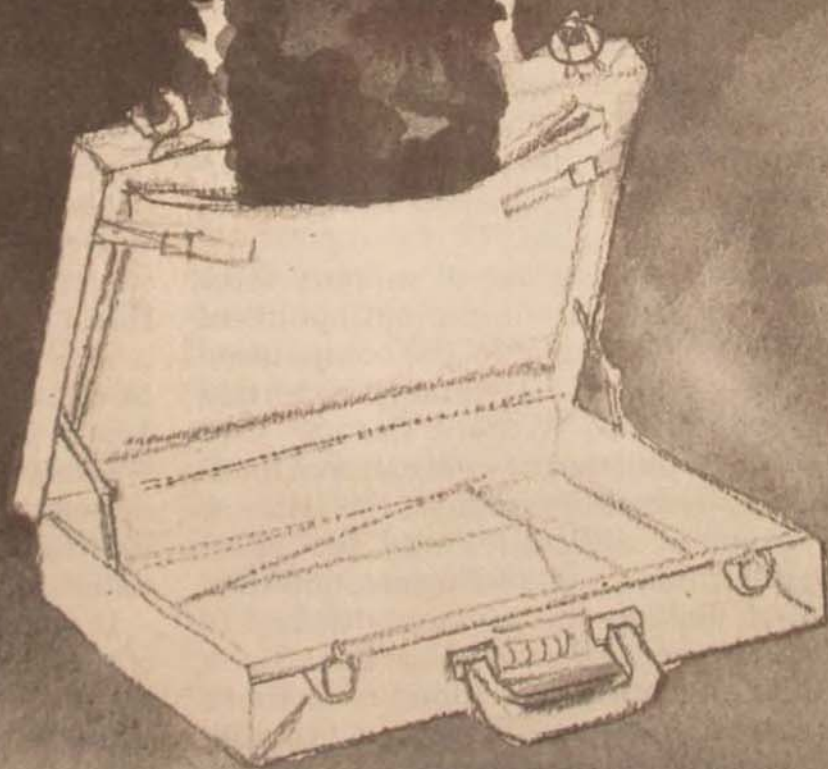
USING PROBABILITY forecasts does not solve all of the commander's problems, but it puts the job of making the tough decision where it belongs—with the operator, not the meteorologist. On those occasions when the probability is very high or very low (and as can be seen in Figure 2, these will be most of the instances), the decision is easy and the forecast approaches a categorical statement. For those situations where the probabilities are in the middle range, the decisions are tough, and this is where the other factors of mission urgency, costs of failure to achieve objectives, probabilities of meeting objectives at a later date, etc., become most important. The operator is in the best position to weight these various factors. If he had insisted on a "yes" or "no" forecast for these middle-range cases, then to some extent he has delegated the tough decision to the meteorologist or else he in effect ignores the forecast. Neither of these alternatives is desirable. This kind of conflict can be avoided by using probability forecasts and at the same time placing the real decision-making responsibility where it belongs—on the man responsible for the mission.

Vandenberg AFB, California

*"The relationship of
diplomacy and violence
is most critical in the
extreme case of
nuclear warfare."*

LIEUTENANT COLONEL JOEL J. SNYDER, USAF (RET)

**MILITARY
CONCEPTS
FOR
POLITICAL
OBJECTIVES**



THE most profound change in the use of military forces in recent years has been the sharply diminished importance of military power as a regulator of international behavior. Nearly ten years ago Klaus Knorr predicted decreased opportunities for the application of military power to achieve national objectives.¹ Long-range destructive power and distribution of modern weapons, approaching feared nuclear proliferation, are making independent military forces inadequate to defend most countries. At the same time military technologies are making mutual defense pacts less valuable to the superpowers and less reliable for the weaker members of these superpower coalitions. Compared with other forms of power, military threats have little or even negative utility in bargaining over the nonsecurity issues, around which these coalitions will be forming and reforming in the future world system.²

Recent statements have also criticized U.S. strategic nuclear weapons for lacking any "... rational or possible use. . . . It would appear that the U.S. is fast approaching, if it has not already reached, the point where, for all intents and purposes, its strategic nuclear weapons are politically unusable."³

The decreasing use of military force faces growing economic and political problems. For example, the competition of foreign trade is extremely important to Japan and to Western Europe. Certainly the question of international monetary system shortcomings, the balance of payment difficulties and the offset payment demands, in Europe, and now a large balance of payments deficit to Arab oil producers—all bear heavily on our foreign relations. Along with these economic questions has been growing awareness that military measures have

a limited ability to secure economic objectives.⁴ This argument was succinctly put by Senator Walter Mondale, who argued that risk of international economic collapse outweighed the major international security issues as a "top external challenge." He argued that the time has come to "face the fact that fundamental security objectives underlying the process of detente are now linked to the world economic situation."⁵

These growing problems suggest that if U.S. military forces are to be useful at all, they will have to be used for non-military objectives within the overall framework of deterrence.⁶ The national security challenge is thus a challenge for deterrence and strategic forces, plus the application of strategic and general purpose military capabilities to non-military objectives.

Secretary of State Henry Kissinger has stated that the relationship between military strength and politically usable power is "the most complex in all history."⁷ President Ford has explained that part of this relationship is "to achieve peace through strength and meaningful negotiations."⁸ Admiral Thomas Moorer, the former Chairman of the Joint Chiefs of Staff, reasoned that detente required strength enough to negotiate with confidence and to insure that goodwill was not misconstrued as a lack of will.⁹ Recent statements by Secretary of the Air Force John McLucas pointed out the same idea: "... we must remain prepared so that we can negotiate from strength, help maintain international stability and defend vital national interests."¹⁰

It seems clear from these statements of national leaders that the main explanation of the relationship between our strategic deterrent power and nonmilitary use of force capabilities lies in the

realm of political objectives, negotiating from strength.

Nuclear employment concepts also embrace a similar interrelationship in the seeking of political or negotiated objectives through the use of nuclear force. Secretary Schlesinger's discussion of selective targeting has been analyzed as a way to "preserve strategic nuclear weapons as a positive political instrument," even though his policies have been criticized primarily for lacking a developed link "between strategic power and political purposes."¹¹ In the realm of nuclear employment as well as conventional force capabilities, the most farsighted strategic concern today is with possible use of military forces in seeking political, i.e., negotiated, objectives.

Concepts of force application in foreign policy are encumbered with several intellectual blinders, both military and antimilitary. The former prevents perception of any nonmilitary purpose for the use of force, while the latter screens out any conflict issues for which force would be an appropriate solution. Neither restricted viewpoint can understand the prevailing terms. The gist of this discussion is directed to the military issue. What is needed is new clarity about political purposes in the international arena for which military forces may be the best available tool of persuasion. Military planners will need to learn how to calculate force requirements and weapon systems to achieve political objectives in various crisis situations, besides the more traditional purposes of defeating enemy forces or destroying targets.

These new political-military objectives could be a much more persuasive argument for development of the B-1 bomber than previous thinking which

regarded it exclusively as the inheritor of the B-52's role in a triad of strategic deterrence. In fact, some civilian strategists have already suggested that discussion should turn to the need to equip B-1 aircraft as a "weapon of negotiation instead of a weapon of destruction."¹² Political utility arguments about the B-1 have already appeared in the news, but a military discussion on such terms is only just beginning.

It has been argued by Paul Schratz, Commission of the Organization of the Government for the Conduct of Foreign Policy, that "the most serious deficiency handicapping both operational performance and the quality of advice to the civilian leadership is the continuing void in development of strategic and tactical doctrine."¹³ When the need for military force relationships to negotiated purposes is compared with current Army and Air Force doctrine, one would have to agree that there has been a void in the development of concepts of military force as a tool for negotiation. For example, basic Army doctrine emphasizes mobility, flexibility, and staying power as a general strategy to prevent escalation while seeking to negotiate a settlement. Army doctrine also recognizes that the termination of conflict may be possible through diplomatic negotiations.¹⁴ *Air Force Basic Doctrine* holds that force sufficiency enables a response in kind to enemy action or to "... have sufficient military capabilities available to provide a wide range of flexible options for military and nonmilitary conflict." (para 1-5)¹⁵

What this doctrine does not say is that military forces might be used to negotiate the settlement as well as to conduct the fight. In the past, Samuel P. Huntington noted, deterrence was a concept which avoided problems of the active

use of military means to secure diplomatic means or political goals. But now, American security rests on "a set of relationships . . . as much the product of diplomacy as it is of armaments." Accordingly, he argued that this shift of emphasis from deterrence to negotiation ". . . requires increased responsiveness of military forces and programs to political and diplomatic needs."¹⁶

Air Force Basic Doctrine comes closer to this issue when it declares that the spectrum of potential international conflict "occurs in a variety of forms—political, military, economic, and psychosocial." (para 1-4)

"Although effectiveness of aerospace forces has traditionally been evaluated in terms of their ability to destroy targets, these forces should also be evaluated in terms of their contribution toward the attainment of other military and political objectives (for example: deterrence, persuasion, and coercion)." (para 2-4) Increased alerts, show of force, reserve mobilization options, force deployments, and reconnaissance flights are actions that might communicate national will and intention. (para 3-5) The doctrine indicates that the objectives of low-intensity nuclear operations include forcing an enemy to negotiate and signaling national resolve. Command and control in high-intensity nuclear operations must provide a capability for communicating intent "to persuade an enemy to end the conflict before his survival as an effective entity is endangered." (para 3-6)

These scattered doctrinal statements show that the necessity of relating military forces to diplomatic objectives is generally recognized, but there is little thought that could guide the employment of those forces to achieve such purposes. Recently there has been some

"fundamental rethinking of United States strategic objectives and plans." The concept of ". . . 'essential equivalence' between the strategic forces of the US and USSR . . ." was defined in a recent paper as follows:

- 1) A second strike capability, invulnerable both in terms of survivability and penetration confidence; 2) a rough equivalence in counter force capability; and 3) perceived equality.

Of these requisites perceived equality has received the least attention in the past. However, in the present environment of strategic parity, US, allied, and Soviet perceptions of the balance will affect to a large degree what risks the Soviets feel they can take and how our friends and allies will react to US policies and initiatives. . . .¹⁷

One could argue that the doctrinal concepts of "signalling national resolve" and "perceived equality" are simply two sides of the same coin, in that the United States signals and the enemy perceives. The importance of the statement is its attention to military force concepts to achieve political effects—perception is, after all, a political state of mind. The broadened application of military forces from deterrence to include negotiation became obvious in the "bargaining chip" concept that pervaded the antiballistic missile debate in the SALT I talks.¹⁸

Concepts for military force tactics and strategy should include the use of military forces in a process of violent bargaining. As Thomas C. Schelling pointed out, "the power to hurt is bargaining power. To exploit it is diplomacy—vicious diplomacy, but diplomacy." Military strategy has to encompass more than military victory and destruction of the enemy forces; Schelling added "the science of coercion,

intimidation and deterrence."¹⁹

A current example of this technique has been seen in the Middle East negotiations. Here a diplomatic situation is being created through the commitment of American power in a way that conveys relevant messages to Israel and the Arabs. Among the actions that conveyed these messages were the agreements for clearing of the Suez Canal, the promise of economic and military assistance, and the strengthening of bilateral relations with the protagonists. Significant U.S. unilateral military moves were the Sixth Fleet deterrent posture opposing the Soviet Mediterranean squadron, the well-executed air and sea resupply of Israel's pressing military needs, and, of course, the U.S. worldwide alert.²⁰ Future negotiated settlements may require even more explicit commitments of U.S. military resources, beyond the stationing of U.S. teams at the Sinai early-warning posts.

The Diplomacy of Nuclear Violence

The relationship of diplomacy and violence is most critical in the extreme case of nuclear warfare. One might think of a crisis as a transitional zone between peace and war. In this transition, crisis behavior can be viewed as a spectrum of actions between physical coercion and peaceful accommodation. In peacetime diplomacy, negotiation is a principal means of reaching an agreement with an adversary; in a crisis, pressure involving the potential or threatened use of military force becomes a more common characteristic. As the crisis approaches war, small doses of military action are designed for coercive political effects, rather than physical destruction and defeat. Other attacks

might be withheld, to create implied hostages or to demonstrate limited interests.²¹ When a coercive attack clearly within the capabilities of a nuclear country is withheld, the decision may be taken as a sincere desire to avoid armed conflict.

In this sense negotiation in a crisis is not only talk but also involves communicating intent, manipulating expectations about terms, displaying evidence of capabilities, etc. Bargaining itself can be about the conduct of the war, about its cease fire, truce, or armistice. It might also extend to territorial dispositions, disarmament, the future regime within the target country, or its political status in blocs and alliances. Within a crisis environment, escalation to any use of nuclear weapons is not just limited or tactical but is also a political issue of risk at the highest strategic level. The principal evaluation is not only military effectiveness. Rather it is in terms of how these nuclear weapons affect the "expectation of general war."²²

The common understanding about nuclear bargaining includes such tactics as withholding destruction of essential enemy communications, command and control facilities. This allows the enemy to assess the intention of the attack and to reach a rational decision regarding his response. Other withholds on possible enemy targets would be constraints for collateral damage; limitations on the size, basing, and type of weapons of the attacking force; the level of expected destruction, its geographic limits, etc.

All these escalation boundaries are designed to achieve some negotiating advantage. In fact, much of the discussion about limited use of nuclear weapons suggests a number of common polit-

ical objectives which in turn would dictate the design of any limited nuclear strike option. First, and foremost, is the concern to control escalation and avoid a strategic nuclear exchange. A second major political objective is to seek to terminate a conflict at the lowest possible level of violence, preferably by some kind of political negotiation. Success in avoiding a general war after a limited nuclear attack would probably provide mutual terms for opening the negotiation stage. Both warring nations might believe that avoiding a total strategic nuclear war is in a sense the first step of a successful crisis resolution; therefore, so long as strategic capabilities are at least preserved, the tactical advantage now can be negotiated.

These two basic political objectives are supported by various political actions or constraints on any limited nuclear applications of military force. To begin with, military actions, particularly any limited use of nuclear weapons, must exhibit some form of constraint or limitation as the primary signal for willingness to negotiate the conflict. Overkill is a political danger more than a physical vulnerability. The limited nature and intent of these coercive military moves must be clearly portrayed to the enemy. Signaling this political limitation is a key factor in target selection and operational planning for any nuclear strikes.

Within this need for restraint, there is also the psychological need to allow a face-saving incentive to the enemy. Sun Tzu proposed "leaving an outlet free," and others have suggested that his strategy emphasizes such nonmilitary use of military forces. Sun Tzu recommended bluff, maneuver, and stratagem, avoiding direct fighting wherever

possible.²³ These are political constraints, in showing a limited nuclear posture, allowing a face-saving incentive to de-escalate, and reaching a negotiated end of the conflict. They stem from the ultimately political nature of any operations that work on the will of the opponent. Interestingly, current strategic operational doctrine discusses target considerations wholly in terms of eliminating "the enemy's immediate general warmaking capability" and of causing "such extensive damage and high casualty rates that *the will and capacity* of the enemy nation to continue the war will cease to exist."²⁴ (Emphasis added.) Thus, even counterforce strategic operations aimed at the will of the enemy are ultimately political. This ancient principle seems difficult to relearn. Target systems that directly affect the enemy's will to pursue an aggressive course need discovery.

