AIR UNIVERSITY

review

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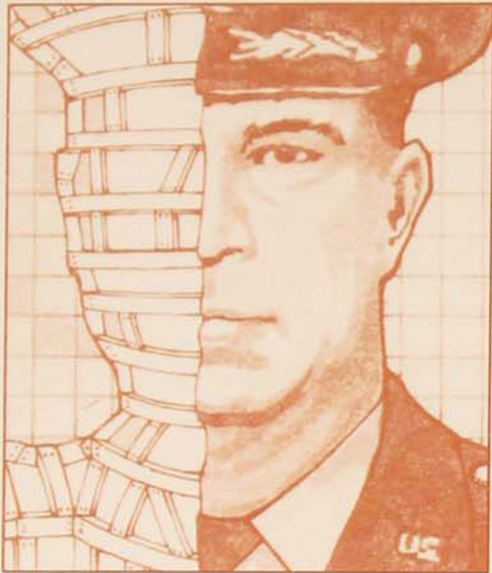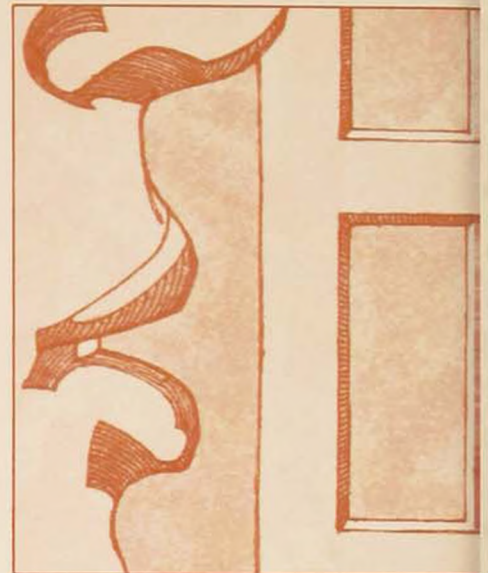review

MAXWELL AFB, AL 36112

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The Professional Journal of the United States Air Force

Can the junior-ranking specialist of today become tomorrow's generalist leader?—*page 4*

The impact of change of command on organizations—*page 41*

Establishing a positive communication climate in your military organization—*page 45*

Attention

Since modern warfare is continuously changing, Air Force leaders must be constantly alert for new ideas that might be the key to the successful application of aerospace power in the future. The *Air University Review* is the professional journal of the United States Air Force and is designed to serve as an open forum for exploratory discussion of professional issues and the presentation of new ideas. As an open forum, the *Review* aims to present new ideas and stimulate innovative thinking on military doctrine, strategy, tactics, professionalism, and related national defense matters. The views and opinions expressed or implied in this journal are those of the individual authors and are not to be construed as carrying the official sanction of the Department of Defense, the Air Force, Air University, or other agencies and departments of the U.S. government. Thoughtful and informed contributions are always welcomed.

AIR UNIVERSITY review

the cover

Several articles in this issue focus on preparing the force and keeping it ready. These activities entail a number of important, if routine, jobs that must be done on a day-to-day basis. Our artist captures this theme in a montage of people involved in the daily activities of Air Force life.

THE MEANING OF MEDALS

His Marines in Vietnam had loved him. He was an irascible, aggressive leader, filled with wisecracks and the sort of black-humored courage that inspires the best out of men in combat. And his midshipmen loved him, too. Ted Lenahan carried combat in his scars and in the ribbons on his chest. He was what it was all about.

James Webb
A Sense of Honor, p. 31

THEIR bright colors and where they are worn make the decorations on our chests the most visible symbols of military service. In a few seconds, the initiate can read the story of an airman's service in these beautiful swatches of colored ribbon, but one who does not know may draw the wrong conclusions from the ribbons we wear. The proliferation and placement of noncombat medals can easily lead the uninformed to attribute heroic deeds and experience in war to those who have served long and well in peacetime but who have no first-hand knowledge of war.

In one respect, our current awards and decorations system seems to say that today's military establishment prizes meritorious service more than combat service. Get a current chart showing the order of precedence of awards and decorations. Start with the Air Force Achievement Medal and examine the decorations that are higher in precedence than it is. Stick to the ones that airmen can expect to earn—don't count the Navy Cross, the Army Commendation Medal, etc. You will see that there are only seven decorations for combat service while there are ten awards for noncombat, meritorious service. (I do not count the Airman's Medal and count the Bronze Star in both groups.)

The ribbons we wear also tell us that our awards and decorations system recognizes many things that are routine. Do we really need to recognize the completion of an overseas tour? a remote tour? an individual's years of service? the completion of accession training? Aren't these things expected of us all? How does one get into the Air Force if he or she does not complete accession training? Such accomplishments are already recognized by the fact that we wear a uniform.

There has, of course, been nothing pernicious in the way our awards and decorations system has evolved. There has been only an attempt to motivate people by providing them with opportunities to earn medals and ribbons where they would not normally have such opportunities. Unfortunately, these new decorations have had the unforeseen and undesirable effect of decreasing the visibility and distinction of our combat leaders. Since combat was previously the major way in which one earned medals, the warrior leader stood out in peacetime, for he was virtually the only one with

decorations. Thus, he served as a beacon, reminding us of the primary function of our calling at times when this reminder was most needed. If present trends continue, at some time in the future we may find that our most decorated military men will never have seen combat. Already, one routinely sees officers wearing combat decorations as high as the Distinguished Flying Cross with two or three noncombat decorations for meritorious service and achievement placed above them on the wearer's chest. Medals for valor are becoming lost among longevity ribbons and meritorious service decorations. Does this shift of emphasis in our awards and decorations system signal a deeper, more profound shift of emphasis in our profession?

If we do not intend these changes in our awards and decorations system to signify that peacetime, administrative accomplishment is as important as heroism and leadership in combat, then we should begin immediately to restore precedence to awards recognizing wartime achievements. *Ideally*, we might begin our reform with a reevaluation of our awards and decorations system with an eye to withdrawing the more recently established defense awards for meritorious service and achievement and replacing them with older decorations like the Distinguished Service Medal, the Legion of Merit, and the Meritorious Service Medal. The Air Force might also reexamine its recent additions to the awards and decorations system with the idea of eliminating many of these awards. Do we really need an NCO PME ribbon? A USAF BMT Honor Graduate Ribbon? an Air Force Training Ribbon? an AF Overseas Ribbon? an Air Force Recognition Ribbon? an AF Outstanding Unit Award *and* an AF Organizational Excellence Award?

But these ideal solutions would be extremely difficult to implement. For one thing, they would cause hard feelings by reducing the number of ribbons most of us are authorized to wear. Secondly, they might undermine the important sense of pride and accomplishment associated with the wearing of ribbons already earned under the current system.

If we cannot significantly reduce the number of awards presented for noncombat service, can we perhaps increase the precedence of awards for combat service in some other way? This could be done by reserving the left side of the uniform for combat-related medals, campaign ribbons, and badges by moving noncombat medals, ribbons, and badges to the right side of the uniform. (The name tag could be worn on the flap of the right breast pocket.)

TWO thousand years ago the Romans began the practice of recognizing bravery in combat by awarding torques and decorative discs that could be worn on the chest of a soldier. We continue this tradition in our own awards and decorations system, but the proliferation of awards for noncombat service that has occurred during the last twenty to twenty-five years has shifted the emphasis in the system so that extraordinary bravery under conditions of extreme danger now seems equated to managerial, administrative accomplishments involving no risk of life. This trend is in keeping with a perception widely held in our nation that technology, production, and logistics are the key to victory in modern war. S. L. A. Marshall warned against this mentality in his book *Men against Fire*. We would do well to remember his words in reconsidering the way we decorate our people.

Being from Detroit, I am accustomed to hearing it said publicly that Detroit industry won the war. This may be an excusable conceit, though I have yet to see a Sherman tank or Browning gun that added anything to the national defense until it came into the hands of men who willingly risked their own lives. Further than that, I have too often seen the tide of battle turn around the high action of a few unhelped men to believe that the final problem of the battlefield can ever be solved by the machine. (p. 209)

We still haven't found a way to fight wars without killing people. As long as war turns on the acts of a few courageous men who willingly risk their lives in battle, we must have a unique and very visible way of encouraging and acknowledging their bravery. Restoring combat decorations to their position of preeminence will properly acknowledge today's heroes and encourage those of tomorrow.

D.R.B.
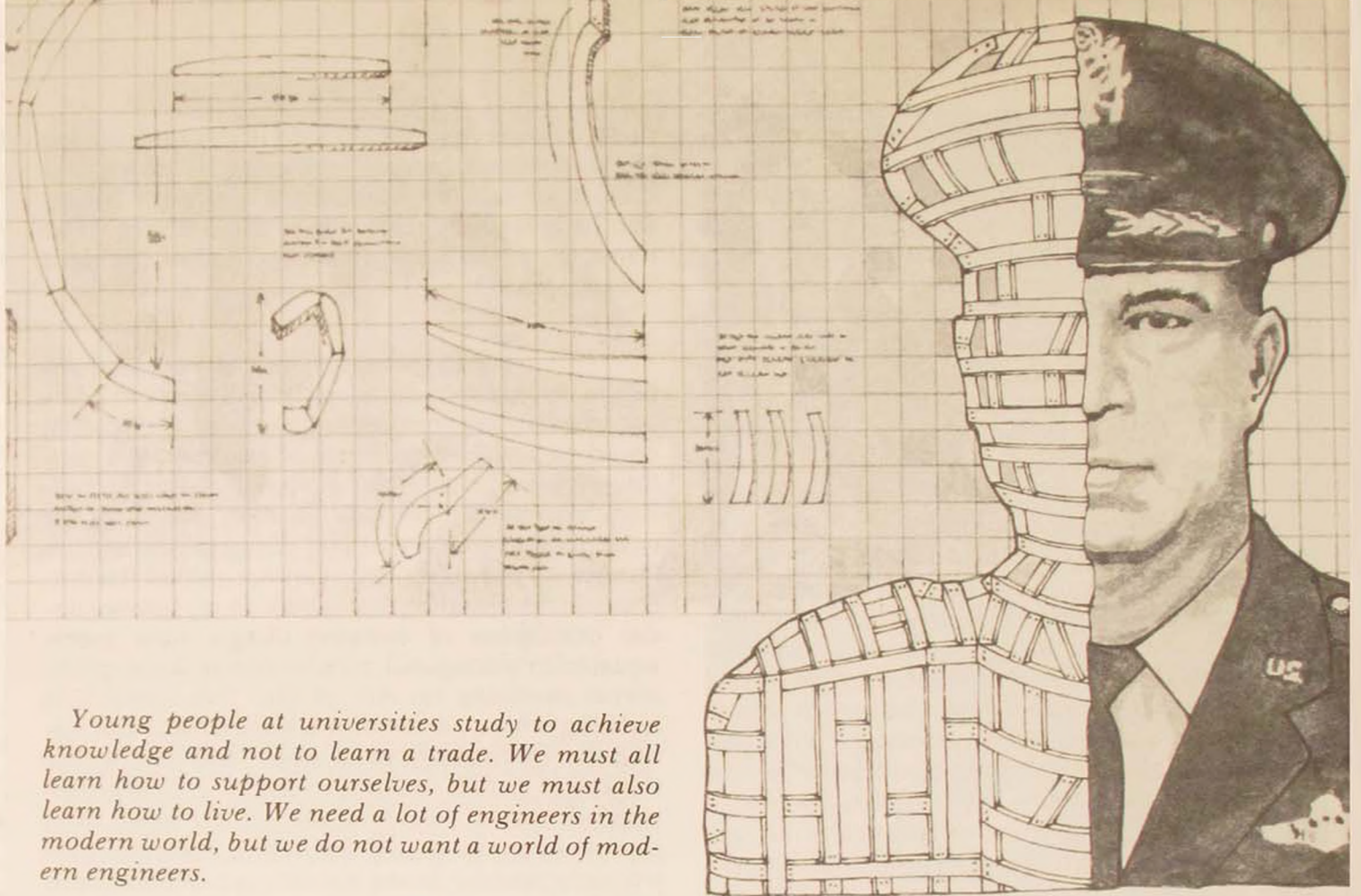
Young people at universities study to achieve knowledge and not to learn a trade. We must all learn how to support ourselves, but we must also learn how to live. We need a lot of engineers in the modern world, but we do not want a world of modern engineers.

Sir Winston Churchill

EDUCATING MILITARY OFFICERS: SPECIALISTS TODAY OR GENERALISTS TOMORROW?

DR. WILLIAM P. SNYDER

NINETY-ONE percent of the general officers sampled in a Spring 1984 *Newsweek* survey indicate that the "quality of recently commissioned officers" had improved. Another 7 percent believe that quality is unchanged, while only 2 percent of the generals surveyed thought that it was "worse."[1] This impressionistic evidence is confirmed by more analytic measures of quality: scores on standardized tests, school class standing, and the number and variety of student leadership positions. Indeed, in terms of these characteristics, recent commissionees are better than at any time since the early 1960s and, possibly, since World War II. Moreover, further improvement in quality can be expected over the next few years.[2] For senior officers who watched the campus protests of the late Vietnam era, this development is indeed encouraging.