Achieving political objectives requires that military force be based on a careful blend of political, psychological, and economic aspects. For instance, it is quite likely that the enemy will misinterpret the political signals and limited intent of a nuclear attack. Thus, it may be impossible to predict his perceptions or reactions, even within a fairly limited range of possible courses of action. Because of this possible misinterpretation, the application of nuclear force in a crisis bargaining atmosphere also requires the display of an immense amount of good faith. Negotiation, after all, implies that something of value will be bargained. Therefore, objectives and outcomes must be limited in terms of the enemy's interests as well as those of friendly countries. It has been suggested that the most important single factor in precipitating nations' going to war is misper-

ception.²⁵ Conveying of intent and understanding is the predominant issue in any nuclear operation, short of a general nuclear war.

It seems clear that the importance of political perceptions increases as the level of conflict intensifies. Therefore the political reading and signaling of perceptions is a necessary addition to military intelligence estimates of enemy capabilities and intentions.

Political constraints stemming from nuclear bargaining objectives also apply to use of military forces at lower levels of violence. This is true particularly in Asia, because the ending of U.S. military involvement in Vietnam has reduced military resources to achieve a wide range of nonmilitary objectives. Threats of political instability or economic collapse in the face of strategic pressures from Communist nuclear powers are powerful strategic challenges. How can military forces be used effectively to neutralize these threats?

THIS DISCUSSION has briefly outlined a possible answer. There is a critical need to apply military resources to the pursuit of nonmilitary objectives, within a framework of deterrent strength. Adaptation of the political considerations of nuclear bargaining would enable evaluation of weapons, forces, and bases for negotiation as well as for regional defense. Enemy perceptions and likely responses should be an essential element of intelligence collection and evaluation.

This discussion also has suggested

that current doctrines for employment are not adequate guidance for nonmilitary objectives. They assume that the political decisions of military engagement will be issued instantaneously, and separately from questions of military employment.²⁶ Obviously, in limited crises that do not threaten national survival, such decisions will never be quick or easy. They cannot be reached in isolation from either political factors on the one hand or military capabilities on the other. Rather, these decisions will depend on the responsiveness of military forces to counter a myriad of nonmilitary threats or challenges. They will also depend on the politico-military acumen of the commanders who advise national political authorities. Perhaps the quality of such advice is the real test of the military professional at the highest levels.²⁷

A renewed effort to grapple with the politico-military policy issues could focus on existing doctrines as well as the debate over current force levels and weapon systems. The problem, of course, is broader than simply a rewriting of basic military service doctrines. Its solution will require new appreciation for the nonmilitary impact of military forces in a changing world arena. The continued future strategic defense and national security of the United States will be enhanced by its ability to develop new military concepts, force structures, and weaponry designed to cope with this critical relationship of political and military forces.

Washington, D.C.

Notes

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**FAITH
RESTORED—
THE F-15
PROGRAM**

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MAJOR BELVA L. LILLY

MAJOR JAMES J. LINDENFELSER

THE credibility of the United States military forces is becoming increasingly dependent upon our arsenal of modern weapon systems. As U.S. military manpower levels are gradually reduced throughout the world, the U.S. defensive posture must rely more heavily on the capabilities of our weapon systems. The development and procurement of these systems, however, are among the most difficult and challenging tasks facing today's military leaders.

Weapon system acquisition managers must operate in an environment that is both hostile and austere. Reduced national support for defense appropriations, minimal threat perception by the public, and intolerance of past acquisition inefficiencies have greatly reduced national support for new weapon systems.

This environment is compounded by the unprecedented competition among all government elements for limited federal resources, which have been severely eroded by both inflation and recession. As a result, it is becoming increasingly difficult to obtain the financial resources necessary for new weapon system programs. The lack of resources has been further impacted by the skyrocketing military expenses. Superimposed on this environment is an alarming Soviet military threat that is greater than ever, and constantly increasing.

Past program failures and inefficiencies have been well publicized and have greatly contributed to the hostile environment. Cost growth, schedule delays, and compromised technical performance have been common occurrences, as experienced on the F-111, the C-5, and numerous other programs. It is little wonder that Congress, the media, and the general public have lost

confidence in the military's ability to manage weapon system programs effectively.

To counter this lost confidence, the Department of Defense (DOD), beginning in 1969, made an intensive effort to improve the effectiveness of the entire weapon system process by developing innovative and forward-looking policies. The F-15 serves as a primary example of a program that has been managed from its inception under these DOD policies. Ultimately, the F-15 program proved that the military could acquire a complex weapon system on time and within the cost objective while meeting performance requirements.

This article will present the key elements of the management approach taken on the F-15 program. Our purpose is to share this approach with those involved in the weapon systems business, in an attempt to help preclude future program failures.

WITH the initiation of full-scale development on 1 January 1970, the F-15 System Program Office (SPO) was charged by Deputy Secretary of Defense David Packard to develop the world's best air superiority fighter aircraft and, at the same time, restore Congress's and the public's faith in the ability of DOD to manage weapon system programs successfully.

The concepts and techniques used on the F-15 were not all new. Many had existed for quite some time. The significant fact was that the F-15 represented the first instance where all appropriate management concepts were successfully integrated and implemented. In short, the F-15 served as the model and test program for what was to become Secretary Packard's docu-

mented philosophy, as provided in DOD Directive 5000.1: "Acquisition of Major Defense Systems."

This brief introduction sets the stage for a discussion of the F-15 weapon system acquisition concepts implemented in response to the demand for effective and efficient program management.

personnel

The single most critical factor in the successful acquisition of a weapon system is the personnel responsible for program accomplishment. Above all else, the program must be directed by an individual with proven management ability. He must possess a complete understanding of the weapon system acquisition process and its inherent problems. Furthermore, he must be given full responsibility and authority for the success or failure of the program.

The selection of the F-15 System Program Director (SPD), Major General Benjamin N. Bellis (then a B/G selectee), in mid-1969 reflected these considerations. Having acquired extensive program experience during previous assignments, he was given full responsibility and authority for the direction of the F-15 program. To complement his position, the SPD was allowed to operate under the "Blueline Management Concept," which streamlined the chain of command. This concept gave the SPD immediate access to top USAF and OSD decision-makers. Blueline management proved to be extremely valuable during the course of the F-15 program and resulted in timely and effective decisions on critical program issues.

Just as the selection of the SPD is critical to the success of a program, so is the selection of all key subordinate per-

sonnel. The F-15 SPD was given complete authority to handpick all personnel. Consequently, each person assigned to the F-15 SPO was carefully screened and selected on the basis of proven performance. SPO personnel were given tremendous responsibility and authority to carry out their assigned tasks.

Continuity of key military personnel, usually a problem on most programs, was maintained by a personnel freeze for a period of five years. Reassignment prior to five years was at the option of the individual and the SPD. Consequently, it was rare when a key manager was transferred at an inopportune time.

Another important aspect of personnel management was the phased manning concept used to staff the SPO. Personnel who normally are not assigned to an SPO until the development or production phases were assigned to the F-15 during the conceptual and validation phases. This allowed experts in test, production, logistics, as well as other functional disciplines, to be involved during the basic program planning, thereby reducing the possibility of problems and misunderstandings.

organization

The F-15 organization was based on a matrix that integrated two types of traditional organizations: project and functional. A project manager was designated for each major program development area, including airframe, engine, avionics, armament, TEWS, AGE, training, and support.

The project organization was overlaid onto a functional organization, consisting of Engineering, Configuration Management, Test and Deployment, Integrated Logistics Support, Production



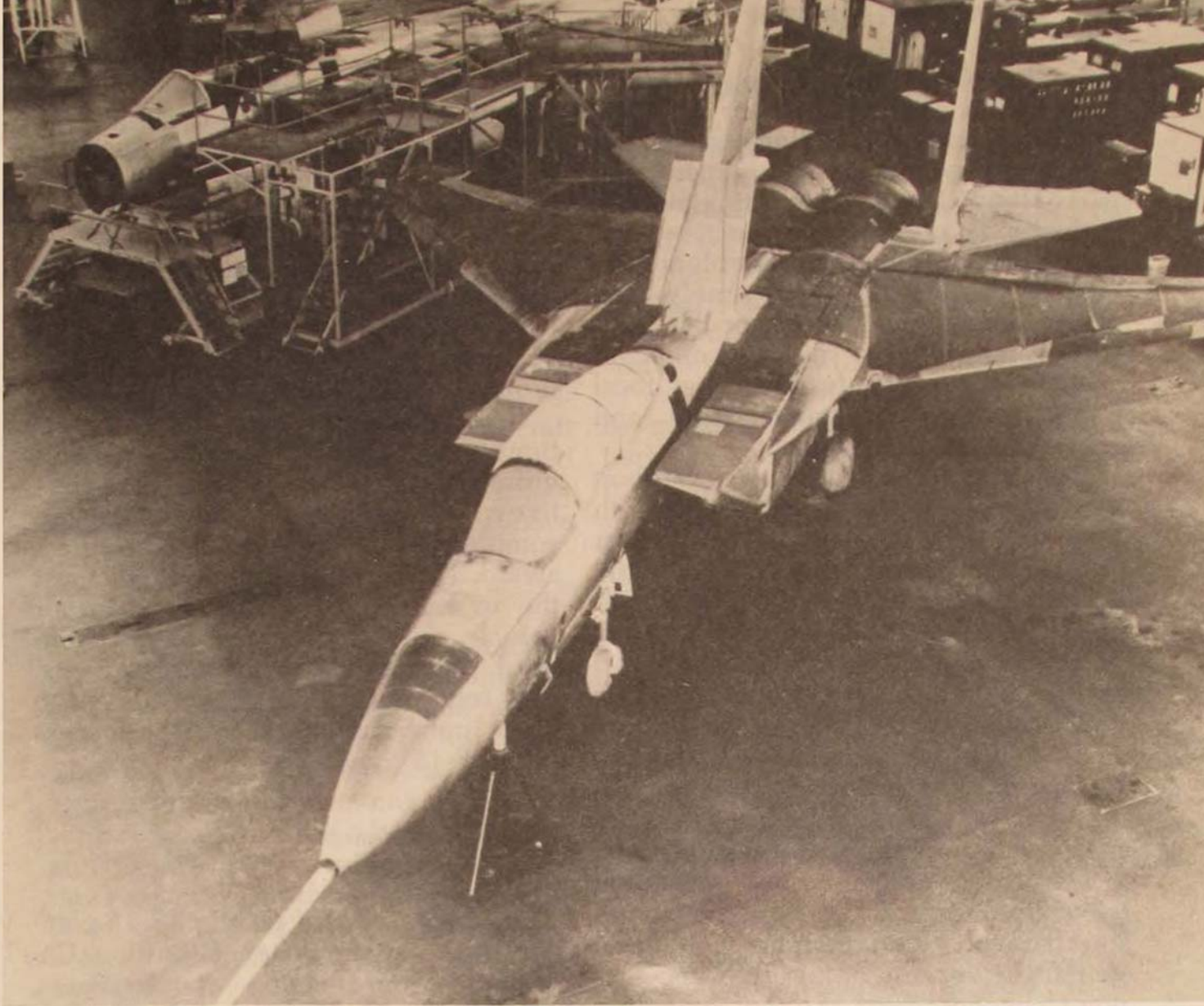
and Procurement, and Program Control Directorates. Each directorate was charged with specific functional tasks across all project areas. Both project and functional personnel performed their tasks in accordance with the overall program plan. Project managers were focal points for specific program areas, reporting directly to the SPD. For problems and tasks not detailed in the program plan, project managers were responsible for resolution and implementation. In short, each project manager was a mini-SPD for his area of responsibility.

The strength of this type of organization rested on two separate internal SPO interfaces. The first was the daily inter-

face between the project and functional managers, which facilitated early problem identification and resolution. The second was the interface between the project managers and the functional managers with the SPD. This latter interface was extremely successful in assuring that problems would surface before permanent impacts could result.

command interface

Early involvement of using and supporting command personnel greatly contributed to the success of the F-15 program. From early in the conceptual phase, TAC, AFLC, and ATC personnel



The F-15 in development

The F-15 undergoes wind-tunnel tests for stores separation at Arnold Air Force Station, Tennessee, 1972. . . . Production of the F-15 prototype progresses at McDonnell Douglas Corporation, St. Louis, June 1972. . . . An F-15 rolls out, ready for flight testing, 2 February 1973.



were involved during requirements formulation and Request for Proposal (RFP) preparation. Collocated in the SPO, these personnel were an integral part of the F-15 team. Reporting directly to the top levels of their respective commands, they could handle problems and misunderstandings in a timely and effective manner. Further, specific individuals within the respective command headquarters were designated as focal points, which facilitated rapid and effective communications.

The Integrated Logistics Support (ILS) Directorate was staffed with both AFLC and AFSC personnel. The director of this organization reported both to the SPD and through the AFLC chain of command. This individual would ultimately become the AFLC System Manager (SM) for the F-15. The ILS Directorate was vitally concerned with weapon system supportability, and they, along with the Engineering Directorate, had a tremendous effect on reducing projected F-15 operations and maintenance costs.

The three elements just presented (personnel, organization, and command interface) provided the framework upon which the success of all other management concepts rests. As the remaining concepts are discussed, these elements should be kept in mind.

planning

The F-15 SPO placed maximum emphasis on early and definitized planning in an effort to stabilize and control the program in terms of cost, schedule, and technical performance. The primary objectives of this extensive planning were to identify potential problems early enough to allow timely corrective action, minimize misunderstandings between the SPO and contractors, and,

above all else, optimize the F-15 weapon system cost-of-ownership.

In support of this latter objective, the F-15 weapon system design emphasized simplicity, complete subsystem integration and testing, and designed-in reliability and maintainability. The early involvement of using and supporting commands facilitated planning and enabled early stabilization of program requirements.

Comprehensive plans and specifications, which documented program requirements and time-phased cost objectives for all program segments, were completed well in advance of contract award. This effort was not limited to just the air vehicle. It also provided for air vehicle support: training, spares, technical data, and facility requirements. This total planning approach proved to be an immeasurable asset in the success of the F-15 program.

system definition and design

The most important result of F-15 planning was realistic system definition. Unrealistic performance requirements, which are either unnecessary or push the state of the art to an unreasonable limit, often result in significant cost growth and/or schedule delays. Indiscriminate application of military standards and specifications can further impact the accomplishment of program objectives.

F-15 planners within OSD, Hq USAF, Hq TAC, Hq AFSC, and the SPO recognized these dangers. Consequently, the F-15 weapon system was designed primarily for a single mission requirement—air superiority. The design philosophy stressed utilization of existing state-of-the-art equipment and the dis-

criminate application and tailoring of military standards and specifications.

test philosophy

The basic test philosophy of the F-15 program emphasized early and complete subsystem and system ground testing well in advance of flight testing. Complete ground subsystems functional, static, and fatigue tests were accomplished before significant hardware was committed to test aircraft fabrication. This philosophy, coupled with the extensive planning effort, minimized the possibility of surprises during the flight-test program and subsequent costly and time-consuming system modifications.

F-15 testing utilized the "test-before-fly" and "fly-before-buy" concepts wherever possible. During the validation phase, two prototype development contracts were awarded for each of three critical subsystems: the engine, the fire control radar, and the advanced 25-mm gun. Competitive development of these three systems significantly reduced the degree of risk to an acceptable level before full-scale development was undertaken by a single source.

Although highly desirable, "fly-before-buy" cannot always be applied in the full prototype sense, because of the prohibitive costs and time associated with large complex systems such as the F-15. However, extensive wind-tunnel testing, simulation, and subsystem prototype testing and analysis can be quite effective when total system prototyping is not feasible. This approach was used on the F-15 program and effectively minimized unnecessary risks prior to contract award and flight-testing. The "test-before-fly" and "fly-before-buy" philosophy resulted in a highly successful, on-schedule flight-

test program with an excellent safety record.

Additionally, early participation of Air Force flight-test and support personnel from AFSC, TAC, AFLC, and ATC in what was then called the Contractor Development, Test and Evaluation Program (CDT&E) was a key element of the F-15 test plan. Past programs have demonstrated the need for early identification of weapon system deficiencies in order to minimize retrofit liability, ensure early production effectivity of flight-test changes, and minimize multiple operational configurations.

supportability

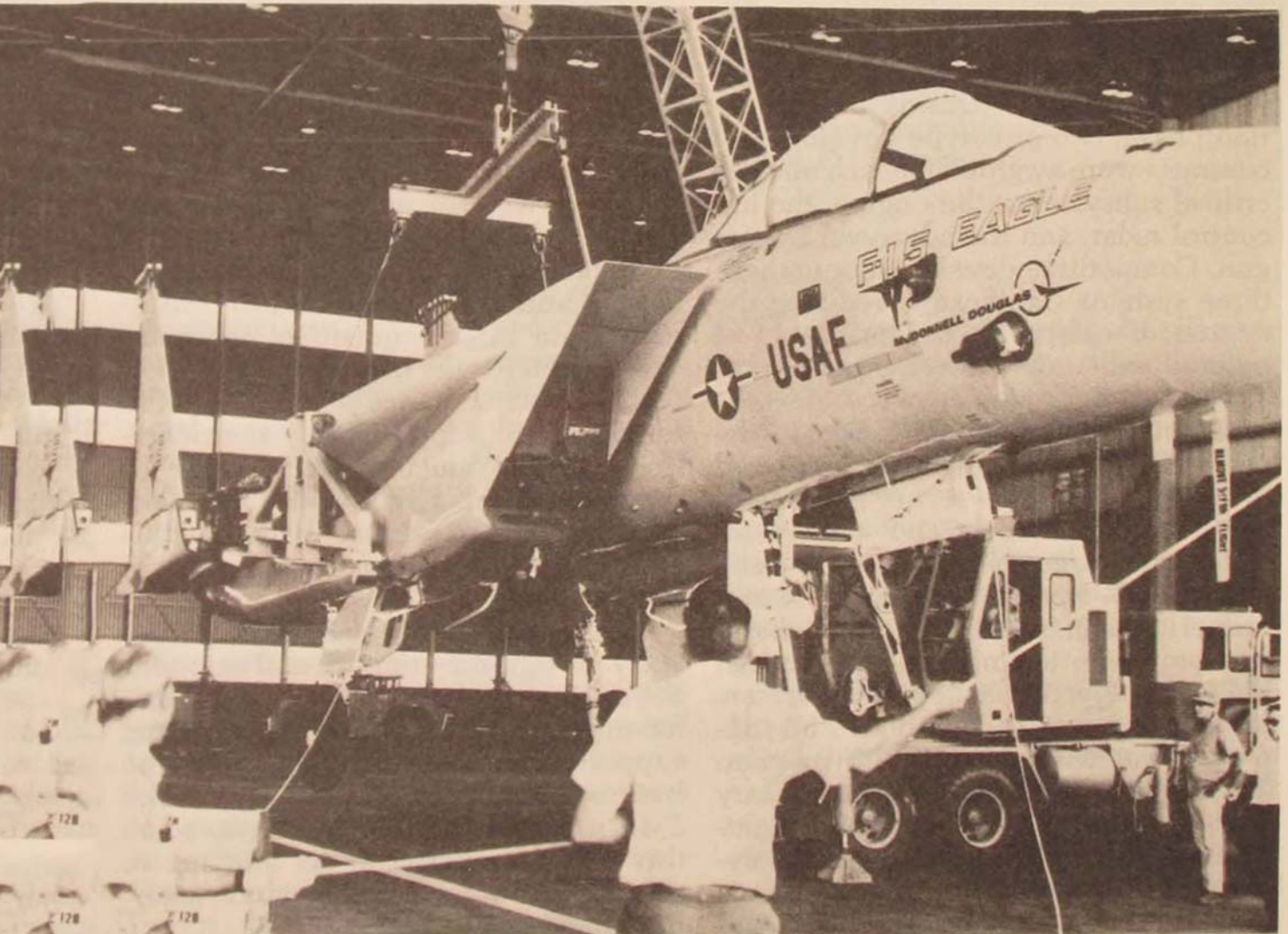
Integrated Logistics Support was another key concept effectively employed in the F-15 program. Integrated plans and schedules for all support activities, including hardware and software, were prepared well in advance of contract award and were integral elements of both the RFP and contract specifications. Supportability is usually the last consideration on most acquisition programs, and it often results in enormous support costs and maintenance problems. Not so for the F-15. Supportability considerations were as much a part of the F-15 program planning as was the basic aircraft design. The ultimate benefit of this approach will be reduced O&M costs for an F-15 squadron.

Traditionally, weapon system managers design-the-support and support-the-design, but rarely do they design-for-support in terms of incorporating supportability considerations into the basic system design. In the case of the F-15, maximum emphasis was placed on this latter activity in an attempt to achieve one of the major program goals: minimum cost of ownership.

F-15 planning also placed early emphasis on determining the optimum level of repair for all F-15 hardware and identifying those items that would be best repaired at the organizational, intermediate, or depot levels. The importance of AGE, spares, technical data, facilities, and training requirements was recognized, and they were planned and developed concurrently with the air vehicle. This effort helped ensure that adequate support would be available at the time of initial operations. In spite of

this excellent support planning, initial support of F-15 operations was not without its problems. Had supportability considerations not been given such a high priority early in the development program, weapon system support would have been impacted even more. Hopefully, the lessons learned in this critical area of weapon system acquisition can be transfused to new acquisitions to provide an improved initial support posture.

Suffice it to say that supportability





F-15 in flight test

An F-15 is installed in a hangar upon arrival at Edwards Air Force Base, California, 11 July 1972. . . . First flight took place from Edwards AFB, 27 July 1972. . . . Another view of F-15 in first flight.



considerations were given a high priority along with the performance of the air vehicle. As a result, the forecasted F-15 O&M costs are almost 35 percent less than those for the F-4 when the F-15 reaches maturity.

contracting methodology

The F-15 contracting approach enabled

the program to capitalize on the strong points of current acquisition philosophies and concepts. The contract on any program is undoubtedly a major factor in determining the success or failure of that program. The contract, its specifications, plans, and data requirements must be specifically defined to clearly delineate contractor and government responsibilities. At the same time, the

During tests begun in December 1974 at Grand Forks AFB, North Dakota, the F-15 broke all existing world class time-to-climb records, previously held by aircraft of the U.S. Navy and the Soviet Union. The F-15 lifts off approximately 400 feet in 4½ seconds after the pilot releases the aircraft from a special restraining device.



contract must provide the flexibility demanded by the dynamic weapon system acquisition environment. In particular, Congressional actions and program changes must be handled without breaking the contract, if at all possible. With these points as guides, F-15 contracts were written to reflect the degree of risk involved in the development and production programs.

To provide the control and flexibility required, the F-15 contracts contained many innovative management clauses. One of the most successful is the Total System Performance Responsibility (TSPR) clause. This clause clearly charged the air vehicle prime contractor (McDonnell Aircraft Company [McAIR]) with responsibility for total system integration, performance, and support. This provision covered all components of the F-15, whether built by the TSPR contractor, subcontracted by him, or provided to him in the form of government-furnished equipment (GFE). This clause shifted a great deal of responsibility and risk from the government to the TSPR contractor.

A second unique contract clause provided funding stability to the F-15 program. The Limitation of Government Obligation (LOGO) requires the contractor to identify any changes in negotiated fiscal year (FY) funding requirements seventeen (17) months prior to the start of the FY. If appropriate notification was not received, any additional funding required during a given FY would have to be funded by the contractor until the SPO could obtain the additional funding during the next budget cycle. Interest on any loan or lost interest from investment was not reimbursable. The incentive, therefore, to forecast funding requirements accurately was considerable.

A third clause, Correction of Deficiency (COD), defined the contractor's responsibility for correcting defective equipment once accepted by the government. This clause protected the government from long-range defects that could not be identified at the time of acceptance.

These three contract provisions serve as examples of the type of well-planned and innovative approaches that the F-15 SPO took in formulating its contracts to ensure control of the program. During the course of the program, the F-15 contracts proved to be a cornerstone for effective program management.

SPO/contractor interface

The interface between F-15 SPO personnel and the contractors was critical to the execution of the contract and the attainment of program goals. All levels of SPO management were totally involved in the day-to-day problems facing the prime contractors as well as many of their primary subcontractors and vendors. This total management engagement philosophy was implemented in order to prevent, or at least minimize, surprises at the contract level. This is not to say that resolution of problems immediately became a joint effort. On the contrary, it was the contractor's responsibility to develop solutions, submit them for approval (when required), and implement them to satisfy contract requirements. Early SPO awareness, however, ensures timely contractor action and SPO/higher-headquarters decisions (when required) and minimizes the risk of a serious impact to program cost, schedule, or technical objectives.

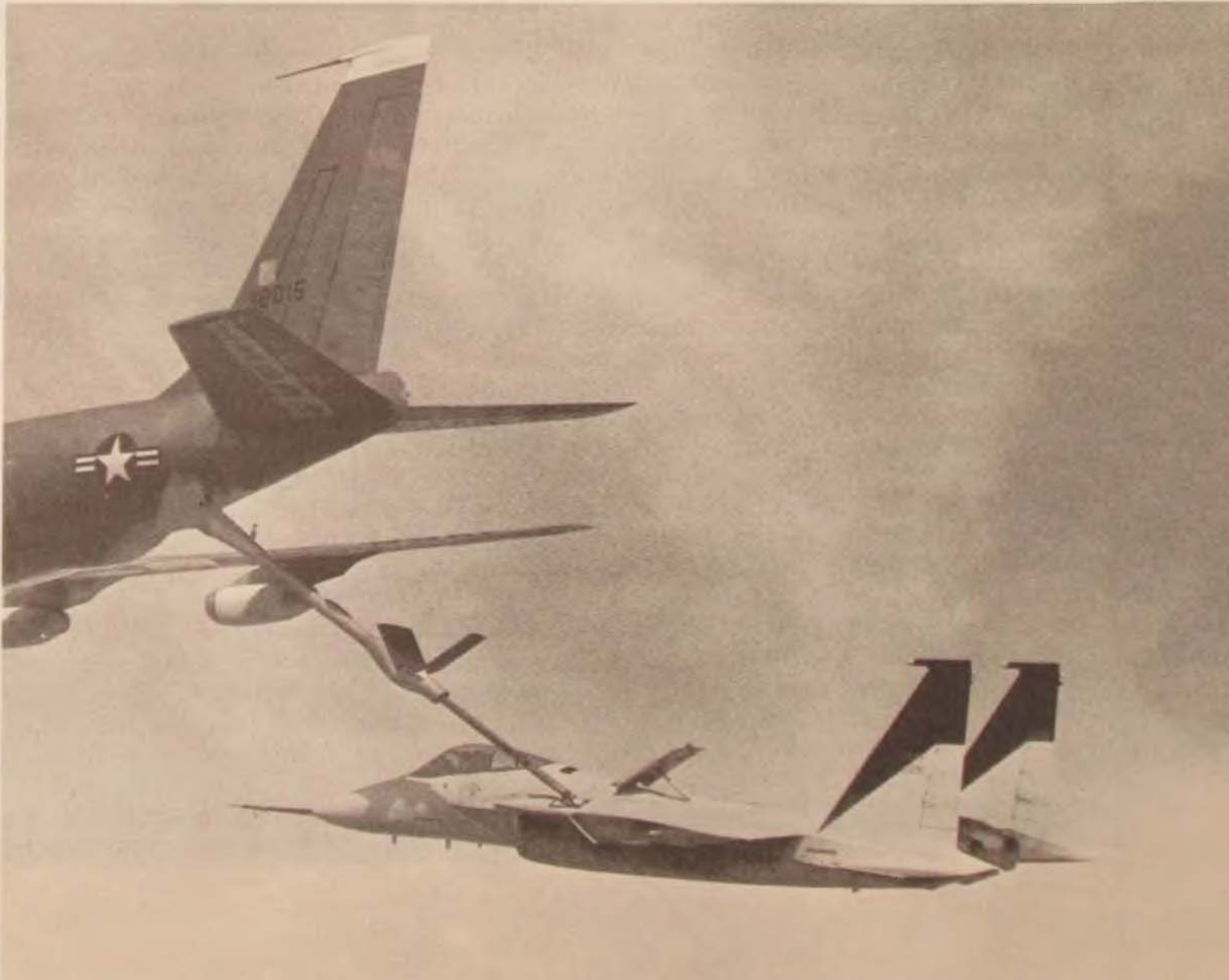
To operate effectively under this total engagement philosophy, temporary

duty (TDY) was an essential element of the F-15 program approach. To fully engage the contractor and his key vendors (with prime contractor coordination) and obtain full visibility, personnel from the SPO and the contractors traveled extensively. Daily interfaces, problem-solving sessions, and in-plant reviews at all working levels were essential to ensure problem identification and prompt corrective action. A successful SPD must look at his TDY

budget as a cost-effective tool in terms of the rate of return obtained from total engagement.

cost and schedule control

Establishment of a reasonable time-phased initial program cost estimate is the key to achieving financial stability and credibility with Congress. After clearly defining program requirements, solid cost estimates for the F-15 were



developed and time-phased with the program schedule plan. Anticipated scope and schedule changes were appropriately considered. Stabilized requirements, rigorous change control, and early identification of problems enabled F-15 financial managers to forecast budget requirements accurately. For more than four years, the F-15 program budget remained unchanged. Only unforeseen double-digit inflation and the withdrawal of the Navy from the

joint engine program impacted the initial program budget as prepared in 1969. This was a singular accomplishment.

From a performance measurement standpoint, the F-15 implemented the Cost/Schedule Control System Criteria (C/SCSC). This management approach required all F-15 prime contractors and the McAIR radar subcontractor to design, develop, and implement management control systems (MCS's), which provided timely and valid cost and schedule status. These MCS's were based on existing contractor business practices and management techniques but were appropriately modified to meet the broad guidelines of C/SCSC. The most important benefit derived from C/SCSC application was the disciplined, detailed planning required early in the program.