The general officers responding in the *Newsweek* survey also believe that the public has become more supportive of the military and of a stronger national defense—again, trends confirmed by other opinion surveys. This shift in public sentiment has influenced young Americans, many more of whom now regard commissioned service as a desirable and rewarding career. But the U.S. Armed Forces also deserve credit for effective management of their commissioning activities. Over the past decade, the services have successfully adjusted officer recruiting programs to the realities of the post-Vietnam era. One change involves more effective use of national advertising. This effort has increased public knowledge of the opportunities afforded by commissioned service, particularly among women and minorities, both of whom are now better represented in the officer corps. More intensive and better organized summer training activities have stimulated student interest and better prepared commissionees for their initial assignments. Finally, changes in administrative and personnel policies, particularly the assignment of younger and better qualified officers, have improved the campus standing of ROTC, the largest of the several commissioning programs.

Several other developments have affected quality directly. The first is the expansion in size of West Point and the Air Force Academy, which began during the late 1960s and was completed in the early 1970s. Each academy now produces about 950 officers a year, some 350 more than before expansion, for a total of about 15 percent of overall officers accessions.[3] A second and more important change involves the ROTC scholarship programs. In 1964, the U.S. Army and Air Force were authorized scholarship programs similar to the one adopted by the U.S. Navy in 1946. Since these programs became operational by 1970, each service has commissioned about 1050 scholarship recipients annually. Additional scholarships were authorized in 1980, raising the DOD total to 29,000, and the services will soon share between 5500 and 6000 ROTC scholarship graduates each year, almost double the number of a few years ago.

As information about ROTC scholarships has become more widely disseminated, the number of young men and women applicants has increased sharply. In 1981, for example, there were roughly seven applicants for every scholarship. The greater selectivity afforded the services has resulted in a higher-quality ROTC student. In terms of measurable characteristics, in fact, ROTC scholarship recipients are virtually identical in quality to entering service academy cadets and midshipmen: top-quintile ranking in high-school classes; an average Scholastic Aptitude Test (SAT) score above 1200; and strong records of extracurricular activities, especially in athletics and student leadership positions. These qualifications rank academy and ROTC scholarship students in the top 10-15 percent of all college students. Such top-quality young men and women now account for almost 40 percent of total officer accessions; the comparable figure in the pre-Vietnam era was only 10 percent.

Other commissioning programs have also improved standards. Officer Candidate School/Officer Training School (OCS/OTS) programs, which currently supply about one-third of all officer accessions, accepted many high-school graduates in the past. With few exceptions, entry is now limited to college graduates. Similarly, competition among nonscholarship ROTC students for commissioned billets has intensified. Because officer recruiting is less sensitive than enlisted recruiting to economic conditions, these patterns have not been seriously affected by unemployment trends. In short, there has been a steady, across-the-board improvement in quality, with a particularly sharp jump in the number of top-quality commissionees.

Not only are the armed forces commissioning more highly qualified individuals than in the past, but the services are using these young men and women to better advantage. The pe-

riod of obligated service has been increased in recent years, from four to five years for academy graduates, from three to four years for ROTC scholarship recipients, and from two to three years for ROTC nonscholarship and OCS graduates.[4] The lengthened period of service is reducing personnel turnover and enabling young officers to become more effective in their jobs. Future accession requirements are also reduced, and the services can expect to enjoy a high degree of selectivity among candidates for commissions in the years ahead.

Along with these positive shifts, the services have adopted policies designed to achieve a better match between undergraduate degree programs and initial, entry-level assignments. Such matching policies have affected all commissioning activities but have been applied most effectively in ROTC and OCS/OTS. In

Specialized training or a technically oriented education help prepare junior officers for tasks in initial assignments.

the past, service concern with ROTC curricula was directed principally at the content and sequence of military training activities. With the newer policies, the emphasis has shifted to the student's college courses and programs. In effect, ROTC students (and particularly scholarship students) are now being required to elect engineering or technical majors, those academic programs which involve intellectual skills related to the career fields that young officers expect to enter. Students unwilling or unable to follow these requirements can expect to lose their scholarships or even to be disenrolled from ROTC. The U.S. Air Force has the most stringently applied matching policy, and almost all of its ROTC scholarship students are now enrolled in an engineering or technical major.[5] The Navy's slightly less rigid policy focuses more on specific sources than academic

In an age of sophisticated, electronic equipment, the match between technical training and early assignments has become increasingly important.

majors. The Army, with fewer technical requirements than its sister services, has moved more slowly in this sphere, but it does require several academic courses designed to provide "a foundation for continued professional development."[6] Only the U.S. Marine Corps remains relatively unconcerned about the undergraduate majors and courses of its candidates for commissions.

The Navy and Air Force have followed a similar approach in their OCS/OTS programs (quantitatively, the largest source of officers for these two services), giving priority to students with degrees in engineering and technical subjects. There are still openings for students with, for example, liberal arts or business degrees, but the numbers of such degree recipients have been sharply limited over the past decade. Moreover, while some recipients of nonengineering-nontechnical degrees enter flight training, most are assigned to support or service activities in administrative, intelligence, or security units.

There is much to recommend the matching policy: newly commissioned officers enter ser-

vice career fields that make immediate use of the knowledge and skills that they acquired as undergraduates. These new officers may be more productive more quickly than would be the case were they not so assigned. The need for costly entry-level training by the services is also minimized. An individual's satisfaction with his or her job and the service generally is probably greater—an all-around benefit. Finally, the policy is consistent with the attitudes of a majority of today's college students, whose concern for jobs and careers leads them to select vocationally oriented undergraduate programs such as engineering or business. Thus the matching policy seems beneficial from several different perspectives.

I F the short-run, immediate benefits of commissioning mainly engineering and

Throughout a career, the military professional may face a wide range of challenges. As the officer advances in rank and responsibility, he or she could discover that specialized study and experience have not provided adequate preparation for the responsibilities of higher command.

technical degree recipients is considerable, the long-term implications of such a policy are less clear. The question is whether an undergraduate engineering or technical degree is, in fact, the most appropriate educational background for a professional military officer. Are there alternative undergraduate programs that might better serve the long-run interests of the armed forces and, especially, fulfill the requirement for a corps of generalists for top-level command and staff positions? Put another way, what kinds of undergraduate education are most likely to produce the colonels and generals needed by the nation in the twenty-first century?

The Air Force's mission is to fly and to fight. Because that will remain a constant even though technology advances, we must continue to focus on the warrior-leader as the ideal in officership.

Most American military leaders since the Civil War have been graduates of West Point or Annapolis. The dominance of the academies can be attributed in large measure to the fact that for much of that period they were the principal source of regular officers and, for a time, the only source of college-trained personnel. Until World War II, ROTC and OCS programs were specifically intended to provide officers for wartime service. But part of the academies' success may be attributable to their curricula. Although both had a strong engineering bias, courses in the sciences, humanities, and liberal arts were added after the Civil War. West Point, for example, included such courses as history, English, and philosophy in the late-nineteenth century; by 1902, Samuel P. Huntington notes, some 39 percent of a cadet's time was devoted to the "liberal arts and sciences."[7] Additional shifts took place after World War I, with the addition of courses in government and economics. Similar changes also took place at the Naval Academy, although at a somewhat slower pace.[8] Although clearly not comparable to civilian liberal arts institutions of that period, the steady decline in the technical content of the curriculum permitted the academies to provide an increasingly general education.[9]

The changes in academy curricula and establishment of military service schools after the Civil War were key elements in the professionalization of the officer corps. With these developments in place, professionalization could take place in two stages, along lines pioneered earlier in Europe: preprofessional, general education, followed by technical training and professional education in the several service schools.[10] This pattern was strongly reinforced after World War II, when ROTC became both a major commissioning source and the largest producer of career officers. The services paid little attention to the content of undergraduate education of ROTC students, and large numbers of individuals with degrees in the social sciences and liberal arts were commissioned.[11] This approach was encouraged by civilian observers of service commissioning programs, who urged even greater liberalization of the ROTC curriculum:

> The emphasis in many cases has remained upon the skills and techniques of the craft. There is nothing inherently wrong with this, if the concern is merely preparation for the job at the lowest level. It is clearly inadequate, however, for preparation for advancement to higher and broader levels of responsibility where the skills of the technicians are increasingly less useful and the ability to relate to other factors and to manage large affairs becomes increasingly important.[12]

The matching policy adopted by the Air Force in recent years has reversed this long-term

While the Air Force Academy requires each cadet to complete a balanced core curriculum that includes courses in most traditional disciplines, the academy also stresses the development of the whole person throughout a cadet's four-year program. As a part of their professional training, cadets are given the opportunity to participate in activities related to flying, including flight training, soaring, and parachuting.

trend, while similar policies are affecting the other services as well.

The matching policy is designed to improve utilization of newly commissioned officers in entry-level positions, especially those with high technical content. This approach is essentially the same as that of American business and industry: match undergraduate degrees with initial job requirements; for example, hire engineers for engineering jobs or business school graduates for marketing and financial management positions. In this sense, at least, officer recruiting has been "civilianized"—a change parallel in many respects to adaptations in enlisted recruiting. But American business is beginning to rethink this approach, for two reasons: first, engineering and business schools, trying to keep abreast of growing technical complexity, have steadily reduced the general-education content of their respective curricula. As a result, degree recipients, well qualified in their respective fields, often lack the breadth and general knowledge required in all but entry-level positions. Second, business organizations have become increasingly aware of the advantages of employing individuals with a more general education, including liberal arts and the social sciences.

A number of recent studies provide interesting evidence of the advantages of a broad educational background in terms of career success. Studies by the Standard and Poor's Corporation and a related analysis by Professor Michael Useem of Boston University have examined the general relationship between undergraduate training and career success in the business world. The Standard and Poor's study, conducted in 1982, surveyed some 50,000 top executives in 38,000 public offices and private American companies. The highest-ranking executives, this study found, typically attended colleges that offered only a general education, usually in the liberal arts. In contrast, executives who attended institutions that offered majors in business administration were less successful in achieving senior executive positions.[13]

The study by Professor Useem extended the Standard and Poor's analysis and took account of the social background of executives. Focusing on graduates of Harvard, Yale, and Princeton (which offer only liberal arts majors for undergraduates), Useem compared those who had no further graduate schooling with graduates of the Harvard Business School. The Harvard-Yale-Princeton group was more successful: those employed by large firms were promoted earlier to vice presidencies; they received more invitations to serve on the boards of other companies; and they were likely to be selected equally as company chief executive officers.[14]

Studies by two large corporations—Chase Manhattan Bank and American Telephone and Telegraph—provide additional insights into the career success of employees with general educational backgrounds. Chase examined the careers of 147 commercial banking trainees hired between 1977 and 1980. It found that those holding only undergraduate degrees developed stronger technical skills than those with advanced degrees. Of the undergraduates, almost all were liberal arts majors.[15] The AT&T study evaluated the progress of corporation executives with service of more than twenty years. Although it employs relatively few social science and humanities graduates, the number at AT&T was such to allow comparison with business and engineering graduates. The study, surprising perhaps even to AT&T, showed that employees in the social science/humanities group were promoted to higher managerial positions earlier, on the average, than those with engineering or business degrees. By the end of twenty years, some 43 percent of the social science/humanities degree holders had achieved AT&T's executive level four, as compared to only 32 percent of the business group and 23 percent of the engineering group. Assessment center measurement of the qualities of the various groups identified attributes that contributed to the generally greater success of the social science/humanities

In addition to completing the academy's core curriculum, cadets may earn majors in subjects ranging from computer science to history.

group: its members scored higher on virtually all assessment dimensions, with especially strong showing in interpersonal and administrative skills job motivation.[16] The social science/humanities group also was judged as more creative, characterized by a wider range of personal interests, and better than their engineering and business counterparts in oral and written communications skills. The only dimension in which the group was weak was in quantitative skills; nevertheless, this group was considered to have the greatest potential for managerial success of any group of AT&T employees.[17]

Another study, by Anne Bisconti of the Midwest College Placement Service, offers reasons for the success of those with more general educational backgrounds. Bisconti surveyed 524 college graduates who had reached midcareer positions. After entry into the work force, the respondents noted, they moved quickly into more responsible and diverse positions. These new positions required less in the way of specific training but placed a premium on skills that drew on a general educational back-

ground. The skills most valued by the midca-reerists included the ability to work well with others; leadership and decision-making effectiveness; analytical and problem-solving abilities; and, especially, oral and written communications skills. Overall, Bisconti concludes, the career value of specific knowledge declines sharply over time, while the importance of general intellectual skills developed by the liberal arts and humanities increases.[18]

Personal testimony from American business leaders provides additional support for a general educational background. One of the most widely cited is Judd H. Alexander of the James River Corporation. A self-styled "believer in the liberal arts," Alexander regards the diversity of assignments in his own career as the strongest justification for a liberal arts degree:

> I have had nineteen jobs or assignments in my business career, and at least seven of them were new. They had never existed before. How do you prepare for a job like that? Well, based on my experience, you get an English degree from Carleton, and then you learn as much as you can about as many subjects as you can absorb.[19]

Alexander's position is supported by Professor John Kotter, who studied the day-to-day activities and management style of thirty highly successful managers responsible for large business organizations. These managers, Kotter found, typically faced two fundamental challenges:

> • Deciding what actions to take in the face of uncertainty, diversity of views, and large amounts of relevant data.
> • Accomplishing tasks through the mechanism of a large set of people, few of whom can be controlled directly.[20]

"The best preparation for that kind of work is obvious," Alexander notes. "It would be a liberal arts education . . . and experience."[21]

IF the benefits of a broad general education are increasingly recognized by the private sector, the question remains as to how

much that applies to military officers. Military officers are not bank managers or salespersons or telephone company executives. Officership is a very different activity and presents its practitioners with ethical questions and operating problems unknown to the business community. Indeed, many contend that the armed forces really require leaders, not managers.