Control of program costs and schedules directly relates to many of the technical management concepts discussed previously. However, to control these parameters, it is essential to know the program's status and potential problem areas. The cost/schedule control techniques employed on the F-15 proved to be extremely valuable in this regard.

production and quality assurance

The production and quality assurance management philosophy also contributed significantly to the success of the F-15 program.

Preparation of the F-15 production and quality plans involved SPO, contractor, and government plant representative personnel. This joint effort, conducted prior to development contract award, ensured mutual understanding of procedures and techniques to be used by both the contractor and the govern-



*An F-15 docks for aerial refueling.
... A close-up shot from the tanker.*

ment. Production and quality requirements were levied on all prime contractors, with the stipulation that they require all their subcontractors and vendors to comply with the same type of contractual provisions. The F-15 program excelled in this area because of the degree to which these requirements were implemented, practiced, and monitored. Production and quality assurance discipline helped to ensure minimum rework and acceptable performance, thereby assisting in the control of program costs.

configuration management

Configuration management, or change control discipline, was one more key to the successful management of the F-15 development program. Changing requirements and the resultant rework are expensive and time consuming. To maintain change control, the SPD established stringent criteria for the evaluation of changes. Prior to the submittal of any change to the SPO, a coordinated SPO/contractor analysis was accomplished to justify formal submittal of the change. There had to be a sound technical basis for the change or else it was not considered. Furthermore, proposed changes had to be justified and related to standard practice, development testing, or operational experience.

Unforeseen changes to any program, no matter how well planned and defined, are inevitable. Therefore, an effective means of handling them is essential. Change administration on the F-15 program had to meet one major constraint. No changes would be authorized without completing negotiations, including cost, schedule, and technical modifications.

All proposed changes, regardless of

their source, were challenged for need. Proposals were thoroughly reviewed by all SPO activities, contractors, and the using and supporting commands. After a complete review, the proposed change was submitted to the SPO Configuration Control Board (CCB). The CCB, consisting of a representative of each SPO directorate, TAC, AFLC, ATC, and the Judge Advocate's office, discussed each change and then recommended approval or disapproval. Integral to this entire process was the relationship between cost, contractual, and technical disciplines. If the change was determined to be essential, the funds had to be available and authorized for use before the change could be negotiated and contractually authorized. Rigorous adherence to change control procedures by all contractor and SPO personnel maintained program stability and facilitated cost and schedule control.

THE F-15 PROGRAM stands out among weapon system acquisitions in terms of its cost, schedule, and technical accomplishments. This was no accident. The total management approach to the F-15 program was directed toward the goal of developing and procuring the world's best air superiority aircraft while at the same time restoring the faith of Congress, the media, and the general public in DOD's acquisition management ability.

Considerable credit for the success of the F-15 program must go to the advanced and forward-looking policies of the DOD that were just being established at the time the F-15 program was being initiated. Most of the credit, however, must go to the F-15 team, which implemented those policies and invented new ones along the way.

The ultimate purpose of this article is to highlight many successful techniques and concepts used to acquire a complex weapon system. It was not by magic that the F-15 acquisition was as relatively trouble-free as it was. Comprehensive, detailed, and exhaustive effort toward one common goal—to build the best, on time and within the budget—contributed to the F-15 success.

If DOD is to succeed in providing for the nation's continued national security, weapon system managers must learn from the successes and failures of past

programs. The F-15's lessons learned can provide considerable help to ensure future acquisition successes. Specifically, many of the techniques and concepts applied to the F-15 program are as applicable in today's environment as they were at the height of F-15 development. Each new program, however, must be evaluated individually and appropriate concepts selected and tailored for successful application in the ever changing weapon system acquisition environment.

Air Command and Staff College



NEW
LEADERSHIP
FOR A NEW
AIR FORCE

COLONEL HAROLD P. KNUTTY

IN taking a stand by writing this article, I feel somewhat like the man in ancient Greece. In those days, at least in one part of Greece, it had long been the custom that when a man proposed a new law in the assembly he did so on a platform with a rope around his neck. If the law passed, they removed the rope; if it failed, they removed the platform.

From this tale, it is safe to conclude that one had to be very courageous then to speak out or introduce anything new. Unfortunately, the same attitude appears to characterize many military members now, not so much because the consequence of speaking out may result in the removal of the platform but primarily because of the myth that military personnel are not supposed to question the system.

The time has come, however, to bury that myth once and for all. If history has taught us anything, it is that constructive change within a system can, should, and does come from members within the system who are most familiar with its strengths and weaknesses.

Unquestionably, the military, like the rest of society, is changing. We should not react with alarm at this process, however, but look upon it as a once-in-a-lifetime chance to supply some input in order to design the type of system we would like to have.

Above all, it is not a time to withdraw behind the cloth of our uniform and oppose "them" on the outside, but rather, as one astute historian pointed out: "Those in the service have an obli-

gation, as well as a vested interest, to assure that change evolves from within rather than be dictated from without."¹ It is time, therefore, to band together, to join forces, to exchange ideas, to establish standards of professionalism that will have a profound influence on the profession which will emerge from this period of transition we are now experiencing.

Let me emphasize that an appeal to speak out is not an invitation to anarchy. Abiding by the philosophy of being able to "disagree without being disagreeable," we must channel our criticisms and suggestions in a professional manner through the organs and forums we already have established. One thing we do not need is more unit or base councils.

Then afterward, don't despair if your "profound" idea is rejected, refined, or modified. Keep in mind that it is good that new ideas be heard, but it is also good that new ideas have to go through the mill of objection and opposition from more experienced people. Out of this struggle between the "old" and the "new" come creative inputs that will go far toward establishing a viable, adequate military establishment.

In this context, let us stand on the platform with the rope around our neck and offer something new: a new breed is prepared to take its place in a new Air Force. In my many years with the Air Force I have sadly watched as senior noncommissioned officers (NCO's) and company-grade officers gradually abdi-

cated their responsibilities as leaders. Many of the leaders gladly relinquished their powers, for it meant one less headache they had to contend with. Usually, however, this abdication was not a voluntary thing, but rather it occurred because changes in the Air Force conflicted with the traditional methods of the military in determining who is the leader and what are his responsibilities. For example, in recent years we have seen the proliferation of numerous councils, committees, and advisory bodies that airmen and officers can use to convey directly to the commander their problems and aspirations. Certainly these assemblies have played an important role in solving personnel problems, but in the process the NCOIC or OIC of the airmen or officers involved has been neglected. He has been bypassed because now it is easier to go directly to the commander when a problem arises. Too often one hears: "Let's save that problem till next Thursday's meeting, when the commander will be there."

As General David C. Jones recently pointed out, "If ever there was a time when the Air Force needs to call upon every officer and NCO to display the qualities of sound leadership, now is that time. Now is the time that good leadership can minimize functional problems . . . and, conversely, bad leadership can make minor problems catastrophic."² It is apparent in this time of austerity that good leadership can go far to reduce costs and improve efficiency. Yet one may ask, What is good leadership? I think leadership is relational. The task at hand, in most instances, determines what elements are essential for good leadership. It is difficult, therefore, to say with any precision that qualities A and B will make one a

good leader. While there is no best or ideal leadership style, best leadership does depend on a number of things: (1) the personality of the supervisor himself, (2) the followers, (3) the kind of people they are and the kind of work they do, and (4) the particular situation and circumstances of any given day or hour. In short, there is no "cook book" recipe for effective leadership. Only the supervisor himself, totally familiar with the job and his people, can decide what is the "best" leadership style for him. In essence, it must be an act of individual judgment.

Perhaps the primary requisite of good leadership, however, is courage. In olden days, it was physical courage—and in many situations today it is still physical courage. More important than physical courage is, to me at least, mental courage—the strength and conviction to be bold, to be decisive; in effect, to be a leader. To make that decision and assume responsibility for one's actions—that to me is courage and leadership. Unfortunately, as General Ira Eaker, who had to make numerous decisions while commanding the Eighth Air Force during World War II, recently pointed out, "In actuality, there are not many candidates for top leadership, and one reason is that most men hate to make fateful decisions."³

In the past, many men, by conviction, made fateful decisions. General Billy Mitchell, for example, laid his career on the line to achieve his objective. He had the courage to openly criticize national aviation policy and demonstrated his confidence in air power by sinking target battleships with aerial bombs. He even went so far as to accuse the high military command of incompetence and criminal negligence to make his point that they needed to devote time, money,

and consideration to air power to protect the national defense of the United States. For his actions he was court-martialed, and he resigned when he was suspended at half pay. Although many years later he was recognized by Congress for his outstanding pioneer service and foresight in the field of American military aviation, it is interesting to ask how many people would go as far as he did to stand for his convictions. Or are we among those General Jimmy Doolittle described when he said: "I do not think we, on the average, are as courageous, as ambitious or as moral as our founding fathers. We as a nation, incline to laziness."⁴ The essence of all this is, as General Doolittle pointed out in a letter to his wife in 1944: "Command, regardless of its size or importance, carries with it both responsibility and opportunity. Responsibility to superiors and subordinates. Opportunity to utilize to advantage one's attributes and ability."⁵

At the same time, we must also be proud to be a member of such an honorable and dedicated profession. The recently published results of a survey showed that the public rated the military highest among major institutions, according to how good a job that institution is doing for the country. Pride and esprit de corps are essential to leadership. I am told that there is a French army regiment that carries on its active rolls even today the name of a soldier who was cited for gallantry personally by the Emperor Napoleon Bonaparte over 150 years ago. When the name of that soldier is called, every man of his company answers "Here." What a sense of belonging! What a sense of organization! What a sense of leadership that soldier's mere name invokes.

My comments should not be mis-

interpreted as a plea for blind obedience to the military and all its commands. As I pointed out in the beginning, the military is undergoing change, and the ones best qualified to suggest or implement the correct changes needed are the people who are most familiar with the system. I seek not blind following but rather dedicated and objective support. At the beginning of World War II, General "Hap" Arnold needed thousands of officers and NCO's to form the leadership for the fast-growing—I mean fast—Army Air Corps. His staff assured him that it would take months to build schools and get instructors. So with the aid of his secretary, he faked a call to Louisiana State University "as several of his staff watched." After speaking into the phone instrument for a few moments, he hung up and informed those present that the officials at Louisiana could, if he so desired, set up a leadership training program within a week. Within hours his staff assured him that they had located facilities in Florida and enough instructors had been identified so that the course could start.⁶ The point is that being a leader means getting things done to achieve the mission. That's what made Doolittle, Eaker, Mitchell, and Arnold leaders. There is no set mold.

For example, in 1940 at the age of 55, a French history professor, Marc Bloch, joined the French underground resistance movement. Although a new recruit when he joined the resistance, he was already greatly renowned. As a scholar, Professor Bloch had become one of the most influential economic and social historians of his time. He was exceptionally well known and respected in academic circles and was prominent in the interwar years at international conferences. Yet he was more

than just a great historian. He was a man who loved his country dearly and devoted all his energy and intellect to rid his country of the Nazi occupation forces. He was what one would call a "true patriot." After joining the resistance, he turned with eagerness to learn and absorb the methods of outlawry and rebellion, things that were completely foreign to his nature. Yet he gladly and devotedly embraced danger in order to accomplish his goal, and he had in himself the soul of a fighter. He brought to his new duties a taste for precision, detail, and logic that was found enchanting by those who knew him. His friends remember the many times he would remind them with: "Come, come, we mustn't let ourselves be carried away. The great thing is to isolate and *limit* the problem"⁷—whether that problem was to pass instructions, transport arms, print leaflets, or insure that everyone knew his job on D-Day. He rose quickly in the organization and was to lead the whole of the resistance movement in Lyons until a tragic day in 1944 when the trap closed. After his capture by the Nazis he continued to write, and prior to his execution his memoirs were smuggled out of prison. In his work he meticulously pinpointed blame where it lay, whether in the military, political, or civil sector. But underlying the specific charges that he levied, his final conclusion came to rest on the individual, including himself. To him the nation of France was defeated, but it takes people to make a nation—and it takes people to join together to protect that nation when it is threatened, something which was not done in France prior to 1940. Everyone, he pointed out, became complacent, more interested in personal gains, unwilling to make any sacrifices for the society as a whole. There were

no leaders. In effect, not enough people had the courage to speak out, to correct injustices, to demand responsible leadership, as he so eloquently pointed out: "There can be no salvation where there is not some sacrifice, and no national liberty in the fullest sense unless we have ourselves worked to bring it about."⁸

For us to bring about responsible leadership, fortunately, we do not have to go to the extreme as did Marc Bloch and give our life. Each person in his own way, however, must display the courage to be a leader among men. Bloch did his the way he knew. Others, however, followed different methods.

Take General Patton for example. He is remembered for the unique leadership he exercised. He had the ability to obtain the utmost from American troops, and some would say that he obtained more than the maximum response. Through his charisma, exemplified by a flamboyant and well-publicized image, he stimulated American troops to an aggressive desire to close with and destroy the enemy. He personified the offensive spirit, the ruthless drive, the will for victory in battle.

To achieve this objective, Patton displayed many appearances. He was a man of many faces, and it is sometimes difficult to know who the real person was. The best-known image of him is, of course, his war mask. Toughness, profanity, and bluster were elements he assumed in order to inspire his soldiers and, incidentally, himself. This is what Patton did so well, and this is what the ivory-handled pistols, the oversized stars of rank, the rough, blunt, profane talk, the scowling face, the vulgar posturing were supposed to produce. They gave his men the warrior psychology, the will to meet the enemy, the con-

fidant feeling that they could defeat their opponents. His men were proud to say "I rolled with Patton." He was a leader.

He was a leader because in his own life he constantly sought perfection, whatever the task. He was never satisfied with his performance. He was always apprehensive that he would be found wanting, not quite up to the standards he demanded of himself.⁹ To overcome these apprehensions, he developed into one of the greatest leaders in military history.

The type of courage we need today is not that which was required of Mitchell, Bloch, Arnold, or Patton. Those bold and great leaders will emerge as the occasions demand it. What we need now in the Air Force is the dedicated professional middle manager who maintains standards, gets the job done right the first time, and keeps the Air Force running on a day-to-day basis. In a real sense, NCO's are the only ones left to be the type of leaders that we need. Lieutenants and captains, the ones who traditionally were the people managers, have become technicians. Today in the Air Force they are the highly skilled specialists—the pilots, navigators, computer programmers, engineers. Since they have gradually been changed from supervisors of men to supervisors or technicians of systems, a polarization has developed within the Air Force whereby the commander of an organization has become the supervisor of younger airmen. On top of this, there has been a tendency to abdicate responsibility and authority by numerous members in an organization for decision by committee. In effect, there is a lack of leadership. This is why I suggest that our corps of NCO's will be the middle managers in the Air Force.

This can best be done by adopting certain guides: (1) Above all, they must know their job. (2) Know the people who work for them—take an interest in them. Know their likes and dislikes, their goals and aspirations. (3) Insure—no, demand—that councils and advisory bodies within the organization become responsive to the reasons for which they were created. Too many of these bodies waste time and resources delving into areas that are none of their concern. (4) Insist, as strongly as possible, that supervisors become supervisors and exercise their authority and responsibility. (5) Enforce standards of professionalism, not only in the unit but at the base as well. A professional attitude toward proper dress, military bearing, and courtesy will catch on, and others will start to support and emulate such actions. One should not be afraid to take more responsibility—someone has to.

It does not matter whether one adopts the extreme leadership manner of the autocrat or dictator type or the other extreme of so-called free-rein leadership style where everybody commands. At least one should adopt a leadership commitment, and it should be a flexible one. It, then, can be a vehicle with which to go forward together in a quest to bring about responsive leadership within the Air Force.

From a commander's point of view, I rely on my NCO's to assume the hardships of leadership—for they are hardships during this period while the Air Force undergoes change, when standards of professionalism and patriotism are questioned, when hair length and dress codes are scoffed at by many. It is no easy task to be a strong leader at this time, yet unless someone is, then serious consequences could result not only in the military but to the society at large.

That we cannot let happen. Let us not have to admit, as Marc Bloch did, that "the generation to which I belong has a bad conscience."¹⁰

Let us go forward, then, and continuously mount the platform with a rope

around our neck and demand new, responsive leadership from ourselves and others. And to those others whom we encounter along the way, let the word be "Lead, follow, or get out of the way."

McClellan AFB, California

Notes

1. David MacIsaac, quoted in "Military Professionalism under Scrutiny," *Air Force Policy Letter for Commanders*, AFRP 190-1, 2-74, 15 January 1974.

2. David C. Jones, "Leadership—The Key to Success," *TIG Brief*, vol. 27, no. 4, 28 February 1975, p. 1.

3. Ira C. Eaker, "The Military Professional," *Air University Review*, January–February 1975, p. 8.

4. Carroll V. Glines, *Jimmy Doolittle: Daredevil, Aviator and Scientist* (New York: Macmillan Co., 1972), p. 177.

5. *Ibid.*, p. 165.

6. Flint O. DuPre, *Hap Arnold: Architect of American Air Power* (New York: Macmillan Co., 1972), p. 92.

7. Marc Bloch, *Strange Defeat: A Statement of Evidence Written in 1940* (New York: Norton, 1968), p. xvi.

8. *Ibid.*, p. 175.

9. Martin Blumenson, "The Many Faces of George S. Patton, Jr.," *The Harmon Memorial Lecture in Military History*, Number 14, USAF Academy, 1972.

10. Bloch, p. 171.



**PLANNING,
PROGRAMMING,
AND BUDGETING**

*a search for a management
philosopher's stone*

MAJOR LORENTZ A. FELTES

SINCE the rise of organized human endeavor, managers have been engaged in a search for a philosopher's stone which, when touched, would provide solutions to the problems of organized mankind. Both practicing managers and academic theorists have committed considerable time and treasure to this search for fundamental truths on the art and science of allocating and managing resources. The paths to this philosopher's stone have been many and are as varied as the disciplines taught at major universities. Schools of thought range from the classical to the anticlassical, from the scientific to the behavioral, from the autocratic to the democratic, with many hybrids in between. Each school seems to be expanding its search and literature at astounding rates, and these schools share the characteristic of defending the ordained and superior truths contained in their respective bodies of knowledge.

A well-traveled road in the search for truths to make government operations more efficient and effective is the pursuit of budgetary reform, the national budgetary process that is central to the allocation of resources and formulation of priorities that impact on the future destiny of organized mankind. It is the purpose of this article to examine and analyze the promise and performance of the phenomenon called planning, programming, and budgeting (PPB) on federal government operations.

Conceptual Origins of PPB

The theoretical seeds of planning, programming, and budgeting are found in the classical school of management thought, where there exists a powerful concern for the application of reason and science to the problems of organiza-

tion. PPB was further enriched and developed by economics, the queen mother of the social sciences. The economist's notion of a rational and omniscient economic wizard capable of optimizing his social utility is at the root of PPB. The movement of American society from agricultural to industrial primacy and the concomitant increase in the complexity of organized human endeavor also increased the search for a rational truth to optimize policy-makers' decisions of choice among ever increasing competitive demands on scarce resources.

The rudiments of PPB first appeared in the private sector in 1924 at General Motors Corporation.¹ It was first applied in the public sector during World War II by the War Production Board to develop a Controlled Materials Plan.² During the 1950s the RAND Corporation, under contract to the United States Air Force, refined and developed the PPB concepts in the form of systems analysis. Systems analysis attempted to present "decision makers with a systematic and comprehensive comparison of the costs and benefits of alternative approaches to a policy goal, taking advantage of techniques variously described as operations research or cost effectiveness studies."³ In their attempt to compare costs of alternative weapon systems, RAND discovered that the Department of Defense (DOD) accounting system could not provide the cost and other information essential for comparative analysis of Air Force weapon systems. Governmental accounting systems, which serve as the language of the budgetary process, were placed under suspicion. The process of identifying, classifying, and recording governmental resource use had to be changed in a manner to meet the decision-making needs of policy-

makers. Only with a change in governmental accounting practices could policy-makers have a data base to improve policy-making.

When Robert McNamara became Secretary of Defense in 1960, he brought with him two RAND economists, Alain C. Enthoven and Charles J. Hitch, along with an accountant, Robert N. Anthony. All were installed in top policy-making posts in the DOD along with many of their youthful disciples. By 30 June 1964 PPB was fully operative in the Department of Defense and received its first real test in government.⁴ The initial performance appeared promising to President Johnson, and on 25 August 1965 he issued a directive calling for the extension of PPB to all federal government agencies. In a statement to his extended Cabinet, President Johnson said that PPB "will enable us to:

1. Identify our national goals with precision and on a continuing basis.
2. Choose among these goals the ones that are most urgent.
3. Search for alternative means of reaching those goals most effectively at least cost.
4. Inform ourselves not merely on next year's costs but on the second and third and subsequent years' cost of our programs.
5. Measure the performance of our programs to insure a dollar's worth of service for each dollar spent."⁵

Thus, what started as an identified weakness of governmental accounting practices served to create one of the most comprehensive and controversial revisions to U.S. governmental decision-making practices in modern history. A Bureau of Budget Bulletin of 12 October 1965 required 22 agencies, including all the executive departments, to adopt PPB and encouraged 17

others (mostly smaller ones) to do so.⁶ Secretary McNamara and his disciples had discovered the philosopher's stone that could bring efficiency and effectiveness to government.

PPB Definitions and Descriptions

PPB has been defined and described in various ways. A fundamental definition involves definitions of the components of planning, programming, and budgeting. Planning refers to the production of the range of meaningful potentials for selection of courses of action through a systematic consideration of alternatives.⁷ Programming is defined as the more specific determination of the manpower, material, and facilities necessary for accomplishing a program.⁸ A program represents a combination of activities designed to fulfill a particular objective.⁹ Budgeting is a process of systematically relating expenditure of funds to accomplishment of planned objectives.¹⁰

According to Leonard Merewitz and Stephen Sosnick, PPB has five distinguishing features: (1) program accounting, (2) multiyear costing, (3) detailed description, measurement of activities, (4) zero-base budgeting, and (5) quantitative evaluation of alternatives.¹¹ Program accounting involves organizing information by purpose or task. It differs from financial accounting, which is oriented toward object or class of expenditure. Multiyear costing involves the building of budgetary requests for not just the approval year but also years into the future. This may include the life cycle of the proposal. Detailed description and measurement of activities must cover six program components: objectives, targets, choices made, alternatives considered, outputs, and effectiveness.

Zero-based budgeting involves defense and review of the total expenditure proposed for a program, instead of incremental changes from the previous year or base appropriation. Quantitative evaluation of alternatives involves the use of special studies, which may take the form of cost-benefit analysis, among others. Central to cost-benefit analysis is primacy of the quantitative factor.

There are several less detailed, more commonsense definitions of PPB. According to Charles L. Schultze, PPB "is a means of helping responsible officials make decisions. It is not a mechanical substitute for good judgment, political wisdom, and leadership of these officials."¹² Alain Enthoven refers to PPB as "a reasoned approach to problems of decision, accurately described as quantified common sense."¹³

Finally, Robert Anthony defines PPB in terms of three distinct administrative processes: strategic planning, management control, and operational control. These are spread out over an expanded and interactive budget cycle, which he defines as follows:

Strategic planning is the process of deciding on objectives of the organization, on changes in these objectives, on the resources used to attain these objectives, and on the policies that are used to govern the acquisition, use and disposal of these resources.

Management control is the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organization's objectives. Operational control is the process of assuring that specific tasks are carried out effectively and efficiently.¹⁴

Implicit in the Anthony concept of the administrative process is an extension of this process to the budgetary process.

It also involves centralization of the planning function and delegation of the *primary* managerial and control responsibilities to the supervisory and operating levels respectively. The Anthony model appears to best describe the evolving form of PPB.

The Department of Defense PPB Model

Prior to 1960 and the advent of PPB, the Department of Defense was characterized by a separation between budgeting and military planning. Budgetary control and fiscal guidance were exercised by the Secretary of Defense, and planning was left to the individual services. There was little interface between the services. Interservice rivalry dominated the decision-making arena. Although planning extended over several years, budgeting was myopic with only a one-year projection. Budgeting and accounting were in terms of resources (men, money, and material) while planning was fiscally unrealistic.¹⁵ The major problem with the old DOD approach was the lack of a bridge or crosswalk to translate military requirements into financial terms for the budget submission. DOD "budgeteers" talked one language while planners talked another. When PPB was installed in the Department of Defense, it did provide a bridge between planning and budgeting. Programming was conceived to be the element to provide this necessary bridge.

One of the purposes of bringing PPB to the Defense Department in the early years was to insure strong civilian control over military affairs. This it accomplished—perhaps to an excessive degree. A secondary purpose was to bring rationality to defense decision-making

by the systematic comparison of program alternatives on the basis of costs and benefits. Program elements, such as B-52 or F-4 squadrons, were identified as the basic building blocks. These program elements were categorized into major force programs (MFP) such as strategic forces and general purpose forces. There are ten MFP's in the DOD. These MFP's form the core of the Five Year Defense Plan (FYDP), which cuts across the organizational lines of the individual services. Thus, the Secretary of Defense can evaluate alternative defense objectives. To provide flexibility, the DOD version of PPB incorporated a formal change control system that permits evaluation of program changes throughout the year. As a final step, the annual DOD budget includes a detailed analysis of the financial requirements of the first increment of the approved FYDP. According to Charles Hitch, the DOD version of PPB provides

... the Secretary of Defense and his principal military and civilian advisors a system which brings together at one place and at one time all of the relevant information that they need to make sound decisions on the forward program and to control the execution of that program. . . . Budgets are in balance with programs, programs with force requirements, force requirements with military missions, and military missions with national security objectives.¹⁶

The extent to which this was actually realized is a matter over which many will disagree. However, it can be said that Secretary McNamara brought centralized and, to some extent, more scientific decision-making to the Department of Defense.

When Melvin Laird succeeded Secretary McNamara in January 1969, he and President Nixon initiated a complete reappraisal of the DOD management

process. The distinguishing features of the Laird and Nixon management philosophy were "participatory management" and "decentralization," which are anticlassical in origin. Beginning in 1969, decision-making was shifted from the DOD staff agencies to the service secretaries. According to Laird, there are

... many decisions that should be made by the Services Secretaries and they should have the responsibility for running their own programs. I have no business being involved in how many 20mm guns should go on a destroyer. That is the Secretary of the Navy's business. I must let the Services take a greater role.¹⁷

The objective of this revision to PPB was to provide a better balance of military and civilian judgment in the defense decision-making process by providing better and earlier strategic and fiscal guidance to the services and the Joint Chiefs of Staff. As a result of Mr. Laird's emphasis on decentralized management, the responsibility for military planning was shifted back to the services, while the role of OSD Systems Analysis was de-emphasized.

In summary, it is evident that PPB changed with the turnover in administration. PPB was tempered by a school of management thought and a theory of government during the Nixon era that espoused the virtues of federalism with its concomitant decentralization and participation in decision-making. Most of PPB's features still remain throughout DOD. Today, PPB appears to be best characterized by the managerial model of Anthony versus that described by Merewitz and Sosnick. While PPB is still alive and evolving, its implementation in Defense provides an interesting study of human arrogance, power struggle, and ideological rivalry in the pur-

suit of truth on the ideal form of management. The impact of PPB on DOD efficiency and effectiveness is difficult to measure and evaluate. Equally difficult to evaluate are the DOD costs of implementation and benefits to military decision-making. It has not yet provided a governmental substitute for the profit motive. Performance evaluations of very few, if any, colonels and generals are tied to it. Perhaps they should not be, since their *raison d'être* involves more than objective considerations of efficiency.

The PPB System in Other Agencies

By 1968, PPB had spread from DOD to the whole federal government, with varying degrees of success. It was also implemented in many state and local governments. A very interesting chronology of PPB failure was developed by Mosher and Harr in a case study of an attempted PPB innovation at the State Department. They touched upon ageless themes of leadership, communications, professionalism, and human relations. To many in the State Department, PPB looked too much like a gimmick of the nonsubstantive administrative types. It was viewed as an attempt by accountants and economists to usurp traditional professional prerogatives. The intellectual arrogance of the early PPB evangelists probably did more to hurt the PPB movement than any objective appraisal of its relative merit. After the PPB failure at State in 1967, the PPB movement began to wane. The many other schools of management thought converged upon it with their own truths and criticisms. Wildavsky suggested that PPB failed "because it requires abil-

ity to perform cognitive operations that are beyond present human (or mechanical) capabilities."¹⁸ The humanists believed it lacked concern for the individual. Rationalists attacked it for not going further. Few understood it. Many felt threatened by it. The U.S. Senate held hearings on it. Many of the early PPB proponents became frustrated with the lack of support it received and left government disillusioned.

In June 1971, the federal government abandoned its *compulsive* version of PPB.¹⁹ The federal abandonment occurred in FY 1973 when George P. Schultz, director of the new Office of Management and Budget (OMB), declared:

Agencies are no longer required to submit with their budget submissions the multi-year program and financial plans, program memoranda and special analytical studies as formally specified in Bulletin No. 68-0 or the schedules that reconcile information classified according to their program and appropriation structures.²⁰

Is PPB a dead issue in the federal government? No, not really. Although imperfectly executed, it is alive and thriving in DOD. OMB discarded program accounting, detailed description of activities, and zero-based budgeting. It restricted multiyear costing and benefit cost analysis to expenditures that would represent new policy decisions. The basic seeds of PPB rationalism, although hybrid, have been planted and are taking hold in government. Economic man continues to provide input to the policy process.

Costs of the PPB System

The system development, implementation, and operating costs for PPB are

difficult to estimate. With any new system there are also social and political costs. Let us discuss five costs associated with the PPB system: program accounting, multiyear costing, detailed description and measurement of alternatives, zero-based budgeting, and quantitative evaluation of alternatives.

- Program accounting expenditures constitute the largest cost component of the PPB system. There are set-up costs associated with problems of program definition, confusion over cost allocation methods between programs, and costs associated with educating personnel on cost accounting and estimating procedures. PPB system operating costs are associated with the quantum increase in accounting records required to superimpose program accounting on conventional financial accounting systems. Finally, there are expensive revision costs associated with revising a program accounting system. Financial or conventional accounting systems tend to change very infrequently. However, program accounting systems must undergo revision on the occasion of changes in organizational objectives, structure, and programs.