These concerns are not specious or trivial. The profession of arms involves difficult questions of societal responsibility and is indeed more demanding, complex, and often more dangerous than the world of business. But we must be careful not to let the obvious differences obscure the fundamental similarity between the work of senior corporate executives and that of senior military officers in peacetime.

Part of the problem in military circles, surely, is the distinction often drawn between *leaders* and *managers*. Originally intended to highlight differences in outlook among officers on the importance of military traditions and the use of modern technology,[22] the terms now are often used to imply that managers lack combat leadership skills, that management of any type erodes combat capabilities, and that leaders are charismatic and all-encompassing in ability and interests.[23] This caricature of an otherwise useful distinction obscures the obvious fact that senior military leaders should have interpersonal and administrative skills as well as a knack for using resources effectively. As Lieutenant General Walter F. Ulmer, Jr., U.S. Army, recently noted, the "leadership-management dilemma" is "a bit phony," adding more specifically, "I can't think of any significant number of great leaders who couldn't count their horses or artillery."[24]

It is also fair to note that a large and probably growing number of senior military positions are essentially managerial in character—involved with procurement, R&D, supply, maintenance, financial management, and so on—and that the tasks associated with these managerial areas must be accomplished very well in war if combat effectiveness is to be achieved. In

peacetime, the complexity and close public scrutiny that attend the procurement and support activities of the U.S. Armed Forces also demand high-quality management. While the corporate executive may not be the perfect model for the senior officer, or vice versa, there are nevertheless many qualities in common between effective business executives and effective senior military officers. Indeed, many will agree that Professor Kotter's description of the fundamental challenges facing his sample of senior executives is a quite accurate, if abstract, description of the range of problems that senior officers must deal with. And if one accepts these similarities among business executives and military leaders, the experience of the business community then becomes obviously relevant to career development in the armed forces.

THE services clearly cannot and should not stop recruiting engineers and technically trained or trainable students and seek only undergrad-

uates with liberal arts degrees. Rather, there is a need to strike a balance and recognize the advantages that a broad general education offers in terms of preparing officers for senior-level positions. In that sense, the private-sector experience is instructive, as is the older academy tradition of providing officers with what was in its time a liberal education. The growing emphasis on military history and the military classics in the senior service schools is strong evidence of the services' concern about the intellectual breadth and quality of officers.[25] But this remedial measure should be joined by another: a broad general education as a prerequisite to commissioned service.

Texas A&M University

Notes

1. There were 257 respondents of all four services in the sample, roughly one in five of the general officers on active duty. The poll was conducted for *Newsweek* by the Gallup organization. *Newsweek*, 9 July 1984, 32 ff.

2. The discussion of recent developments in officer commissioning programs in this and subsequent paragraphs is drawn principally from William P. Snyder, "Officer Recruitment for the All-Volunteer Force: Trends and Prospects," *Armed Forces and Society*, Spring 1984, pp. 401-25.

3. Public attention, understandably, centered on another development during this period—the opening of the academies to women in 1976.

4. Air Force ROTC and OTS graduates are exceptions and must serve four years. In all cases, obligated service begins after completion of special entry-level training, e.g., flight school.

5. The restrictions are even more severe than indicated. The Air Force wants mainly electrical and aerospace engineers; other engineering fields may not be accepted. Technical degrees are limited to computer science, mathematics, physics, and meteorology.

6. E.M. Dopieralski, "Military Qualification Standards I: Briefing for Professors of Military Science, Third ROTC Region [Army]," briefing paper, 20 October 1981.

7. Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, Massachusetts: Harvard University Press, 1957, p. 238.

8. Ibid.

9. An examination of recent curricular developments at the academies is contained in John P. Lovell, *Neither Athens Nor Sparta? The American Service Academies in Transition* (Bloomington: Indiana University Press, 1979).

10. Huntington, pp. 239-54.

11. Until the mid-1960s, many Army ROTC units were branch-oriented, and their military training focused on junior officer duties in these branches. The undergraduate curriculum was not a matter of concern, however, and many liberal arts graduates were commissioned from these units.

12. Gene M. Lyons and John W. Masland, *Education and Military Leadership: A Study of the R.O.T.C.* (Princeton, New Jersey: Princeton University Press, 1959), p. 217.

13. Standard and Poor's, "Executive College Survey, 1982," (New York: Standard and Poor's Corporation, 1982).

14. The analysis is summarized in Michael Useem, "Education in the Liberal Arts Makes Good Managers," unpublished draft.

15. Stanley Burns, "From Student to Banker: Observations from the Chase Bank," *The Humanities and Careers in Business* (Princeton, New Jersey: National Endowment for the Humanities/Association of American Colleges, 27-29 April 1983), pp. 9-12.

16. On assessment centers, see George C. Thornton III and William C. Byham, *Assessment Centers and Managerial Performance* (New York: Academic Press, 1982).

17. Robert E. Beck, *Career Patterns: The Liberal Arts Major in Bell System Management* (Washington: Association of American Colleges, 1981).

18. Ann Stouffer Bisconti, *College and Other Stepping Stones: A Study of Learning Experiences That Contribute to Effective Performance in Early and Long-Run Jobs* (Bethlehem, Pennsylvania:

The CPC Foundation, 1980), pp. 6-22.

19. Judd H. Alexander, *Liberal Education and Executive Leadership*, The Associated Colleges of the Midwest/The Association of American Colleges, 1982.

20. John Kotter, "What Effective General Managers Really Do," *Harvard Business Review*, November-December 1982, pp. 156-57.

21. Alexander, op. cit.

22. The distinction was first advanced by Morris Janowitz in his classic, *The Professional Soldier: A Social and Political Portrait* (Glencoe, Illinois: The Free Press, 1960), p. 21ff. Janowitz's terms were *heroic leaders* and *managers*.

23. See, for example, Richard A. Gabriel and Paul L. Savage, *Crisis in Command: Mismanagement in the Army* (New York: Hill and Wang, 1978); and First Lieutenant Ralph H. Peters, "Leaders and Managers: Rewards out of Balance," *Army*, August 1984, pp. 61-63.

24. Lieutenant General Walter F. Ulmer, Jr., USA, review of Robert L. Taylor and William E. Rosenbach, *Military Leadership: In Pursuit of Excellence* (Boulder, Colorado: Westview, 1984), in *Parameters*, Autumn 1984, p. 87.

25. See, for example, Harry B. Summers, "Preparedness Depends on War-Savvy Officers," *Wall Street Journal*, 3 August 1984.

coming . . .

in our July-
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- A Fighter Pilot's View of Ethics and War
- The Myth of Nuclear Terrorism
- Christian Morality and Nuclear Deterrence
- More on Writing and Policy Review

AIRLAND BATTLE: THE WRONG DOCTRINE FOR THE WRONG REASON

MAJOR JON S. POWELL

SOVIET/Warsaw Pact military forces are arrayed in significant numbers against the North Atlantic Treaty Organization (NATO) in central Europe. They have numerical superiority in tanks, artillery, aircraft, armored personnel carriers, and soldiers. In 1981, to overcome this superiority, General Donn A. Starry, Commander, U.S. Army Training and Doctrine Command, proposed the doctrine of the extended or deep battlefield.[1] This concept, now called AirLand Battle Doctrine, forms the central theme of U.S. Army Field Manual (FM) 100-5, *Operations*—the Army's "how to fight" publication.[2]

Despite wide acceptance, this doctrine has serious flaws. Although it assumes that Soviet/Warsaw Pact forces will use two-echelon combat deployments, strong evidence suggests that they will use only one major echelon. The doctrine also assumes that the U.S. Air Force can support the deep battle, but intelligence, target acquisition/destruction, and intratheater airlift capabilities fall short of the support required. Finally, AirLand Battle Doctrine does not counter current Soviet/Warsaw Pact doctrine, which stresses using operational maneuver groups and air assault brigades. After briefly reviewing basic AirLand Battle principles, I shall examine these flaws and make some recommendations.

Basic Principles of AirLand Battle Doctrine

Colonel Huba Wass de Czege, USA, Research Associate, U.S. Army War College, in the September 1983 *Art of War Quarterly* describes AirLand Battle Doctrine as exploiting the vulnerabilities of Soviet/Warsaw Pact armies—vulnerabilities resulting largely from their in-echelon combat deployment.[3] The

key to exploiting those vulnerabilities is the deep attack, and the Army, with Air Force support, must:

- See deep and begin early to disrupt, delay, and destroy follow-on/reinforcing echelons.
- Move fast against the assault echelons.
- Finish the opening fight against assault and follow-on echelons rapidly so as to go on the attack and finish the battle against the assault armies before follow-on armies can join the battle.[4]

see deep

The first step in AirLand Battle is to see deep. Colonel William G. Hanne, USA, Strategic Studies Institute, Carlisle Barracks, in the June 1983 *Military Review*, points out that "the linchpin ... to the entire operational concept, is accurate and timely intelligence on enemy forces, the terrain, and the weather."[5] FM 100-5 supports the importance of intelligence and states that corps-size units must seek information on enemy forces located up to ninety-six hours from the main battle area.[6] Collecting this perishable information requires intelligence from all sources, including tactical and strategic sensors.[7]

strike deep

Striking deep logically follows seeing deep. As General Starry states, "The real goal of the deep strike is to create opportunities for friendly action—attack, counterattack, or reconstitution of the defense—on favorable ground well forward in the battle area."[8] FM 100-5 indicates that these opportunities can be created by preventing the enemy from reinforcing committed units by delaying second-echelon forces. This delay creates time periods where friendly forces achieve battlefield superiority and the enemy may be defeated piecemeal.[9]

battlefield air interdiction

In his account of the deep battle, General Starry indicates that our forces have three main tools for the mission: interdiction using air strikes, artillery fires, and special operating force strikes; offensive electronic warfare, including jamming the enemy's command, control, and communication systems; and deception. However, he also states:

> . . . in practical current terms, interdiction—principally battlefield air interdiction—is the primary tool of deep attack. At present, [for example,] the range of jammers precludes effective use against follow-on echelons.[10]

Battlefield air interdiction consists of attacks against land force targets to produce a near-term effect on the scheme of maneuver of friendly forces but not carried out in close proximity to friendly forces.[11] It is the key to AirLand Battle Doctrine, according to virtually every writer on the subject.

Problems with AirLand Battle Doctrine

AirLand Battle Doctrine relies on several premises: Soviet/Warsaw Pact forces will deploy in a two-echelon configuration; the U.S. Air Force can execute critical support missions; and Soviet/Warsaw Pact doctrine will not negatively affect the deep battle. Problems with AirLand Battle Doctrine center on these premises.

Soviet/Warsaw Pact combat deployments

Army doctrine has long assumed that Soviet/Warsaw Pact forces will deploy in two distinct echelons. A U.S. Army Intelligence and Security Command publication, *Soviet Army Operations*, describes typical Soviet/Warsaw Pact fronts with a first echelon of three combined arms armies, a second echelon of one combined arms army and one tank army, and a front reserve with a single tank or motorized rifle division.[12] AirLand Battle success depends on finding and destroying (or delaying) the second echelon.

Although Soviet/Warsaw Pact combat configurations form the basis for AirLand Battle Doctrine, many contest the very existence of a

second echelon. Colonel Trevor N. Dupuy, USA (Ret), Executive Director, Historical Evaluation and Research Organization, in the January 1983 *Armed Forces Journal International*, indicates it is a faulty premise that Soviet/Warsaw Pact armies will keep dual echelons. This structure would commit only 20 percent of their regiments as forces in contact and keep 48 percent of mobile, high-value targets more than thirty kilometers behind the battle line—not a likely scenario, according to Colonel Dupuy.[13]

Colonel Hanne, in the June 1983 *Military Review*, also challenges the two-echelon premise. Historically (primarily in World War II), Soviet armies used two echelons only when facing strong, in-depth, enemy defensive forces. However, when the enemy had strong forward-deployed defenses with relatively small operational reserves, Soviet armies consistently used single echelons and employed mobile groups to break through enemy defenses and open the way for major attacking forces.[14] Today's NATO combat deployment is based on strong forward defenses. NATO's defensive forces do not deploy in depth because doing so would imply willingness to trade space for time—and trading space is politically unacceptable.

Lieutenant Colonel David M. Glantz, USA, Combat Studies Institute, U.S. Army Command and General Staff College, in the February 1983 *Military Review*, criticizes two-echelon dogma through his analysis of Soviet military writings. According to him, the Soviets originally supported two-echelon formations because nuclear battlefields seemed to require better dispersal of combat forces.[15] However, recent Soviet articles indicate that

> maximum force can best be projected if applied simultaneously across a broad front (single echelon at the theater, *front*, and army level). The results ... can generate rapid penetration to the depths of the defense and possibly result in a reduced capability or willingness of an enemy to respond with nuclear weapons.[16]

It seems likely, therefore, that Soviet/War-saw Pact armies will not use two-echelon combat deployments. If our forces seek and attempt to strike enemy second echelons (supposedly forming deep to the rear), they will attack phantoms while the real and most immediate threat confronts them face-to-face.

USAF intelligence collection capabilities

Battlefield air interdiction is the key to deep battle, and timely, accurate intelligence is the key to battlefield air interdiction. As Colonel Thomas A. Cardwell III, USAF, Deputy Commander for Operations, 323d Flying Training Wing, states in the March-April 1983 *Air University Review*, "Air assets are limited ... [and] must be directed at critical points and times from the highest tactical level."[17] Primary Air Force intelligence collectors include small numbers of tactical and strategic systems and high-technology systems still under development (and congressional scrutiny).

Except for ground-based signals intelligence units, the RF-4C is virtually the sole source of Air Force tactical intelligence data. The RF-4C is designed for all-weather, day or night reconnaissance. Because of air defense threats on modern battlefields, side-looking airborne radar (SLAR) and tactical electronic reconnaissance (TEREC) sensors were developed for standoff surveillance. However, only twenty-four TEREC-equipped RF-4Cs and eleven SLAR-equipped aircraft (with six more planned) have been produced.[18] The size of the European battlefield, the deep reconnaissance required by AirLand Battle, the thousands of mobile enemy targets, and even modest projected attrition rates make this small force's capability questionable.

U.S./NATO forces also depend on strategic intelligence assets. These include aircraft such as the TR-1 (U-2 derivative for standoff surveillance), the SR-71, and the EC-130E/H (C-130 airlifter derivative for electronic surveillance/jamming).[19] They also include electronic and imagery surveillance satellites.

Strategic reconnaissance aircraft have lim-

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itations similar to those of tactical aircraft. Although covering more territory (SR-71s can image 100,000 square miles in one hour), they are also few in number. For example, the TR-1, designed for the European combat environment, was budgeted for only nineteen aircraft through Fiscal Year 1984.[20]

Satellites cover even more territory, but their limited numbers are increasingly subject to enemy interference. Speaking before an Air Force Association symposium on "The Threat in Space," General James V. Hartinger, then Commander, Air Force Space Command, indicated that the Soviet Union possesses the world's only operational antisatellite system, an extensive ground-based electronic warfare system aimed at our satellites, plus a high-energy laser research program far ahead of similar U.S. programs.[21] These pose a considerable threat. Even without degrading effects of weather and discontinuous satellite orbits, U.S./NATO commanders may find themselves stripped of intelligence assets critical to Air-Land Battle.

Finally, many intelligence systems essential to AirLand Battle are still under development and are pawns in congressional budget struggles. General Robert T. Marsh, Commander, Air Force Systems Command, summarized the status of several of these systems for Air Force Association's September 1983 National Symposium on Tactical Air Warfare. He stated that the Low-Altitude Navigation and Targeting Infrared for Night (LANTIRN) system would be a vital addition "if Congress provides the needed funds."[22] The Joint Surveillance Target Attack Radar System (JSTARS) is still "under development."[23] He also predicted that the Navstar Global Positioning System (GPS) "will be in place by 1988."[24]

USAF target acquisition and destruction capabilities

Besides providing timely and accurate intelligence, the Air Force must acquire and destroy critical second-echelon targets. To do this,

the Air Force must fight through dense, multi-layered, mobile defenses and strike large numbers of bridges, combat support facilities, command posts, and armored vehicles of the second echelon.[25] AirLand Battle Doctrine stresses using high-technology weapons to achieve success, but, like high-technology intelligence systems, many of these assets are still under development.

Soviet/Warsaw Pact air defenses are highly developed and constantly improving. Addressing the September 1983 National Symposium on Tactical Air Warfare, Colonel Donald R. Arnaiz, Tactical Air Command's Deputy Chief of Staff for Intelligence noted:

> Between 1972 and 1980, . . . the Soviets brought out three completely new surface-to-air missiles [SAMs]. . . . Since 1980, two additional systems . . . have been brought into the inventory, and by the mid-1980s two more new SAM types are expected to achieve operational status.[26]

Soviet/Warsaw Pact industries produce 28,000 SAMs each year. Although exporting many of these missiles, they also deploy for themselves between three and six times as many as does NATO.[27] In fact, the *United States Military Posture for FY 1985* states that in 1984 the Soviet/Warsaw Pact will have one tactical SAM *system* for each NATO aircraft. These defenses are strengthened by large numbers of highly effective, mobile antiaircraft artillery (AAA), such as the ZSU 23-4.[28]

In addition to SAM and AAA threats, Air Force fighter bombers must cope with increasing numbers of highly capable enemy aircraft. These latter include the Soviets' latest MiG-31 Foxhound and MiG-29 Fulcrum, both with demonstrated look-down/shoot-down capabilities against low-flying fighter bombers and cruise missiles.[29] Soviet/Warsaw Pact defenses are not totally impenetrable. The *United States Military Posture for FY 1985* states that our tactical aircraft are qualitatively superior and will remain so. Mission-capable rates for most of our aircraft are at all-time highs. Our joint and combined exercises and flying pro-

grams provide realistic training and nearly twice the flying time per pilot received by Soviet/Warsaw Pact counterparts.[30] Clearly, the present danger is not in diminished force quality.

However, as penetration distances to targets increase, acquisition capability and weapons effectiveness severely decrease. This decrease in effectiveness is particularly pronounced because enemy rear area forces are not as constrained by terrain as those in direct combat, and they can disperse, hide, and limit communications, making them difficult to find and destroy. The long distances involved also afford better warning and defenses, since attackers must run the depth of the SAM/AAA fighter gauntlet.[31] In the September 1982 issue of *Armed Forces Journal International*, Contributing Editor Mark Stewart posed the following argument:

> It is difficult to envision a weapons concept that could not be employed more efficiently against ...forward echelons than against rear echelons— even if the weapons were specifically designed for attack at the longer ranges.[32]

In attempting the deep attacks required by AirLand Battle, Air Force capabilities may decrease to the point where Air Force ability to influence the outcome of battle becomes insignificant.

Finally, many of the weapons required to win the AirLand Battle are still under development. A West German study of long-range defense alternatives, cited in the September 1983 *Armed Forces Journal International*, states that destroying 60 percent of a *single* Soviet division will require 300 aircraft sorties using new high-technology weapons—weapons still under development. If current weapons are used, destroying 60 percent of that same Soviet division will require 2200 sorties.[33]

USAF intratheater airlift capabilities

AirLand Battle Doctrine also depends on Air Force intratheater airlift to support ground units striking deep. As units slice into enemy territory, supply lines become critical. If these lines are cut, deep-strike forces must depend on requisitioned local supplies, captured enemy materials, or airdropped assets.[34] In the February 1984 *Military Review*, Lieutenant Colonel Bloomer D. Sullivan, USA, Commander, 4th Supply and Transport Battalion, 4th Infantry Division, analyzed logistics for AirLand Battle and concluded:

> The Air Force's capability and commitment to support the deep strike force by airdrop or air delivery in a highly lethal air environment is the key to resupply when ground lines of communication are discontinuous.[35]

Unfortunately, Air Force capabilities fall far short of requirements. In a July 1982 interview with *Armed Forces Journal International*, General James R. Allen, former Commander in Chief, Military Airlift Command, stated that Air Force capability for intratheater airlift of outsize cargo (such as tanks) is virtually nonexistent.[36] The C-17, which the Air Force wants for this mission, has yet to receive significant congressional funding, and, at present, intratheater airlift depends on C-130 and C-141 aircraft. According to General Allen, there is an airlift shortfall of twenty-five million ton-miles per day, and 60 percent of that shortfall is a C-130/C-141 requirement.[37] Because of battlefield unpredictability and competing requirements, units striking deep into enemy territory may find the Air Force unable to meet intratheater airlift requirements.

current Soviet tactical doctrine

The final major problem confronting AirLand Battle is our potential enemy's current doctrine. To a large extent, AirLand Battle is based on presumed Soviet/Warsaw Pact force structure. However, current Soviet emphasis on operational maneuver groups (OMGs) and air assault brigades indicates that a much greater threat exists than any supposed second echelon.

Soviet/Warsaw Pact OMGs are tank-heavy forces. A typical OMG tank division may contain as many as 415 tanks compared to the 325 tanks in a normal Soviet tank division. With this heavy striking power, OMGs are designed to penetrate NATO's defenses quickly, with fighters, armed helicopters, and artillery providing additional fire support.[38] These thrusts are to disrupt the enemy rear area, including attacks on C³I and logistics assets, reserves, lines of communications, and key terrain.

An OMG can also counterattack any deeply striking ground forces it might meet. According to Soviet writings, the most critical battlefield event is the time and place that an OMG is committed—not the time and place that the second echelon arrives.[39]

Soviet air assault brigades will supplement OMGs in any attack against NATO. Previously, Soviet heliborne forces lacked mobility and firepower. Air assault brigades overcome these shortcomings with integral parachute and armored personnel carrier-equipped assault battalions. Like OMGs, air assault brigades depend heavily on fighters and armed helicopters for additional fire support.[40]

Air assault brigades seize key terrain, such as river crossings, and create opportunities for advancing forces.[41] In these missions, they will be supporting OMGs and are perhaps best envisioned as vertical versions of OMGs. The times and places where air assault brigades are committed will also be critical battlefield events.

Jeffrey Record, an outspoken critic of many DOD policies, posed an interesting question in the November 1983 *Armed Forces Journal International:*

> If the Warsaw Pact's first echelon alone is capable of winning a decisive victory, or at least crashing deep enough into NATO Center to shatter the Alliance's political cohesion, of what value would be even the most disruptive strikes on second- and third-echelon Pact forces in Poland and western Russia?[42]

AIRLAND Battle Doctrine was developed to offset Soviet/Warsaw Pact numerical advantages in tanks, artillery, aircraft, armored personnel carriers, and soldiers. Basic AirLand Battle requirements are to see deep and strike deep. However, this doctrine makes two faulty assumptions: first, that Soviet/Warsaw Pact forces will deploy in two-echelon configurations and, second, that the U.S. Air Forces can support the extended battle. Furthermore, it ignores significant threats posed by current Soviet doctrine.

Although U.S. Army AirLand Battle Doctrine is based on a Soviet/Warsaw Pact two-echelon structure, strong evidence from history and Soviet military writings indicates that if the Soviets attack Western Europe, they will use single major echelons. U.S./NATO forces attempting substantive strikes against hypothetical second echelons will be striking mirages and wasting valuable resources.

AirLand Battle Doctrine dictates that the U.S. Air Force supply intelligence, acquire and destroy targets, and provide intratheater airlift. However, current tactical and strategic intelligence systems are too few, and often too vulnerable, to meet deep-battle requirements. Moreover, many intelligence systems critical to AirLand Battle are not yet operational. Besides intelligence limitations, the Air Force faces considerable air defenses en route to deep targets. Although these defenses are not impenetrable, as distance to target increases, our acquisition and destruction capability significantly decreases. Like our intelligence systems, many weapons critical to Air-Land Battle exist only in the most limited quantities—or not at all. In addition, deep-strike ground forces depend on intratheater airlift, should supply lines be cut. Unfortunately, airlift is one of our most serious shortfalls, and the Air Force, because of higher priorities, may be unable to help.

Finally, AirLand Battle ignores the most serious threats to NATO's forward-deployed

defenses—operational maneuver groups and air assault brigades. NATO's greatest danger will not be mythical second echelons far from the main battle. Instead, it will be these quick-striking units driving through our forward defenses and leading major enemy forces.