- Costs associated with multiyear costing involve the heavy investment of time and effort required to estimate for a future environment that is highly uncertain. Programs with extended lead times or life cycles require highly skilled cost analysis personnel knowledgeable on the economic environment of the future. Estimating future cost is the most difficult of cost exercises and requires omniscience for perfection.

- Costs associated with detailed description and measurement of activities are also substantial. It is axiomatic that costs of administration are propor-

tional to the amount of detail and control desired. The lengthy and detailed descriptions associated with PPB submissions add considerably to administrative time and overhead. This detail also decreases flexibility and increases rigidity at the operating levels.

- Zero-based budgeting also takes time and incurs very substantial administrative costs at all organizational levels. The process of budgeting and justifying all existing programs on an annual basis versus incremental changes to existing programs is very costly indeed. Consequently, the time required for zero-based budgeting detracts from the time available for substantive matters of program execution.

- The costs associated with performing special studies vary widely. These are the costs identified with the quantitative evaluation of alternatives and can occur internally or as a result of an outside contract. The rational movement associated with PPB increased the commitment of both internal and external resources of government agencies to the very expensive pursuit (search time) of the optimum choice among alternative courses of future action.

A comparison of total costs pre-PPB, during PPB, and post-PPB is difficult, if not impossible. It can be stated that PPB required an increase in personnel devoted to the administration of the system (calculation time and cost) who might otherwise be free to devote their time to the substantive matters of program execution. The accounting principle of materiality dictates that the "system" should not attempt to track events that are so insignificant that the work of recording them is not justified by the usefulness of the result. Non-adherence to this principle is a problem of PPB.

PPB Benefits

The difficulty of costing PPB has a parallel in that there is little empirical evidence on the benefits of PPB for improving governmental decision-making or increasing efficiency and effectiveness. The promise of substantial benefits, outlined by President Johnson earlier, may have been realized to some extent in DOD. PPB performance in other federal agencies, where there is more difficulty in quantifying the impact of programs on society, the individual, or family, is very nebulous. It did focus attention on policy problems and the complexity of decision-making in the public sector. It also contributed to a better understanding of the problems and processes of government. Unfortunately, it would probably take a costly accounting system or comprehensive survey to determine the true costs and benefits of PPB.

Systemic Problems with PPB

PPB requires that organizations make clear and specific definitions of programs to achieve objectives. This requirement raised many problems and questions. There is a difficulty and bureaucratic resistance to making specific and definitive statements on objectives such as providing for the common defense, eliminating poverty, promoting the general welfare, etc. To emphasize the difficulty, a quotation from the writings of Luther Gulick and Lydall Urwick, although made over thirty years ago, is still appropriate:

Programs are not made in heaven. There is nothing out there that is just waiting to be found. Programs are not natural to the world; they must be imposed on it by men. No one can give instructions for making programs. There are as many ways

to conceive of programs as there are to organize activity.²¹

Since programs in the PPB framework provide the bridge between plans and resources, the form of the programs is a key to the success of the system. A program structure can be viewed as the conversion process between inputs (political philosophy) and outputs (meeting the needs of citizens). Thus, the structure of programs should reflect the needs of people in society. Problems arise in comparing the marginal utility of alternative programs (e.g., cure cancer or reduce crime, guns versus butter). The fact that there is no real consensus on the proper role of government in a democracy further complicates the problem of program development.

Compatibility with traditional organization structures and management methods is another problem with PPB. Government is not organized on a program basis. Programs often cut across organizational and functional lines. In DOD, for example, the major force program of the strategic forces is composed of Army, Navy, and Air Force units. Improving education, one of four major program categories in the Department of Health, Education, and Welfare, cuts across state, local, and federal levels of government. This also raises the question of who is responsible for the attainment of a program's goals. The functions of control and accountability are obfuscated and made practically impossible when program, accounting, and organizational structures are not synchronized.

Ideally, the organizational structure should follow program lines; that is, each department or agency should have responsibility for a group of programs that converge toward a general objec-

tive. This would require a massive overhaul of existing laws and traditional forms of governmental organization. Second, the fact that program structures should be dynamic in response to changing needs would necessitate continual reorganization. Although government might be more responsive to the needs of its citizens and adaptive to its ever changing environment if its organization followed changing demands (reflected in changing programs), the political costs of continuous reorganization and loss of functional specialization might outweigh the economic and social benefits derived.

PPB also places heavy emphasis on the quantitative measurement of outputs and the translation of these measures to financial terms. The problem here is that many, if not most, government programs have no specific measurable output.

It is one thing to quantify the benefits from the application of stated volume of firepower to a specific target. It is quite another to quantify the benefits to the individual, his family, and society generally of a program to rehabilitate alcoholics, particularly if one considers the impact of intervening causative factors.²²

PPB's search for a surrogate profit measurement for government is still beyond reach. The marginal returns on investing additional dollars in defense versus eliminating pollution and its impact on "bottom line social welfare" are impossible to compare and difficult to quantify. Perhaps PPB is ahead of its time in its attempt to quantify political values. Are measurements of this nature even socially desirable, given their "Brave New World" implications? Are resources so scarce that this may become necessary in the future?

A third problem associated with PPB

involves its interface with the Congress and its politically oriented power of the purse. The political dynamics of the Congress are dominated by parochial party interests and pluralism. Congress also serves to check the executive branch and balance its tendency toward centralization, which PPB fosters at the planning level. Is it any wonder that PPB was not favorably received by the Congress during PPB hearings in 1967 before the Committee on Government Operations of the U.S. Senate?

Congress Enters the Search

Growing out of the Jackson Senate Hearings on PPB, the politics of executive authority and impoundment of 1972 and 1973, and the impeachment proceedings of 1974, Congress actively entered the quest for public sector budgetary reform. A significant change in governmental budgetary and decision-making processes occurred with passage of the Congressional Budget and Impoundment Control Act of 1974.²³ Major provisions of this new public law, which codifies many basic tenets of PPB, include:

- Establishment of a committee on the budget in each house and a Congressional Budget Office (CBO) to balance the powers of the Executive Office of Management and Budget (OMB).

- Revision of the Congressional budget calendar and improvement of fiscal procedures requiring Congress to discipline itself to the "constraints of the whole" on federal fiscal policy with a change in the fiscal year to begin on 1 October instead of 1 July. This will permit passage of appropriation bills prior to execution of programs.

- Amendments to the Budget and Accounting Act of 1921 requiring five-year budget projections (multiyear costing), midyear review, and matters to be included in the President's budget. It also requires all federal agencies (in FY 1979) to describe present and proposed budget authority and outlays in terms of a detailed structure of national needs, related agency missions, and basic programs (features of program accounting and zero-based budgeting). Various other provisions direct Treasury and OMB, in cooperation with GAO, to develop and maintain standardized data-processing and information systems for fiscal, budgetary, and program-related data for use by all federal agencies. GAO is also directed, in cooperation with Treasury, OMB, and the new Congressional Budget Office, to develop standard terminology, definitions, classifications, and codes for federal fiscal, budgeting, and program-related data and information. (This is where the PPB movement began.)

- Authorization for Congressional committees to conduct, contract out, or direct agencies to make evaluations of federal programs through such methods as pilot testing and rigorous cost-benefit analysis. GAO is authorized to establish an Office of Program Review and Evaluation to initiate evaluations and assist Congress in making or analyzing agency evaluations (systems analysis in the Congress).

- Provisions for bringing into the budget cycle the back-door spending that now bypasses the Appropriation Committees and the limitations on the President's authority to impound or reserve funds.

In asserting its traditional and Constitutional "power of the purse," Con-

gress has adapted many of the early precepts of PPB. The initial impact of this new Congressional version of PPB on governmental decision-making processes has already started in FY 1976, 200 years after the birth of the American Republic.

THE PURSUIT of budgetary reform continues. Man continues to search for a philosopher's stone to bring rationalism and inspiration to public decision-making and the problems of allocating and managing scarce resources. Congress has grabbed the torch of rationalism with its own version of PPB. Many of the original PPB concepts were incorporated into the new Congressional Budget and Impoundment Control Act of 1974.²⁴ Hitch stated that "PPB is here to stay."²⁵ Indeed, despite modification and change, "PPB rationalism" is alive and thriving. Perhaps Congress is changing PPB's name to "Government by Objectives" (GBO) through budgetary reform.

However, executive branch PPB, as an "ordained truth" of the process of allocating and managing scarce national resources, has lost much of its orthodoxy, fever, and mystic appeal. It is becoming understood. Much of its centralizing bias has been corrected through modification with the "participatory principles" of the democratic school. When tempered by the "collective wisdom of the people" through Congressional involvement, perhaps PPB's promise and performance will be enhanced. Its marginal utility to decision-makers in the nondefense sectors of government continues to be debated. PPB did, however, focus considerable attention on the complex problems and difficulties confronted by policy-makers in the public sector on the arcane art of resource allo-

cation and husbandry. It made a contribution to understanding the problems of government.

The true contribution of executive branch PPBS to making government operations more effective and efficient, more responsive to the needs of citizens, and more meaningful to partici-

pants in government will unfold in the future. Hopefully, the Congressional version of PPBS will succeed. Nothing less than the future security and economic stability of America may be at stake.

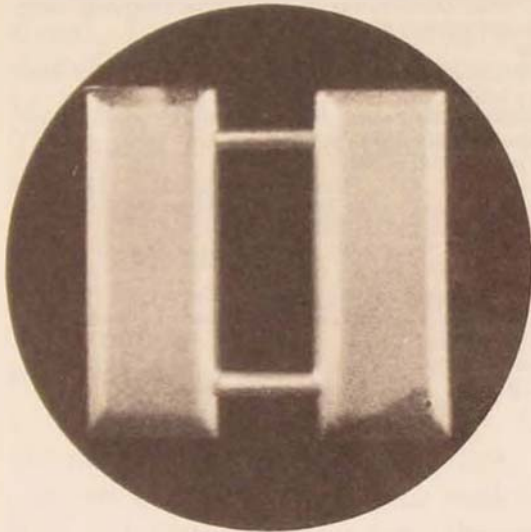
National Guard Bureau
Washington, D.C.

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WHAT THE CAPTAIN REALLY MEANS . . .

MAJOR PETER HENDERSON



"The Air Force rewards unethical behavior and punishes honesty."

"I'll never be a colonel because I refuse to compromise my ethics."

"If you really want my loyalty you'd better show me that honesty is more important than becoming a general."

"Don't just talk to me about ethics, sir; I'm fed up to here with talk."

THESE comments, and hundreds more just like them, are what one hears when he listens to lieutenants and captains talk about ethics in the Air Force in the protected environment of academic freedom. According to these young officers, they and many others like them throughout the Air Force are becoming increasingly concerned about what appears to be a serious disregard for honesty and integrity. As one captain

told me recently, "I can't tell my boss what's really going on in our organization; if I did, I'd probably get fired!"

Before we jump to the conclusion that maybe the captain is a little unethical himself, let's see what the captain really means. He went on to say that although he has numerous problems in his maintenance shop, his boss will only let him report 100 percent accomplishment of all maintenance objectives. The captain

explained to me that his boss did not want to ruin his chances for a headquarters assignment the next time around, and he was not going to let higher headquarters think that he couldn't handle a simple base-level job. So what the captain really means is that it appears as though honesty and truthfulness, at least in reporting, are less important to our commanders than a spotless record.

I have been hearing young officers tell me this sort of thing for almost four years as they reflect on Air Force problems while attending Squadron Officer School (SOS) at Air University. And it's not just sour grapes: these are dedicated, unselfish, intelligent, capable officers. They are truly concerned about a perceived dichotomy of standards in the Air Force. They are saying that what Air Force leaders say about integrity and what they do about it are two different things.

In order to find out what the lieutenants and captains at SOS really mean, I conducted a survey of SOS class 74D. Of the class of about 780 officers, 617 responded to the survey. This sample is certainly representative of the entire class; and since each class at SOS represents a cross-section of Air Force junior officers, one might expect that a survey of all Air Force junior officers would find views of the majority similar to those indicated by this smaller survey.

THE survey responses indicate that there is a significant lack of faith in the integrity of Air Force management and leadership. This article will discuss the problem as seen by these junior officers and will make some specific proposals for action.

First of all, is ethics really a serious problem in the Air Force today? Fifty-

two percent of those surveyed said that ethics is a serious problem. Sixty-one percent of the officers surveyed also indicated that in order to satisfy every requirement of their job they were required to sacrifice their integrity at times. Another thirteen percent said they were not sure whether they had to compromise their integrity in order to get the job done. Only twenty-six percent indicated they were not required to sacrifice their integrity at times. What does the captain really mean? Here are some examples of the most common activities listed by these young officers:

- Being required to document training that was never accomplished. The most frequent reason given was the limitation imposed by lack of time.
- Being required to report only 100 percent of mission accomplishments.
- Feeling compelled to overlook apparent abuses of privileges by senior officers.
- Being required to spend budget money at the end of a fiscal year in order to insure re-allocation of that money in the next fiscal year.
- Being required to fly an aircraft that may have been unsafe in order to meet the sortie rate.

Other problems of a more general nature were also listed. These are items that were most frequently noted in the written part of the survey:

- Awards and decorations frequently given as "end-of-tour prizes," with Commendation Medals going to junior officers, Meritorious Service Medals to field-graders, and the Legion of Merit to senior officers.

- Undercover communication systems that are set up to warn of an impending “no-notice” IG inspection.
- Greater concern over image and appearances than with real problems.
- Squelching serious incident reports in order to keep the rate down.
- Greater concern with loyalty than with honest reporting.

Although some of these claims may sound a bit exaggerated, they should not come as any great surprise to most of the readers of this article. Accuracy in documentation and reporting has consistently been a problem in the Air Force. Lieutenant General Louis L. Wilson, while he was serving as the USAF Inspector General, criticized commanders who were being less than honest in reporting their accomplishments. In almost all the units inspected during one inspection period, he found that supervisors were signing off inspection requirements without actually conducting the inspections, people were disregarding safety requirements as spelled out in regulations and manuals, training requirements were being documented when the training had never been conducted, and personnel were failing to report discrepancies even though they were aware of them.¹

An interesting aspect of this entire problem is that although the junior officers responding to this survey admitted to participating in ethically questionable behavior, they laid the largest share of the blame on the shoulders of senior Air Force officers. Senior officers were selected by 37 percent of these lieutenants and captains as the worst offenders of Air Force ethical standards.

The reason, according to several junior officers questioned about this aspect, is that the seniors know what’s going on, are responsible for the management system, and therefore are tacitly condoning the behavior. Regardless of the logic and the reasoning, this seems to be the way our junior officers see the problem. Of course others were also listed as offenders, including majors, lieutenant colonels, civilians, and even Air Force wives. But the largest single group was senior officers, by a 25 percent margin over the next highest group. Senior officers and the “system” are responsible for our ethical problems, say our junior officers. Whether this is in fact true is beside the point; this is the perception of our junior officers, and that fact alone is cause for concern.