Doctrine should provide a general blueprint for action that addresses the threat and ensures victory. Doctrine must make the best use of existing resources and capabilities, while guarding against future enemy developments. The concept of deep battle fulfills none of these requirements and therefore should be discarded. Specific deep interdiction missions, particularly against fixed command posts, airfields, etc., are still valid; and we must continue developing weapons to strike these targets. However, a doctrine requiring a lemming-like rush to find and destroy nonexistent second echelons while So-

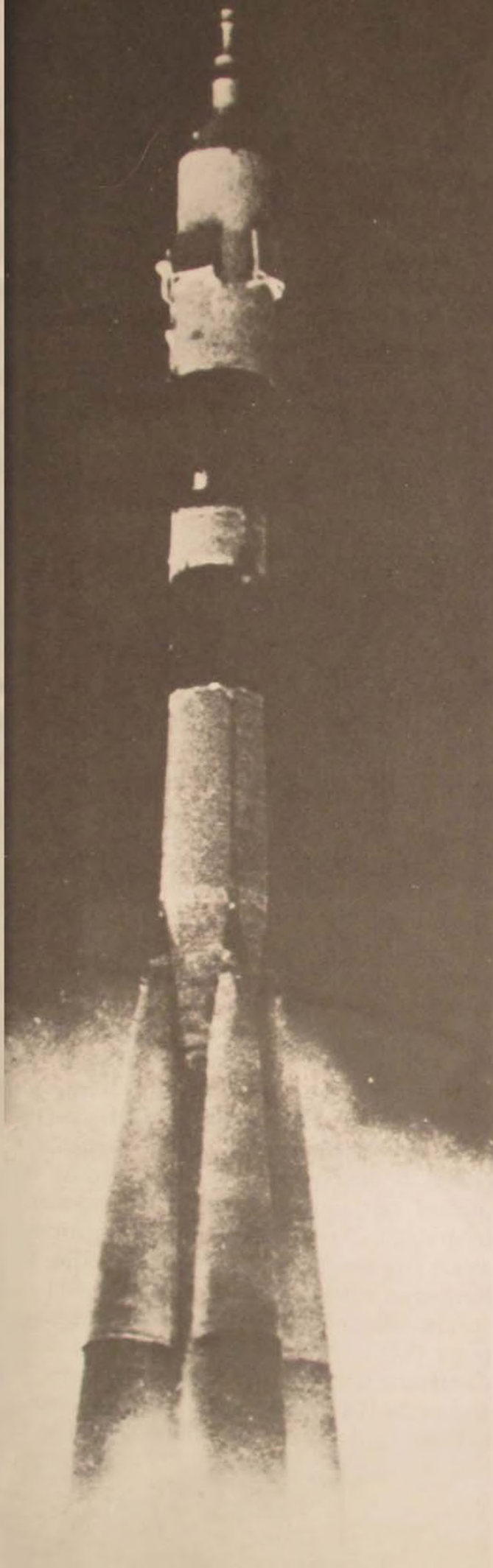viet/Warsaw Pact front ranks tear through NATO territory is not valid.

The most logical doctrine is to use current intelligence capabilities to locate the most serious threats—operational maneuver groups and air assault brigades. It must use current weapon systems to acquire and destroy those forces before the enemy can commit them. And it must stress maximum coordination and centralized control of all Army and Air Force capabilities throughout the battlefield, so that we can apply force at critical times and places to defeat the enemy. Adopting such changes would not imply lessening the spirits of offensive and initiative. Rather, it would ensure that offensive and initiative were tempered by realistic discipline and accurate knowledge of both our capabilities and limitations and those of our enemy.

Defense Mapping Agency, Office Europe

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IS A SOVIET "BOLT FROM THE BLUE" IMPOSSIBLE?

DR. STEPHEN J. CIMBALA

A MERICAN strategic retaliatory forces have been developed with increasing sensitivity to their survivability against a Soviet first strike. During the Carter and Reagan administrations, this concern for the protection of retaliatory forces also included the survivability and endurance of the command, control, and communications (C^3) to ensure the performance of C^3 after war began.

Future planners will have to address the question of marginal utility in providing additional survivability to forces, commanders, and the communications that link the two. The possibility that increased ability to detect Soviet preparations for attack (strategic warning) is relatively more important than additional increments of force and command survivability should be considered in future planning. Soviet surprise may be more demanding on political and military leaders than the inadequacies of forces or communications.

Invulnerability

The invulnerability of U.S. forces to surprise attack means in practice that the United States can retaliate after absorbing that attack and inflict unacceptable losses on Soviet forces, military and political leaders, and society. Whether U.S. forces have ever really approached this declaratory standard is debatable.

The vulnerability of the U.S. land-based intercontinental ballistic missile (ICBM) force to Soviet first strike has been asserted by commentators since the middle of the 1970s.[1] Even analysts who disputed the imminent vulnera-

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bility of U.S. ICBM foresaw eventual vulnerability if the Soviet Union improved its ICBM accuracies as expected.[2] Whether the Soviets would attack U.S. ICBMs surgically or as part of a larger counterforce attack was scenario dependent.[3]

Survivability of fleet ballistic missile submarines (SSBNs) was taken for granted by many commentators until the question of the survivability of communications between submarines and higher-level commanders was studied extensively. Desmond Ball reported in 1981 that communications to the SSBN force might not survive the early stages of nuclear attack.[4] The Reagan strategic modernization program would reduce the force of U.S. SSBNs from its present size of thirty-four to about twenty by the 1990s.[5] Breakthroughs in Soviet antisubmarine warfare (ASW) could take advantage of a smaller number of platforms.

Bomber survivability depends on timely receipt of warning and bomber ability to get airborne before airfields are struck by Soviet submarine-launched ballistic missiles (SLBMs). Those missiles might reach inland bomber bases in the United States within fifteen minutes if they were launched from favorable locations off the Atlantic coast.[6] Attacks on bomber bases could be timed to precede attacks on U.S. ICBMs from Soviet ICBMs on polar trajectories. Although such a strategy might allow more U.S. ICBMs to escape, it would more severely cripple the bomber force, which carries the largest share of hard-target warheads.[7]

If the various components of the U.S. strategic Triad are not necessarily survivable individually, they might be survivable collectively. Vulnerabilities in one leg of the Triad might be offset by characteristics of another. This cumulative invulnerability would depend on the survivability of command, control, and communications after attack began.

Such survivability cannot be guaranteed, according to expert analysts. John Steinbruner has suggested that the U.S. strategic C³ may be disconnected by electromagnetic pulse (EMP) and other residual effects of nuclear explosions.[8] Desmond Ball argues that commanders and their communications cannot be relied on to survive much beyond the immediate transattack period, after the first salvos of U.S. and Soviet strategic forces.[9] Paul Bracken notes the irony that Soviet countercommand attacks might succeed, although not necessarily to their ultimate advantage. Success in disconnecting top U.S. political and military leaders from their force commanders might allow authority to cascade downward in the hierarchy, precluding war termination on favorable terms.[10] A symposium at the Mitre Corporation cosponsored by the Electronic Systems Division of the Air Force reported testimony by numerous experts that the C³ architecture was insufficiently robust to conduct protracted nuclear war as required in Carter and Reagan declaratory policies.[11]

The Reagan strategic modernization program will not alleviate all of even most of these vulnerabilities. Deployment of MX ICBMs in Minuteman silos does nothing to diminish vulnerability of the U.S. land-based missile force.[12] Improved communications between the National Command Authority (NCA) and the strategic submarines has been impeded by legal obstacles to deployment of the proposed extremely low-frequency (ELF) communications system in Wisconsin and northern Michigan.[13] Deployment of the B-1 bomber to replace the B-52 as a penetrator of Soviet air defenses in the latter 1980s will not increase the warning time available to NCA or Strategic Air Command if the Soviets deploy their SSBN closer to their presumed targets or use depressed trajectories.[14] Proposed improvements in strategic C³ will provide more sophisticated attack assessment and real-time targeting information from satellites by the 1990s, but the survivability of the fixed national command posts (SAC, NORAD, the National Military Command Center in Washington, and the Alternate NMCC in Raven Rock, Pennsylvania) remains doubtful.[15] At best, the President or his

successors could conduct the postattack war from airborne command posts for a few days if communications between the command posts and the strategic forces were still operating.[16]

Strategic Warning and Soviet Surprise

The previous citations are not worst-case estimates. Almost all of these strategic analysts assume that the United States would be attacked after a significant period of strategic warning (i.e., after a crisis had developed). This period of tension would result in alerted U.S. strategic forces and attentive decision makers.

Should the Soviets for whatever reason feel desperate enough to attack the United States with strategic nuclear weapons, attacking American forces on "generated alert" would not be their best move. Studies show that U.S. forces on generated alert would inflict far more retaliatory destruction on remaining Soviet forces and society after a Soviet first strike than would U.S. forces on peacetime day-to-day alert.[17] A particular Soviet disadvantage in attacking U.S. forces already alerted lies in the

Soviet Delta-class submarines carry a dozen SS-N-8 missiles with a range of 4830 miles. While they can hit targets in the United States from virtually Soviet home waters, the real danger to our forces is from missiles fired on a depressed trajectory from submarines operating near our coasts.

enhanced survivability of U.S. prompt counterforce, which poses a particular threat to Soviet forces withheld from the first strike. Alerted forces might resort to "launch under attack" or launch on warning—a possibility that could not be precluded by conservative Soviet planners.[18]

Despite the comparative advantage for the Soviet Union in attacking unalerted U.S. forces, U.S. strategists tend to dismiss the "bolt from the blue" attack as a lesser possibility than attack following a prolonged crisis in which U.S. leaders and forces have plenty of advance warning about possible Soviet intentions.[19] The assumption that Soviet attack would not come as a bolt from the blue seems robust for situations involving escalation from conventional to nuclear war. In those situations, it would come as no surprise to U.S. politicians and military leaders to learn that Soviet preparations for possible theater and strategic nuclear attacks were in progress.[20]

In just those situations, however, expectations of possible Soviet attack could make the command system more difficult to manage. Sensitive balancing of positive and negative control would be necessary. Positive control ensures that forces perform their assigned missions in a timely fashion. Negative control prevents unauthorized or accidental launch of forces.[21] During a protracted crisis, negative control would become more difficult as posi-
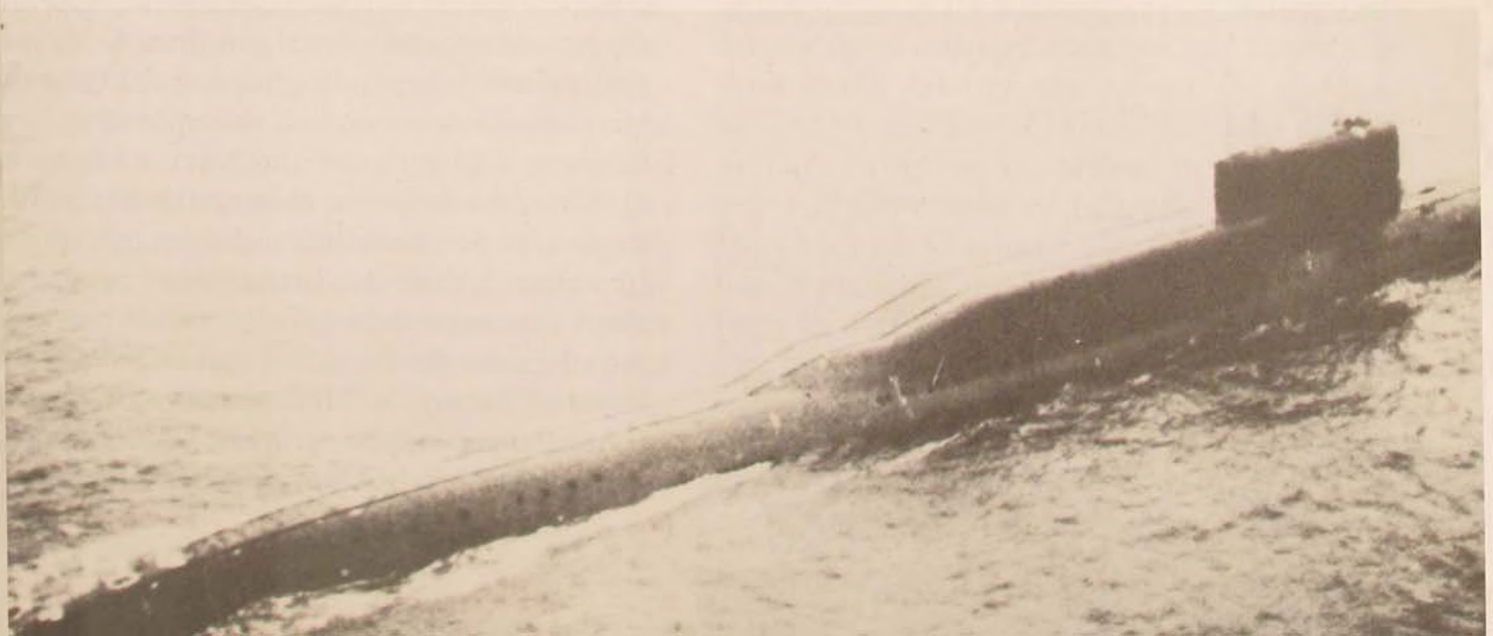
The E-4B airborne command post aircraft are hardened to withstand electromagnetic pulse and other effects of nuclear explosions. During a nuclear war, the President or his successors could direct our efforts from such aircraft if communications with the strategic forces remained operable. . . . Bombers, such as the B-52 shown below, carry the largest share of our hard-target warheads. Missiles launched from Soviet submarines could hit SAC bases within a very few minutes, putting B-52s and FB-111s at risk. More accurate ICBMs, following a polar trajectory, would hit our missile fields and key command and control facilities in approximately 30 minutes, giving us time to begin a retaliatory strike.

tive control became the first organizational imperative.[22] The pressure to make certain that forces could not be disarmed would make it more difficult to maintain the layers of checks and balances against ill-considered use.

Throughout U.S. history but particularly during the post-World War II era, U.S. Presidents have had to exert strong personal control over crises to prevent standard operating procedures and organizational routines from propelling events beyond policy control. The Cuban missile crisis is one example. President Kennedy had to order the Navy to move its original blockade line closer to Cuba in order to provide decision time to Soviet leaders. Instructions about the interception of surface ships that approached the blockade line were important to the President and to Secretary of Defense Robert S. McNamara, who argued about the procedures with the Chief of Naval Operations.[23] Political leaders failed to exercise

equally strict control over the U.S. Navy anti-submarine warfare exercises, known as hunter-killer routines. Six Soviet submarines were forced to surface during the crisis before the President ordered the ASW efforts restricted.[24]

The mathematical probability that more U.S. forces would survive and destroy more Soviet forces if U.S. forces were alerted provides small consolation if decision makers cannot manage the alerts in a controlled fashion. The Soviets could exploit that inability to control the "alert bureaucracy" by first raising and then dampening the temperature of a crisis. These ups and downs of threats followed by appeals for peace have their precedents in Soviet crisis behavior: Khrushchev accompanied threats during the Cuban missile crisis with blandishments about his peaceful intentions; his two written communications to President Kennedy differed completely in tone and substance.[25] During the Yom Kippur War of 1973, Soviet leader Leonid Brezhnev first offered to join U.S. forces in a joint expedition to restore peace; then he threatened unilateral intervention when the United States expressed no interest. Although in this case the joint expedition was clearly an insincere proposal designed to buy time for beleaguered Egyptian forces, in a different crisis American leaders might want to believe in the sincerity of a proposal that offered a way out.[26]

The Soviets could also exploit the cry-wolf syndrome with repeated conventional exercises in Europe to which NATO became so accustomed that no single exercise would seem particularly threatening. Expectation of large Soviet maneuvers could become the norm rather than the exception, even during a protracted crisis extending over weeks or months.[27] To some extent, a successful cry-wolf attack is what the Egyptians accomplished against the Israelis in 1973. Israel had reacted to earlier mobilizations by the Egyptians, which had not resulted in the actual outbreak of war. As a result, Israeli and U.S. leaders interpreted the events of September and October 1973 as more political posturing rather than military preparations for an actual attack.[28]

The fear that alerts and crises cannot be managed has prompted American efforts to centralize command and control in order to attain more complete vertical integration.[29] The concern about mismanaged alerts has almost always been stated as concern over failures of negative control, i.e., accidental launch. But crises can be mismanaged in another way. The United States might need to respond to crises with heightened alerts maintained for long periods or, if deterrence fails, with retaliatory strikes. Whether we could do either successfully would depend not on a game against nature but on a game against an opponent. The strategic doctrines and preferred warfighting strategies of that opponent are thus relevant to our expectations about crisis management and war.

Soviet "Doctrine" and Warfighting Style: Implications for Strategic Surprise

The question of Soviet military "doctrine" is complicated by the plurality of references implied by the term *doctrine* in the hands of many Western writers. The Soviets are more specific. Military doctrine is the policy of the Soviet state with regard to the kinds of wars they can expect to fight and the overall objectives in fighting them. It is political guidance to the armed forces at the highest level.[30] Military art derives from military doctrine and applies at three levels: strategy, operational art, and tactics.[31] Also unlike the West, the Soviet definition of *strategic* is not defined by the kinds of technologies employed in warfare but in the objectives for which the war is fought.[32] Having committed themselves to battle, Soviet party leaders expect their generals to direct the combat to victory, at whatever level the combat is joined.[33] Victory is nothing less than the attainment of state policy objectives; at a minimum, it includes the destruction of the oppo-

nent's military forces, command and control, and society to the extent necessary.[34]

How these doctrinal precepts would play out in a strategic nuclear confrontation is partially, but not totally, scenario dependent. However war developed, the Soviets would have every incentive to attack the West on several fronts simultaneously. A war in which U.S. and Soviet forces fought one another directly would have a high probability of spreading from one theater of operations to another; the Soviets set little store by intrawar deterrence, escalation control, and other refinements of Western deterrence logic.[35] The Soviets do not casually enter wars against major adversaries, but once in them they can be expected to try to win them. Analysts of various persuasions seem to agree that the Soviet war-termination story involves defeat for the opponent even if the Soviet Union absorbs significant but not decisive losses along the way.[36]

Therefore, it is not likely that the Soviet Union expects to win a nuclear war against the United States without absorbing significant damage. Whether the sum totals of postattack megatonnage favor the Soviets or the West will matter less to them than the comparative survivability of the Eastern and Western political systems and their rulers. An unsuccessful nuclear war threatens Soviet postwar political control if their society absorbs too much devastation and if their forces are too denuded of power even to maintain internal security.[37] Even a best-case scenario for the Soviet Union's postattack predicament allows for unprecedented death and destruction, as well as a possible return of the political anarchy that characterized Russia during the First World War.[38] Although the Soviet Union's control structure seems robust by peacetime standards, Russian history is not reassuring to those in power who must contemplate unprecedented postwar devastation if they absorb U.S. retaliation.[39]

What these doctrinal predilections and societal vulnerabilities imply is that the Soviets would emphasize surprise and the initiative in conventional or nuclear war against the West. Preemption is not foreclosed in Soviet doctrine for nuclear warfighting, although some authors have been more willing than others to see preemption as central to Soviet planning.[40] The Soviet notion of preemption may differ from our own, however. American concepts of preemption emphasize almost certain detection of enemy intention to attack; Soviet preemption might be risked if the Politburo considered a U.S. first strike plausible although not certain.[41]

Looked at from the Soviet end of the barrel, failure to preempt would be politically un-Marxist and militarily self-defeating. Assuming they feared that attack from the West was imminent, Soviet politicians would be obligated to request from their generals a strategic plan for victory, which would have to include getting in the first decisive blow.[42] From the standpoint of a scientific man from Mars, such a decision might be foolish in the extreme. Repeated scientific estimates concur on the possibility of mutually suicidal side effects from U.S.-Soviet nuclear conflict in which most of their weapons are exchanged.[43] But a scientific man from Mars will not be advising the Politburo during a crisis. And the Politburo is committed to the Marxist, not the Pugwash, version of historicism, in which no technology can be permitted to reverse the course of history. If such a technology in the hands of hostile capitalists might threaten such a reversal, it must be removed as expeditiously as possible.

Once convinced that war with the West was inevitable, the Soviets might exploit substantial Western fears of war through combinations of carrots (peace programs and arms control proposals) and sticks (reminders of what can go wrong if Soviet objectives are not accommodated). A certain minimum of Western psychological disarmament, in the form of disbelief that anybody could *deliberately* initiate nuclear war, would be imperative to produce the necessary mindset in the national capitals of

their opponents. That necessary mindset need not be appeasement; a high state of ambiguity and uncertainty about real Soviet intentions would do, for the United States and its allies might well be unable to react to anything less than a totally unambiguous warning that an attack has begun. An unambiguous warning is the last thing that their Soviet adversaries will want to give them, at least until it is too late. There exists in the West substantial misunderstanding about this issue. The Soviets will assume that, once U.S. satellites and computers have confirmed their attack, our strategic retaliatory forces will be launched. Launch on tactical warning is neither precluded nor required by current U.S. policy.[44] If the Soviets have done their political work well prior to the launching of their forces, however, they will catch U.S. forces not ready and minimally alerted due to preconceptions of disbelief by American politicians. Catching U.S. strategic forces on day-to-day rather than generated alert does not guarantee victory, but it does measurably improve Soviet postattack force survivability and societal recovery potential.[45] The greatest asymmetry between U.S. and Soviet strategic capabilities lies in the probability that American policymakers may not really believe an attack could ever happen. Therefore, they might simply go on searching for computer malfunctions, such as those of the past, while Soviet warheads rained on U.S. ICBM fields.[46]

Nuclear Winter

In recent studies, Carl Sagan and other scientists have suggested that the side effects of U.S.-Soviet strategic nuclear war may be catastrophic for the ecology of the planet.[47] Although this outcome has been asserted by other writers, the TTAPS study attempted to quantify the specific consequences of soot, smoke, and other particles that could affect planetary climate in enduring ways.[48] Other studies have verified that the societal destruction of nuclear war between the superpowers would reach un-

precedented levels and that social reconstitution and recovery would be difficult if not impossible for both nations.[49] Of particular concern to military planners would be the possibility that a first strike alone, of sufficient magnitude to defeat the opponent, might by itself trigger the nuclear winter. This possibility would seem to imply that a strategic nuclear surprise is self-defeating.

Although the prospect of climatic catastrophe may raise the nuclear threshold, it is not certain to do so, for several reasons. First, the effort to establish a threshold *above* which Armageddon is certain to occur may imply that wars fought *below* that threshold are acceptable. Second, while political doves may conclude from nuclear winter data that disarmament is mandatory, hawks may decide that missile defense is imperative. It would be ironical if the policy consensus shifts toward the more imminent deployment of missile defenses because advocates of "Star Wars" believe the nuclear winter data but draw different policy cues from it. Third, the prospect of nuclear winter may have more meaning for declaratory policy than for employment policy, or actual war plans.[50] What difference expectations about climatic catastrophe can make in the day-to-day activities of the Joint Strategic Target Planning Staff, or in the operational guidance provided by nuclear weapons employment policy, is not clear. Declaratory policy might be affected, however. Expectations about U.S. ability to conduct "protracted" nuclear war and to maintain "escalation control" during war itself should not be hyperventilated. Fourth, it is not clear that findings about nuclear winter will have any effect on Soviet military planning and political expectations. Soviet military doctrine has consistently taken the position that the Soviet Union will get into major wars only as the result of policy, notwithstanding the uncertainties of scientists.[51]

Therefore, it is important for the United States to do two things, about which nuclear winter expectations may not be influential:

first, to take care to prevent the Soviets from concluding erroneously that they are about to be attacked preemptively; and, second, to provide for survivable forces, commanders, and connectivity to make any Soviet surprise attack obviously unappealing.

THE VULNERABILITY of U.S. strategic forces and C³ is related to the character of our expectations about war. The susceptibility of expectations to manipulation by an opponent is a potential danger. In this more subtle sense, the bolt from the blue cannot be discounted. Although some U.S. strategic forces are always in readiness for prompt retaliatory missions, the readiness of our decision structure cannot be presumed. The possible disbelief in the very idea of a Soviet strategic attack, especially when a crisis seemed to be fading, could demobilize the U.S. counterattack to relatively more preferable outcomes for the Soviets.