Adding insult to injury, at least one young Air Force officer has made a public issue of his perceptions by submitting to an interview by a zealous reporter writing for *True* magazine. In the article, Captain Mike Ross is quoted as saying that an officer soon “learns that he *can* lie, cheat or steal to protect his unit.”² Again, regardless of the logic used to arrive at that conclusion, the Air Force seems to come out second-best in the ethics department.

ONE of the immediate reactions to all this might be to suggest that we draft up a new code of ethics and give it the widest possible distribution and publicity throughout the Air Force. In fact, a new code of ethics was staffed by a special study group at the Air Command and Staff College. Perhaps a new code should even be publicized to the civilian community in order to restore some of the tarnished image. What would our lieutenants and captains have to say about that idea?

Although 63 percent of the junior officers surveyed said they were in favor of seeing the Air Force adopt a new code of ethics, many of them also revealed that they would have some serious reservations about its workability. Some officers indicated that such a code would be looked upon as "eyewash"; others said that it would probably not reduce unethical behavior; some even expressed the fear that it might become a catch-all disciplinary tool if it were given legal status. The greatest obstacle to be overcome, then, is the probability that a new Air Force code of ethics would be seen as an image-building device and little more. Although many of our top Air Force leaders have expressed concern over the Air Force's public image, we must have improved ethical standards and behavior for other reasons.³ Without some kind of concomitant affirmative action by top Air Force leaders, a new code of ethics would be silently rejected and ignored by Air Force junior officers. Without the support of our juniors, the code would fade into obscurity.

What the captains and lieutenants really mean is that they want to see actions, not words. Those who responded to the survey were not without recommendations. For example, when asked what could be done to improve ethical behavior in the Air Force, the vast majority of officers responded with, "Start at the top." This does not necessarily mean that our junior officers believe that senior officers are the ones who need to be corrected. Their comments suggest that a program to improve ethics in the Air Force must be conducted with the visible and active support of the top commanders in the Air Force. They want to see our commanders prove their intent by providing the im-

petus at all levels to start "telling it like it is." As one lieutenant said in a seminar discussion on ethics, "They've got to be prepared to hear some things they don't want to hear."

Here are some of the specific actions that our junior officers would like to see initiated as concrete assurance that integrity and honesty are as important as we say they are:

- Cause an Air Force-wide review of command and unit training requirements to reduce or eliminate unessential requirements.
- Review all requirements for 100 percent achievement in operations and maintenance areas.
- Crack down on alcoholism.
- Review the privileges of higher ranking officers with the intent to reduce the opportunities for abusing those privileges.
- Encourage a management system that will tolerate truthful reporting of problems without fear of reprisals.
- Conduct an Air Force-wide survey on ethical problems.
- Conduct base-level and command-level seminars on ethics.
- Revise budgeting philosophies to prevent "scare" spending at the end of a fiscal year.

Although some of these suggestions require a great deal of consideration as to their appropriateness and feasibility, one further recommendation was made that seems to have considerable merit and could yield immediately tangible results. That recommendation is to convene a special panel of junior officers to sit down with the top Air Force commanders and discuss the subject of ethics in an atmosphere of freedom and

nonattribution. This panel would be an ad hoc advisory group composed of lieutenants and captains from all walks of Air Force life.

This panel, or committee, should be convened at Air Force Headquarters. The junior officer members should be chosen by their base Junior Officer Councils from representative support and tactical bases throughout the commands. The membership should not be larger than 20 to 25 junior officers in order to stimulate constructive but orderly discussion. The purpose of the committee should be to present and discuss the ethical problems encountered in daily Air Force life and to make recommendations to the Chief of Staff. The committee should not be convened for longer than one week, but during that week open and honest discussion should be conducted for as many hours as necessary to air the topic completely. The greatest benefit would come from closed-door seminar-type discussion. Each of the junior officers should be a graduate of Squadron Officer School; each participant would then have a foundation of professional ethics, a greater understanding of Air Force problems, and the added benefit of cross-talk with many other junior officers from around the Air Force.

One final caution must be stressed before convening this committee. Air Force commanders must be prepared to agree that as soon as possible following the series of meetings they will begin to take appropriate actions to improve standards of integrity. Failure to follow through after the conference with a positive action program designed to reach all levels of command would be tacit admission, in the eyes of our junior officers, that we are indeed paying lip service to ethics in the Air Force.

THE problems of ethical behavior raised by our junior officers indicate that there certainly is an ethical issue to be resolved. Standards of integrity must be improved, and they must be policed from within the system. But the root cause of the problem is not that our people are unethical; the cause is a lack of dynamic vertical communication. Adoption of a new code of ethics will not improve this situation. Our commanders *are* concerned about getting the facts; they *do* want us to tell it like it is; but they are not communicating this in an effective way. Thus we are guilty of telling them what we *think* they want to hear. Somehow, "Give it to me straight" is being transformed into "Better not let the Old Man hear about this one." The result is that the "Old Man" doesn't hear about it until the problem is irreversible; e.g., an airplane has crashed, the mess hall has been taken over, the IG discovers another aircraft being moved in the middle of the night, or the press uncovers another scandal. And then someone gets fired because we can't stand for those things to happen.

But dynamic vertical communication must work both ways. We cannot legitimately place all the responsibility on our seniors for ineffective communication in the area of ethical standards. Those of us who find ourselves in the precarious position of having to make a choice between filling squares or telling the truth had better start making the right choices. In other words, if we really feel strongly about the need for better ethical standards in the Air Force, we should stand up and be counted.

In the minds of most of our junior officers, that advice will rank with *Alice in Wonderland* as far as being in touch with reality is concerned. But we must

start somewhere. We can start by resolving to stop rationalizing away what we recognize to be unethical behavior. Complaining about the low standards of ethical behavior while at the same time contributing to those low standards is nothing more than hypocrisy. Our junior officers who convince themselves that their careers are at stake in these ethical decisions are in reality perpetuating that same system to which they feel shackled. On the other hand, they might be pleasantly surprised to learn that their attempts to do what is ethically right will frequently be met with appreciation and positive recognition. But as long as they continue to fill squares and shade the truth, then they must accept full responsibility for the "system," because they are part of it.

Probably the worst tragedy is that another generation of young Air Force officers is becoming accustomed to what they perceive to be accepted Air Force standards, and eventually they will no longer be surprised by what they now consider to be ethical inconsistencies. This will be the result of a continuing situation in which our juniors won't stand up and be counted because they perceive the price to be too high, and our seniors are not communicating their standards effectively and sincerely. That is why a new code of ethics is doomed to fail unless it is accompanied by visible, supportive, strong programs. It will fail not because the troops don't

want it but because they will not believe that their superiors will support it or them when the chips are down. According to Lieutenant General Sir John Winthrop Hackett, noted military historian, one of the greatest satisfactions of professional military service is the privilege of associating with people of a high level of integrity.⁴ We should not let the potential for this satisfaction in Air Force life be tarnished because of poor communication and lack of understanding of the problem.

THE SOLUTION, then, involves communication, visibility, and a strong measure of intestinal fortitude. We, as Air Force leaders and managers, must personally communicate our concern through highly visible and effective actions involving questions of ethical behavior. Just saying that we are concerned will not be enough. Merely publishing a new set of ethical standards will not be enough. Lack of integrity and low ethical standards are not condoned by any echelon of Air Force leadership, but they are *with us*. Officers at every level must dare to challenge and resist any lowering of high ethical standards. And finally, we must stop alienating our junior officers who believe that we are only paying lip service to the problem. Let's *show* them we're concerned, and let's do it now.

AFROTC Det 5
Auburn University

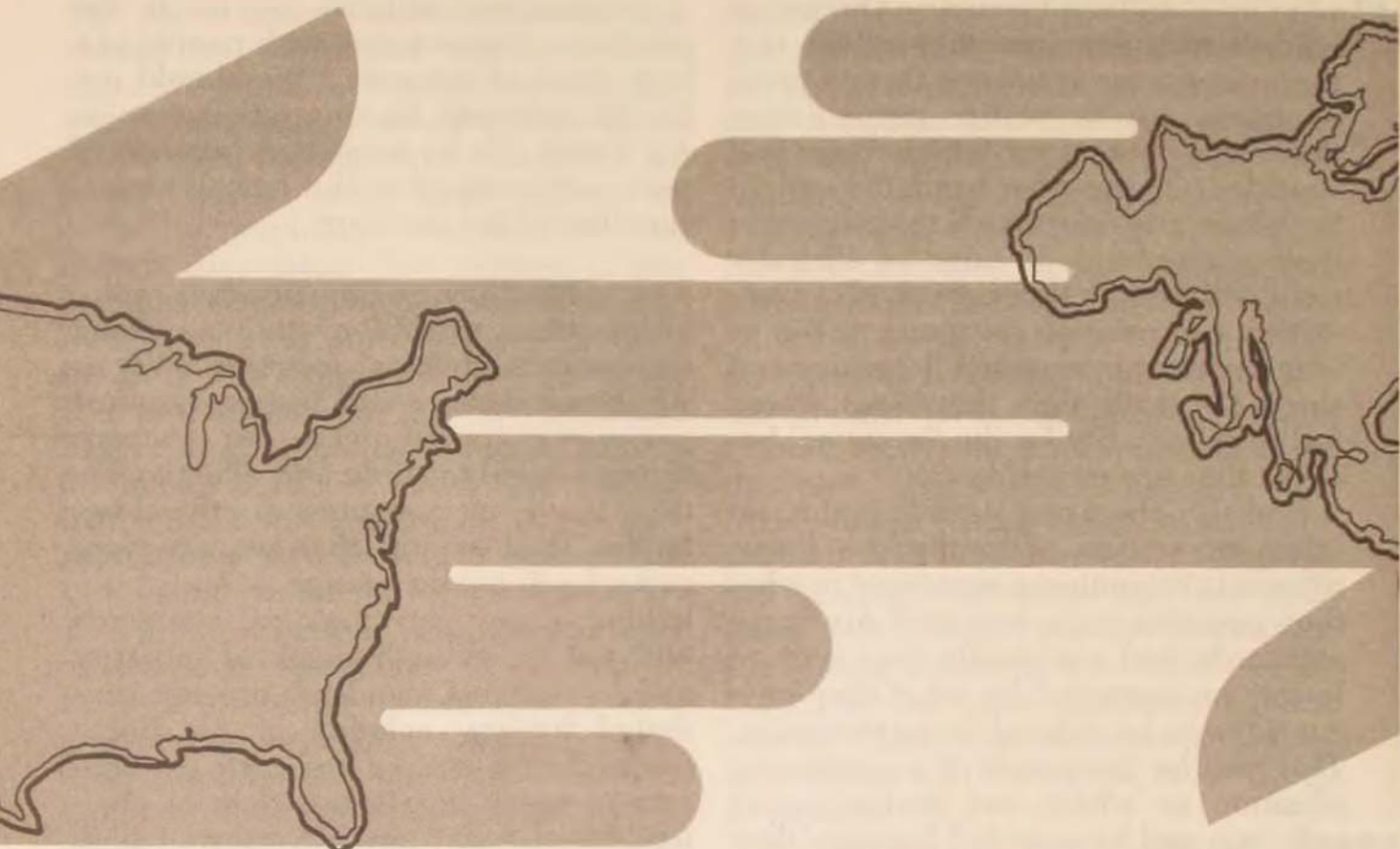
Notes

1. "IG Uncovers False Reports," *Air Force Times*, vol. 32, no. 20 (22 December 1971), p. 15.

2. Robert J. Flood, "Busted Out of the United States Air Force," *True* (July 1974), p. 39.

3. Major Robert C. Carroll, USA, "Ethics of the Military Profession," *Air University Review*, November-December 1974, p. 39.

4. Sir John Winthrop Hackett, *The Profession of Arms* (London: The Times Publishing Company, 1962), p. 64.



RESEARCHING THE FUTURE

warfare tomorrow and beyond

DR. RICHARD LESTER

DURING the last decade, researching the future has become both a serious intellectual pursuit and a pervasive fad. With increasing regularity, studies of the future are being conducted worldwide, but primarily in the United States and Europe. The better studies of future national security and related policies are characterized by use of a sustained and relatively systematic approach, enlisting many disciplines in an integrated effort of speculation and analysis.

Armed conflict has not escaped the scrutiny of those probing the future. This is evidenced in the publication of two recent books providing a comprehensive assessment of war and its ramifications in the coming decade: *Strategy for Tomorrow*† and *War in the Next Decade*†† present a vivid dissection of the implications of future military involvement.

GENERAL André Beaufre was well qualified to discuss these matters. Often referred to as the "brain behind the French Army," Beaufre was formerly the director of the French Institute of Strategic Studies, past editor of its journal, *Stratégie*, and an internationally recognized strategist and expert on European political-military affairs. His distinguished military career included command assignments in Europe and Africa in World War II, Indochina in 1947, and Egypt in 1956. He died on 13 February 1975.

In *Strategy for Tomorrow* Beaufre contends that the West must plan long-range political, economic, and social objectives before devising a common security strategy that will support societal goals. In order to reach a new level of cooperation, he believes that Western Europe and particularly the United States must become more conscious of the other's problems and capabilities. He asserts that, in view of recent political, economic, and strategic vicissitudes in the United States, Western Europe must develop the capability to defend itself, under its own command; the

United States and Canada "would be associated with this command in the same way that French forces are now associated with NATO."

This position is antithetical to the German viewpoint emphasizing the necessity of a commanding United States presence in Europe: it holds that only the United States can provide the leadership, force, and attendant deterrent effect to insure Western security. There is much support in the West for this German position. Those disagreeing with Beaufre on the future role of the United States in Western security assert that, like it or not, ours is the only Allied power capable of providing the required strategic deterrent. The alternative is to leave a vacuum the Russians would be eager to fill. Beaufre and his supporters counter this reasoning by declaring that eventually the balance of force concept will result in U.S. withdrawal from Europe and ultimate dissolution of the Warsaw Pact alliance in exchange for the dissolution of NATO.

In view of possible American disengagement, Beaufre believes that Western Europe should develop a common policy for defense and become "the European pillar" of the Atlantic Alliance as envisaged by President John F. Kennedy. This "pillar" could achieve an equilibrium in the East with the Soviets and in the West with the United States and set the stage for détente in Europe through a Pan-European Security Alliance.

The Germans distrust this point of view, for they are convinced that NATO

† André Beaufre, *Strategy for Tomorrow* (New York: Crane, Russak and Company, Inc., 1974, \$7.50), xi and 91 pages.

†† Roger A. Beaumont and Martin Edmonds, editors, *War in the Next Decade* (Lexington, Kentucky: The University Press of Kentucky, 1974, \$11.00), x and 217 pages.

has played a great role in bringing both stability and prosperity to Europe. Why, then, attempt a new security arrangement? Further, Germany sees no hard evidence of the so-called "reality of a progressive disengagement of American responsibilities in Europe." In fact, the Germans believe that there is ample evidence for convincing argument that these "incontestable" French realities are simply a fashionable myth. Beaufre's reaction to the German concern is that the entry of Britain into the Common Market will create a new Europe with a fresh potential for economic and political as well as military security. The European and British press are conducting open debate on these divergent points. Realistically, NATO will continue for years to come but with decreasing élan. It grows clearer that the defense of Europe against attack by Russia results from a U.S.-West German working alliance.