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Notes

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2. Matthew Bunn and Kosta Tsipis, "The Uncertainties of Preemptive Nuclear Attack," *Scientific American*, November 1983, pp. 38-47.
3. Congress of the United States, Congressional Budget Office, *Counterforce Issues for the U.S. Strategic Forces* (Washington: Government Printing Office, 1978).
4. Desmond Ball, *Can Nuclear War Be Controlled?* Adelphi Papers, No. 169 (London: International Institute for Strategic Studies, Autumn 1981).
5. Congressional Budget Office, *Modernizing U.S. Strategic Offensive Forces: The Administration's Program and Alternatives* (Washington: Government Printing Office, May 1983), p. 57. Also, see D. Douglas Dalgleish and Larry Schweikart, *Trident* (Carbondale: Southern Illinois University Press, 1984).
6. President's Commission on Strategic Forces, *Report* (Washington, April 1983).
7. Ibid., pp. 7-8.
8. John Steinbruner, "Nuclear Decapitation," *Foreign Policy*, Winter 1981-82, pp. 16-28.
9. Ball, op. cit.
10. Paul Bracken, *The Command and Control of Nuclear Forces* (New Haven: Yale University Press, 1983).
11. Electronic Systems Division/Mitre Corporation, *Strategic Nuclear Policies, Weapons and the C³ Connection* (National Security Issues Symposium, 13-14 October 1981).
12. Congressional Budget Office, *Modernizing U.S. Strategic Offensive Forces*.
13. "Ex-Admiral Claims ELF Isn't Needed," *Milwaukee Journal*, 22 February 1984, p. 14.
14. The problem of assessing bomber survivability against SLBM attacks is extremely complicated. See Appendix E. "Bomber Launch Survivability," in *Modernizing U.S. Strategic Offensive Forces*, pp. 99-110.
15. Peter Pringle and William Arkin, *SIOP: The Secret U.S. Plan for Nuclear War* (New York: W. W. Norton, 1983).
16. ESD/Mitre, *Strategic Nuclear Policies, Weapons and the C³ Connection*. See especially the comments by Brent Scowcroft.
17. Congressional Budget Office, *Modernizing U.S. Strategic Offensive Forces*; Organization of the Joint Chiefs of Staff, *United States Military Posture for FY 1983* (Washington: Government Printing Office, 1982), pp. 24-25.
18. For the feasibility of early launch in the context of a Soviet attack on U.S. ICBM fields, see John Steinbruner, "Launch under Attack," *Scientific American*, January 1984, pp. 37-47.
19. Albert Carnesale et al., *Living with Nuclear Weapons* (New York: Bantam Books, 1983); Congressional Budget Office, *Modernizing U.S. Strategic Offensive Forces*; President's Commission on Strategic Forces, *Report*.
20. Richard K. Betts notes that U.S. strategic forces have been planned for operations under conditions of surprise but argues that a "bolt from the blue" not preceded by crisis is implausible as long as the United States has survivable forces. See Richard K. Betts, *Surprise Attack* (Washington: Brookings Institution, 1982), pp. 229-38. How much confidence Betts has in this assessment is debatable, since he also recommends that, during a crisis, U.S. declaratory policies create "calculated ambiguity" in the minds of Kremlin leaders about whether we might launch on warning or predelegate nuclear retaliatory authority in case the National Command Authority is destroyed, p. 238.
21. For a discussion of negative control, see Steinbruner, "Launch under Attack."
22. Bracken suggests that, under crisis conditions, information from warning and intelligence systems may overwhelm political authorities and their staffs. Some parts of the system will execute irrelevant standard operating procedures; others may "hang" in the air, awaiting orders that never come, pp. 58-59.
23. Elie Abel, *The Missile Crisis* (New York: Bantam Books, 1966), pp. 136-37.
24. Graham T. Allison, *Essence of Decision* (Boston: Little, Brown, 1971), p. 138.
25. Abel, pp. 158-68.
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28. Ibid., pp. 72-73.
29. Bracken, op. cit.
30. See Colonel M. P. Skirdo, *The People, the Army, the Commander* (Moscow, 1970), published under the auspices of the U.S. Air Force, pp. 98-99.
31. John J. Dziak, *Soviet Perceptions of Military Power: The Interaction of Theory and Practice* (New York: Crane, Russak, 1981), pp. 21-38.
32. P. H. Vigor, *Soviet Blitzkrieg Theory* (New York: St. Martin's, 1983).
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Technology and 'Style'," in *Soviet Military Power and Performance*, edited by John Erickson and E. J. Feuchtwanger (Hamden, Connecticut: Archon, 1979), pp. 18-44.

34. Benjamin S. Lambeth, "How to Think about Soviet Military Doctrine," in *The Defense Policies of Nations*, edited by Douglas J. Murray and Paul R. Viotti (Baltimore: Johns Hopkins University Press, 1982), pp. 146-53.

35. Benjamin S. Lambeth, "On Thresholds in Soviet Military Thought," in *Strategic Responses to Conflict in the 1980s*, edited by William J. Taylor, Jr., Steven A. Maaranen and Gerrit W. Gong (Washington: Center for Strategic and International Studies, Georgetown University, 1983), pp. 347-65. See also Major General V. Zemskov, "Some Problems in the Conduct of War," *Selected Soviet Military Writings, 1970-75* (Washington: Government Printing Office, 1976), pp. 124-34 (Published under the auspices of the U.S. Air Force).

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37. Gary L. Guertner, "Strategic Vulnerability of a Multinational State: Deterring the Soviet Union," *Political Science Quarterly*, Summer 1981, pp. 209-23; John M. Weinstein, "All Features Grate and Stall: Soviet Strategic Vulnerabilities and the Future of Deterrence," *Strategic Issues Research Memorandum* (Carlisle, Pennsylvania: Strategic Studies Institute, U.S. Army War College, July 1983).

38. Norman Stone, "The Historical Background of the Red Army," in *Soviet Military Power and Performance*, edited by John Erickson and E. J. Feuchtwanger, pp. 3-17.

39. Harriet Fast Scott and William F. Scott, *The Soviet Control Structure: Capabilities for Wartime Survival* (New York: Crane, Russak/National Strategy Information Center, 1983).

40. For differing views, see Robert P. Berman and John C. Baker, *Soviet Strategic Forces: Responses and Requirements* (Washington: Brookings Institution, 1982); and Fritz W. Ermarth, "Contrasts in American and Soviet Strategic Thought," in *Soviet Military Thinking*, edited by Derek Leebaert (London: Allen and Unwin, 1981), pp. 50-69, esp. p. 66.

41. Raymond L. Garthoff contends that the Soviet concept of preemption in the 1950s shifted by the late 1960s to a launch on warning or launch under attack doctrine, which helps to explain lack of Soviet interest (compared to ours) in ballistic missile defense for silo defense. See Garthoff, "BMD and East-West Relations," in *Ballistic Missile Defense*, edited by Ashton B. Carter and David N. Schwartz (Washington: Brookings Institution, 1984), pp. 275-329, esp. pp. 309-10.

42. That this applies to nuclear war as well as other kinds of wars in which the Soviet Union might be engaged is clear in *Marxism-Leninism on War and Army* (Moscow: Progress, 1972).

43. See, for example, Congress of the United States, Office of Technology Assessment, *The Effects of Nuclear War* (Washington: Government Printing Office, 1979); and *An Analysis of Civil Defense in Nuclear War* (Washington: Arms Control and Disarmament Agency, December 1978).

44. Louis Rene Beres, *Mimicking Sisyphus: America's Countervailing Nuclear Strategy* (Lexington, Massachusetts, D. C. Heath and Company, 1983), p. 20. Even temporary failure of the alert apparatus, according to Beres, would mean that no decision to launch U.S. forces might be possible in the few minutes available.

45. Congress of the United States, Congressional Budget Office, *Retaliatory Issues for the U.S. Strategic Nuclear Forces* (Washington: Government Printing Office, June 1978).

46. Improved postattack communications redundancy may be provided by the ground wave emergency network (GWEN), which will be designed to survive the initial stages of nuclear conflict. Eventual full operational capability would include 300 nodes distributed throughout the United States. See Walter Pincus, "President's Command Jet Shifted Inland," *Washington Post*, 23 September 1983, p. 3. The postattack reliability of extant systems, including the MEECN (minimum essential emergency communication network) and the PACCS (postattack command and control system) is assessed in Ball, *Can Nuclear War Be Controlled?* A more optimistic evaluation of U.S. attack assessment capabilities than mine appears in Pringle and Arkin, *SIOP: The Secret U.S. Plan for Nuclear War*, pp. 89-99; the authors contend that an accurate attack assessment would be available within six minutes from Soviet launch.

47. Carl Sagan, "Nuclear War and Climatic Catastrophe: Some Policy Implications," *Foreign Affairs*, Winter 1983/84, pp. 257-92.

48. Richard P. Turco, Owen B. Toon, Thomas P. Ackerman, James B. Pollack, and Carl Sagan (TTAPS), "The Climatic Effects of Nuclear War," *Scientific American*, August 1984, pp. 33-43.

49. U.S. Arms Control and Disarmament Agency, *An Analysis of Civil Defense in Nuclear War* (Washington, December 1978); Congress of the United States, Office of Technology Assessment, *The Effects of Nuclear War* (Washington: Government Printing Office, 1979); Arthur M. Katz, *Life after Nuclear War: The Economic and Social Impacts of Nuclear Attacks on the United States* (Cambridge, Massachusetts: Ballinger, 1982).

50. Donald M. Snow, "Levels of Strategy and American Strategic Nuclear Policy," *Air University Review*, November-December 1983, pp. 63-73. Employment policy is also called action policy.

51. For example, see Colonel B. Byely et al., *Marxism-Leninism on War and Army* (Moscow, 1972), Soviet Military Thought Series, published under the auspices of the U.S. Air Force.

CORPORATE PLANNING: PULLING IT TOGETHER FOR RESULTS

DANIEL W. MCGINTY

COMMUNICATION, integration, change, organization, implementation, participation, commitment, accountability, goals, strategy, objectives, control, feedback, resources, results, and coordination—is there a manager in either the private or public sector who has not heard these terms and reflected on what they mean in regard to his or her organization? Are they just abstract concepts that are discussed in the literature and taught in schools of management? Or are they important factors in moving an organization from where it is to where it should be in the future?

In today's workplace, the answers to these questions are quite clear.

• Most managers, either through formal education or experience and informal on-the-job training have been exposed to the terms. As to the depth of this knowledge and the managers' perceptions of the concepts, it is, not surprisingly, equivocal.
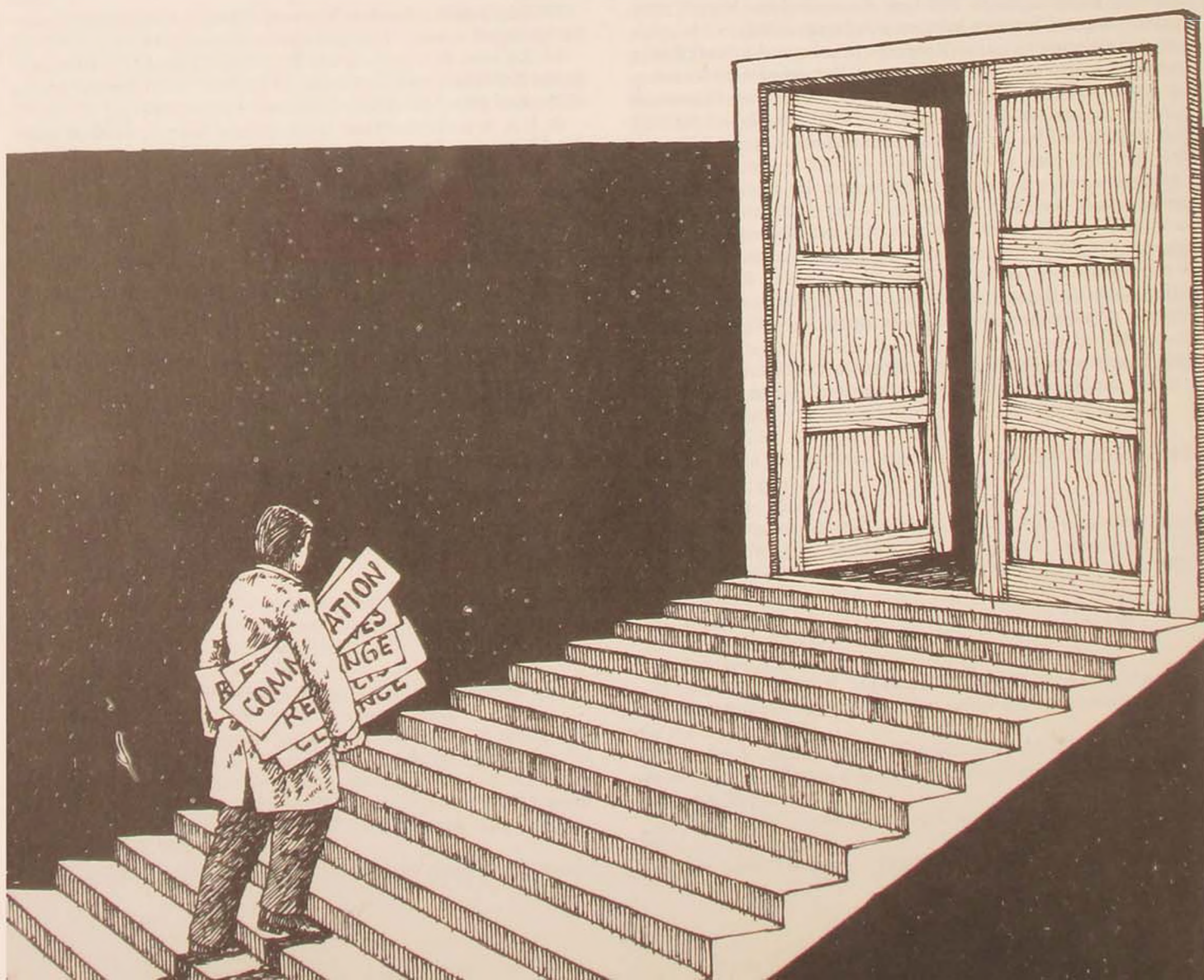
• Experience has shown that in many cases managers answer yes. That is, they do not see a high correlation between the concepts and what will enable them ultimately to climb their career ladders successfully.

• Experience and extensive contacts with government and private sector managers have shown that even though a great many of them answer yes (the school solution in this case), they are unclear on how to tie all the concepts together so that they can be successfully introduced to their organizations.

In this article, I shall explore the recent emphasis on the need for a close connection between long-range and operational planning in organizations. Without this connection, the literature suggests, strategic thinking will never be translated into the intermediate and short-term steps needed to obtain meaningful results. On the other hand, as Heinz Weihrich has pointed out, strategic planning is the missing link in traditional operational planning systems; and in the absence of a comprehensive long-range view, short-range objective setting is needlessly handicapped.[1] Also, I shall describe how one organization has successfully integrated a formal strategic planning process with a flexible management by objectives system in order to ensure that its long-range aims are translated into achievable objectives which are communicated throughout the organization. Hence, with a conceptual framework and a practical description, the reader should gain an understanding of how the concepts listed earlier can be pulled together for improved organizational results.