It is difficult to argue against Beaufre's general theme, which embraces the broad context of European and Atlantic security. In a workmanlike way, he asserts that in the future, even more than in the past, the military power of a nation will depend on its economic strength and the self-discipline of its people. The credibility of such a nation in the future, among both its allies and adversaries, will depend on their assessment of its moral, productive, and staying powers.

Beaufre maintains that in years to come we should expect war to be more limited, its primary goal being to persuade the enemy to accept an "honorable compromise"; all the resources of a "persuasive strategy" would be put into play to attain the desired results. Beaufre's rationale for this concept of limited war derives from the supposi-

tion that today all-out war (and, to some degree, any war) is nearly unthinkable as a practical alternative. In effect, Beaufre, grappling with the role of the military in the atomic age, asks the chilling question: Does Clausewitz's famous aphorism that "war is the continuation of politics by other means" still retain its intended meaning? With massive nuclear weapons in his arsenal, possessing a destructiveness not contemplated by Clausewitz, Beaufre calls for more viable and realistic options to be used in the pursuit of political objectives.

To accomplish this, Beaufre states what he calls "the defensive solution." This consists essentially of establishing military institutions of minimum strength and cost during peaceful periods, and these institutions should be so organized as to lend themselves to immediate re-enforcement in rapid response to political exigencies and without any significant reorganization. Beaufre calls this the principle of the "inflatable army," i.e., a force in-being always prepared to apply force to the degree required by the nature of the situation. Central to Beaufre's thesis is the question of how much and what kinds of military power are most appropriate for accomplishing a state's predetermined military objectives. Fundamentally, Beaufre appears to be in agreement with Clausewitz to the extent that military power is meaningful only in relation to strategy and strategy is meaningful only in relation to national objectives.

Insofar as the future of the armed forces is concerned, Beaufre rightly contends that their future

... essentially depends upon the evolution of international politics during the coming decade: Whether it will or will not settle the existing tensions and if it

will succeed or not in establishing an effective system of international arbitration.

He calls this reasonably probable perspective the classic vision of the international future. Under this hypothesis, it is evident that armed forces will retain their present role in the service of national politics, both as deterrents and as active forces, but that this will most likely be accomplished through the limitation of conflicts.

In this regard, Beaufre, in traditional French military manner, takes a rather pessimistic view of the international future. He holds that true security is assured only when there are no grave political differences susceptible of raising tensions. Such a situation presupposes that political problems are resolved by agreements arrived at as a result of rapprochement preceded by détente. As long as political tension cannot be resolved at the political level, national security can result only by recourse to that stability assured through armed force.

Realizing that Communism has brought together ideology and terror in what appears to be a permanent fusion, Beaufre accepts the classic solution and anticipates that in the next decade the role and importance of military forces cannot decrease; and he entreats Western public opinion to recognize this reality. Beaufre reassures those interested in military careers as their future will in all probability be similar to that of their predecessors. However, imagination will be necessary to discover future possibilities for maneuver as a result of the evolution of arms as well as ideas.

In *Strategy for Tomorrow*, André Beaufre has given us a profound, brisk, readable book. It is indeed a viable up-

to-date anthology of current political, military, and economic problems in the U.S.-Western European relationship as evaluated within the context of the Atlantic Alliance.

ROGER Beaumont and Martin Edmonds, in *War in the Next Decade*, present a microcosm of varied opinion from key civilian analysts of the international strategic environment; contributing authors include Robert Ficks, Colin Gray, Morris Janowitz, Philip Kronenberg, Peter Nailor, Laurence Rodway, Roger Williams, and T. Alden Williams. There is a freshness and a compactness to the book that make the subject matter congenial for people who do not study the military role and presence in a democratic society as a major interest. Notable, too, is the fact that *War in the Next Decade* avoids the pretentious, undigested, fragmentary quality of so many academic compilations. The volume is indeed a valuable contribution to the literature of military affairs and fulfills the need for an intensive academic study of the role of the military at a most crucial juncture in the twentieth century.

Premier Georges Clemenceau's aphorism: "War is too serious a matter to be left to the generals" is one of the most quoted of all times. German General Heinz Guderian, commander of the swift and powerful armored units that swept across Western Europe in 1940, also believed that the limiting pressures of the military should be supplemented by innovators from outside the military establishment. These reactions and similar ones made within the last decade constitute the impetus for *War in the Next Decade*.

More often than not, the Clemenceau

and Guderian comments have been used by those arguing against something the military has done or is proposing to do; but the authors of *War in the Next Decade* take a positive approach and are actually promilitary. They believe that the campus protests, sit-ins, and sieges on university campuses during the Vietnam era were indicative of the fragile links between the university and the military establishment. They also believe that the rupture between academia and the military needs to be mended. In their judgment, the profession of arms should be held in higher esteem, and, as is generally known, the more thoughtful leaders of both the academic and military communities have been striving for several years to find some kind of mutual accommodation.

One possible bridge to better understanding advanced in this book is the development of a new academic discipline in joint effort by civilian universities and senior service schools. The primary objective of this new discipline would be to develop a highly credible body of knowledge about military science and the profession of arms generally that would be respected by both the military and the professional civilian scholar. This science of conflict would consist of substantive contributions from the social and behavioral sciences as well as from the natural sciences. The authors submit that since the university is our society's institutional center for research and instruction, it can play a significant role in developing this new discipline. This effort should provide an accommodation between the military and our educational institutions and assist in the development of an enlarged matrix from which a more professional understanding of

modern warfare can emerge. In principle, General Beaufre, too, supports this concept.

War in the Next Decade suggests that in the next decade serious military scenarios should address not only technological and strategic considerations of war but also focus attention "on the dynamics of military institutions and their impact on society." The book further claims that in the West there has been a tendency to separate political and military objectives in war; the authors feel that it has been a mistake to draw too qualitative a distinction between military means and political ends.

The numbing realization of Vietnam has already made its impact on the future of the military profession, according to *War in the Next Decade*. From every indication it appears that the military is likely to emerge as "(1) a smaller establishment, (2) recruited permanently on an all-volunteer basis, and (3) organized predominantly on a force-in-being basis with a de-emphasis on the older tradition of a cadre for mobilization." However, this does not guarantee proportionate decreases in manpower costs. In this connection, it is estimated that within the foreseeable future the American military will be supported by six to seven percent of the gross national product, i.e., about half the rate of the late fifties. This is nearly \$90 billion in 1980 (in 1967 dollars). The authors also contend that despite termination of the draft, the military, at least in the short range, will be able to find enough competent recruits for all ranks. However, the armed forces in the next decade will have only minimal political support among the intellectuals, respectable press, universities, and the upper-middle class generally.

War in the Next Decade suggests that

a key goal for the immediate future should be to fuse the professional military establishment more closely into the civilian society. This is essential unless the military is to be perceived by the civilian sector as a separate establishment; it would be further counter-productive if the military began to see itself as alienated from the mainstream of American life. In this respect, education and mutual understanding emerge as key mechanisms for solidifying an effective civilian-military mix.

Until recently the tendency has been either to ignore entirely or regard as of marginal significance the role of our reserve forces. Yet from every indication the reserve forces will assume greater importance in our overall defense posture in the next decade.

In an interesting sketch, the future of the Reserve Officer Training Corps (ROTC) is analyzed. From the educational side, the book contends that, although ROTC has been part of the American educational scene for more than half a century, some critics continue to assail the program as being devoid of theoretical interest and laden with trivia unworthy of academic credit. But in recent years the services have given more ground than is generally recognized in accommodating program differences with host institutions. In the future, "ingenuity, imagination, and good will on all sides" will be required to meet the educational objections to ROTC. It is expected that more officers with intellectual distinction, and who are not starting their last tour before retirement, will be assigned to ROTC. Drill requirements will probably be reduced, and more civilians will be invited to teach ROTC courses. Some junior officer instructors will also probably have to settle for less than full

faculty status. The larger issue of civil-military relations appears to this reviewer to be highly significant. ROTC must continue to be a viable means of officer input. If it were removed from the campuses, it might result in isolating the services from civilian centers which they serve and defend. When properly administered, ROTC plays an important role in blending civilian and military values in this country.

With regard to military-technological possibilities in the next decade, technological forecasting indicates that intercontinental ballistic missiles (ICBM) will continue to be the principal delivery system in strategic warfare. Multiple independently targetable re-entry vehicles (MIRV) are being introduced into both the Soviet and American operational inventories. These weapons should remain operational for the next decade barring restrictive arms control agreements. Although hard resource allocation choices will have to be made, ICBM's with or without MIRV's can be deployed in the mid or late seventies.

A fine depiction of a powerful nation dealing with the staggering complexities of science and the future of warfare, *War in the Next Decade* asserts that there is no hard evidence for supposing that the nuclear stalemate between the United States and Russia will be broken in the coming decades. Still less evidence exists for believing that either Russia or the United States will again be permitted by the other to establish a first-strike capability. More effective integration of air and land activity is a highly significant trend worthy of careful study, also. Within the next decade the nation that best coordinates air and land activities will be in the forefront of military competence; in this regard, there will be a need for innova-

tion and the capacity for change.

The future role of the aircraft carrier, as well as the worldwide deployment of the U.S. Navy, is barely touched upon. This is an admitted weakness of the book. Although the Navy came away from the *Mayaguez* affair with pride in being able to play a key role, a realistic appraisal of the total force capability of the Navy indicates that it is stretched extremely thin. Is the U.S. Navy big enough for its worldwide job? Hopefully, future academic studies of this kind will address such relevant questions.

Another point that the authors do not consider is *détente*. This so-called spirit of cooperation with the Russians stands today as a keystone of U.S. foreign policy. The problem is that few students of warfare, international affairs, or foreign policy know exactly what *détente* means or what the military strategic implications are for the armed forces. Both are rich areas for further research.

BOTH THESE BOOKS emphasize that the fear of nuclear weapons makes rocking the boat a hazardous enterprise. The "don't-rock-the-boat impulse" will become stronger as the balance of terror becomes firmer. However, as the authors correctly contend, we live in a world filled with hostile emotions: greed, resentment, anger, and ambition. Yet, military strength is still the ultimate ratio of power in international relations, and for this reason we must retain a strong military force. In the future, victories may be few, sacrifices many, but the rewards great, if America and her allies retain their strength, courage, and determination.

These two books provide clear insight into the complex arena of future strategy and military power. They constitute a firm foundation for further study of military science. Both are memorable works worthy of careful reflection.

*Air University Institute for
Professional Development*

from the editor's aerie

From time to time we are reassured that our readership is not entirely limited to a military constituency. Speaking recently in the U.S. Senate, Senator James L. Buckley of New York cited an article by Mrs. Amoretta Hoerber entitled, "Some Myths about the Strategic Balance," which appeared in the July-August 1975 issue of *Air University Review*. After quoting from it at some length, he added that the article was especially useful in dealing with various aspects of qualitative improvements to strategic weapon systems and had it inserted into the *Congressional Record*. Perhaps it was no coincidence that Mrs. Hoerber's tract was also selected as the outstanding article in the July-August issue of the *Review*.

While we are citing significant achievements, the Department of Political Science and Philosophy of the Air Force Academy certainly merits recognition. In addition to Captain Michael O. Wheeler of that department, who won the best article award in our September-October issue, Department Chairman Colonel Mal Wakin was spotlighted by *People* magazine of October 13, 1975, as one of twelve distinguished university professors throughout the United States. Our congratulations to them both.

Lieutenant Colonel Richard E. Hansen joined our staff in December 1975 as the Associate Editor for Acquisitions. Although he has published several articles in Air Force journals, much of

his work has appeared under the by-line of general officers. We are happy to have him and promise not to obscure his talent under the cloak of anonymity. Appearing in this issue are two articles on ethics. The one by Major Peter Henderson focuses on the perception of ethics as seen by junior officers, and it may make some of us graying eagles feel a bit uncomfortable. The other article, by Major General Robert N. Ginsburgh, USAF (Retired), is directed more toward ethics on the national level. We hope these articles demonstrate clearly that timely and conscientious criticism of the military can be generated from within.

Dr. Charles A. Russell's article on "Transnational Terrorism" seems to become more relevant with each day's news. Although we emphasize that the ideas and details are the author's and not necessarily those of the Air Force, we recommend this study for its illumination of this vicious and deadly form of warfare in the world today.

Brigadier General John E. Ralph's article, "Professional Identity in a Plural World: The Focus of Junior Officer Education in the U.S. Air Force," gives still more insight into professional military education, a subject which we treated in depth in our July-August 1975 issue. General Ralph brings to his article, among other things, the experience of having commanded Squadron Officer School here at Air University.

R the contributors



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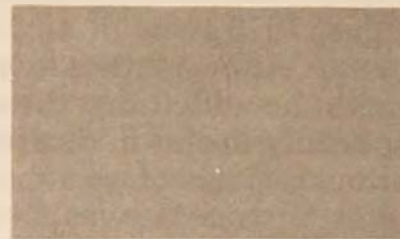


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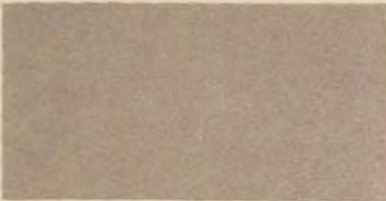
DCS/Plans, Hq USAFE. He served in SEA as Special Assistant to Commanding General, Deputy Chief, JUSMAGTHAI. Other assignments have been as a Titan II missile crew commander; missile programmer, Hq SAC; faculty, USAFA; and Executive Officer, Hq 7/13AF (PACAF). Major Wheeler is a Distinguished Graduate of Squadron Officer School and has completed Air Command and Staff College, Armed Forces Staff College, Industrial College of the Armed Forces, and Air War College.



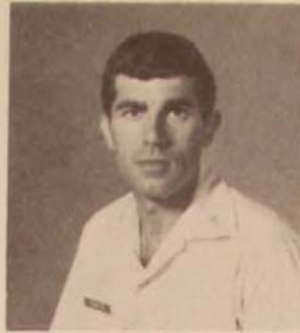
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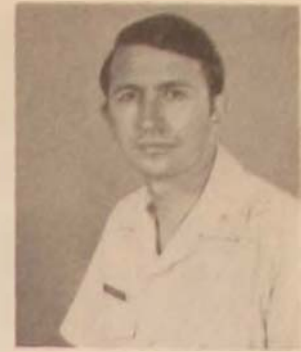
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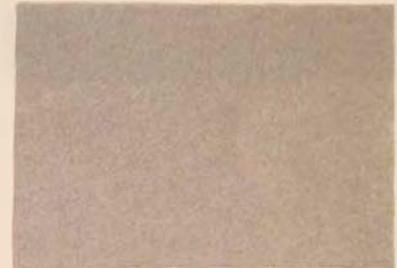
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The Air University Review Awards Committee has selected "Air Power: A New Look from an Old Rooftop" by Major Dennis W. Stiles, USAF, as the outstanding article in the November-December 1975 issue of *Air University Review*.

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