Conceptual Framework

One of the fundamental characteristics of today's organizational environment is change. Much has been written on this fact. Today's change has been called discontinuous, rapidly accelerating, and pervasive. The "futurists" describe what changes the future will bring, while some other thinkers tell us how change is affecting us physically, psychologically, socially, and organizationally. It is undeniable that the fact and necessity of change should be a major consideration in the management of virtually any organization or project. Furthermore, it is absolutely critical for managers to be competent in introducing, responding to, or coping with fluctuations in the environment.[2] The concept of integrated corporate planning aids the manager or management team in defining what the environment holds and how to navigate through that environment in order to achieve the changes that are desirable for long-term success of the organization. In the parlance of this article, these desirable changes are the goals (long-term) and objectives (intermediate to short-term) that are used to guide operations.

a corporate planning model

There are a great many descriptions of corporate planning methodology, and each is suited to the professional and academic preferences of its author. Regardless of the model selected, the corporate planning process can be employed successfully if it is applied in full awareness of the situations in which the organization exists. Regardless of how successfully it was applied elsewhere, the implementation of a patent model without careful consideration of the environment and the management systems, command practices, and culture of the unit will lead to a marginal process (at best) or an outright square-filling exercise (at worst). Hence, the model to be described here cannot be taken part-and-parcel and put into practice without tailoring it to the idiosyncrasies of the organization wishing to improve results.

The essence of the corporate planning process consists of the elements shown in Figure 1. Most of these elements are developed sequentially, but some of the early steps are accomplished concurrently. Most organizations will find that the flow of events shown should be used only as guidance and that continual iteration and skipping forward or back is the best
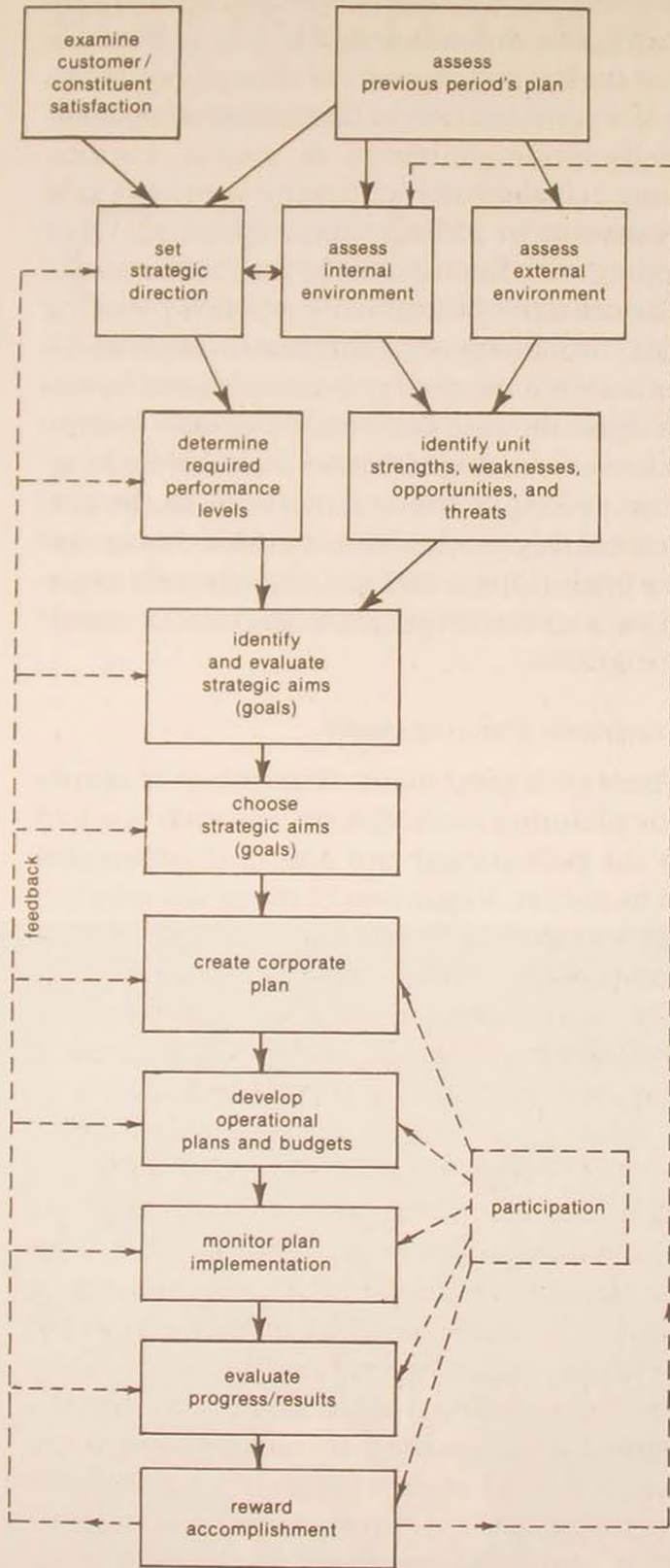
```
┌──────────────┐              ┌──────────────────┐
│   examine    │              │                  │
│  customer/   │              │  assess          │
│ constituent  │              │ previous period's│
│ satisfaction │              │      plan        │
└──────────────┘              └──────────────────┘
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Figure 1. Corporate planning process

have a clear understanding of the unit's mission; if not, this process is unlikely to produce meaningful results. Step by step, the planning process includes:

• Assessing the previous period's plan to determine (a) the progress of the organization against the plan, (b) areas where problems were encountered and where special attention needs to be paid in the future, and (c) planning material that is still current and appropriate. This analysis will result in continuity from one year's plan to the next.

• Analyzing customer/constituent satisfaction with the products and services received. Any problems or opportunities noted should be included in the plan.

• Setting the strategic direction of the organization. This critical step, accomplished by the top manager, sets the tone for the planning process and gives all in the unit a good idea of where the boss is headed.

• Assessing the unit's *internal* environment; that is, looking at its human, physical, and financial resources and then drawing conclusions based on the analysis. Included here should be an assessment of the unit's organizational culture, climate, and working conditions.

• Assessing the unit's *external* environment, including economic and social factors, financial or budgetary constraints, political and environmental considerations, and community or government regulations. The focus should be on identifying challenges that will be presented from outside the unit.

• Determining the kinds of goods/services that will be required of the unit during the planning period and the levels at which those products must be provided. This forecasting activity involves projecting future market or constituency needs as well as internal performance targets, such as return on investment, productivity increases, or improved responsiveness to customer desires. The thrust here is to respond to the environment based on the professed aims of top management.

way to develop a workable, effective plan.[3] For the purpose here, it is assumed that planners

• Determining the unit's strengths, weaknesses, opportunities, and threats (S.W.O.T.) regarding the information collected and analyzed in the previous three steps. Essentially, this step involves synthesizing internal and external information with an eye toward identifying strengths that can be relied on to obtain or exceed required performance levels; weaknesses that must be addressed if performance is to be satisfactory; opportunities that may be exploited, perhaps by using one or more strengths, in order to move ahead at a quicker than normal pace; and threats that must be avoided by sound planning.

• Identifying and evaluating strategic aims. These "goals" should relate directly to the S.W.O.T. factors and concern a range of outcomes which the unit could move toward in order to fulfill its mission. For example: "To increase market share of product XYZ" or "To improve human resource management." These are broad timeless statements that guide the further planning efforts of the unit. In this step, it is important to generate several alternative goals that might be pursued. The management team will then have a variety of paths to choose from in moving the unit ahead.

• Choosing from the list of long-range goals those which will form a framework for this period's operational planning.

• Preparing the "corporate plan." In essence, this step consists of documenting the planning process up to this point. In its simplest form, the plan includes:

—The top manager's assessment of the unit and his/her enunciation of the very broad direction in which the unit should move.

—Analysis of the environment.

—Discussion of the unit's S.W.O.T. factors.

—Listing of the key goals. A discussion of each of these goals should be included to provide guidance as to the nature of desired short-range accomplishments to support the long-range aims. The plan's value as a communication vehicle is substantial, but the real value to the organization comes from going through the process which resulted in selecting and then documenting the goals.

• Developing operational plans to guide the implementation of the goals. These short- to intermediate-term objectives define the major results that must be accomplished for the unit to move incrementally closer to the goal. For example, "To achieve sales of 15,750 units of product XYZ by 31 December 1985" or "To complete implementation of the automated personnel management information system by 31 December 1985." These operational objectives are supported by detailed action plans that spell out how and by whom the objectives will be met.

• Monitoring the implementation of the objectives through periodic reviews with the responsible individuals/offices.

• Evaluating progress/results against the objectives to determine the extent to which movement toward the goal has been realized. If problems are noted, adjustments can be made to either the action steps or the schedule in order to get things back on track.

• Appropriately recognizing or rewarding accomplishments that support the long-range direction of the firm/agency. This positive reinforcement for a job well done will lead to improved organizational effectiveness.

the importance of communication, flexibility, and control

The entire process just described is based on communication. In fact, the process could not work at all without open communication up, down, and across the organization. The key to getting the information flowing is the participation of the people who will be responsible for executing the plan. Normally, the extent of participation in deciding on the unit's overall directions and corporate goals will not be great. That is the province of the top management team. However, once operational objectives are established and action plans developed, participation should be as wide as organizationally possible. Without participation in

implementing the long-range aims that top management sets, the vital ingredient of corporate planning—commitment—is missing.

Two other vital ingredients of a successful corporate planning system are flexibility and control. Russell Ackoff has discussed the great turbulence that all organizations now face. He points out the substantial effects that shifts in economic, cultural, or technological factors have on us all. In addition to stating the need for management to anticipate change and thus avoid related pitfalls, he recognizes a fact familiar to most practicing managers: you cannot forecast all the time. Not only is it cost-prohibitive to try, but the uncertain nature of most organizational environments is such that it is practically impossible to foresee all contingencies. Hence, Ackoff subscribes to the notion that in creating a corporate future, a management team must be flexible in both organization structure and the plans which pull that structure along. If flexibility is not built into the system, if the firm or agency cannot (or will not) adapt to changing situations, if the unit is not willing to listen periodically to input from its environment and make course corrections based on those reassessments, then it will go the way of the dinosaurs. Organizations and the corporate planning architecture that they design must resemble earthquake-proof buildings. That is, they must be able to stand the shock of sometimes radical changes in the bedrock on which they are built.[4]

Whether one talks of strategic plans or the operational plans developed to implement strategies, without control of the organization's progress toward its aims, planning is a waste of time. In far too many cases, organizations make elaborate plans; have them printed, bound, and distributed; and then sit back and wait for the magic to happen. When the people of the organization then do not get moving in response to the plan and bring about superior results by the end of the planning year, top management complains that the system just doesn't work. If the management team is per-

sistent, they might try corporate planning again. But unless the important ingredient called "control" is involved this time around, the results are likely to be the same, and planning will simply get another black eye.

In its simplest form, controlling means making sure that what you have planned is carried out. It involves: (1) spelling out your aims in sufficient detail to allow tracking of progress; (2) ensuring that work assignments are made for the major portions of the plan; (3) clarifying the relationships between the various people responsible for the major steps; (4) establishing time limits for the intermediate steps of the plan and, if possible, the overall target; (5) reviewing progress toward the intermediate steps regularly, while maintaining a clear view of the overall aim; (6) making adjustments to the plan to accommodate changed circumstances; (7) periodically assessing whether or not the aim is still valid and should be pursued; and (8) making a final assessment of progress toward the aim to determine whether the desired result was achieved, the benefits received were worth the cost incurred, and follow-on aims/actions are needed.

Unless this sort of scheme is followed *after* the planning is done, the chances of the organization moving ahead in the desired directions are reduced substantially. Furthermore, those who participated in the planning process will see that their efforts were a waste of time. Their reaction to any subsequent corporate planning activities will be to contribute only half-hearted efforts, at best. In short, the process will become a square-filling exercise that will not evoke the best and most creative ideas from people who could offer them.[5]

A few words of caution are in order regarding the key aspect of controlling, i.e., the actual review of progress with the people responsible for the major steps of the plans. Managers must make a careful assessment of the amount of oversight to exercise with each subordinate. If too little control is exercised, there is a possibility that problems could arise and grow unsolv-

able before any management action can be taken. Further, if the boss expresses infrequent interest in progress, subordinates will likely develop the notion that the aim is not particularly important and thus can be given the back-burner treatment. If, on the other hand, the boss is a "checker-upper," at least three things are likely to happen: motivation vanishes, workers begin to resent the boss's meddling, and personal responsibility is turned off, i.e., the workers will tend to let the boss find the problems and schedule slippages instead of staying on top of the plan themselves. There is a fine balance between what is laxity and what is excessive control. In translating plans to actions, that balance must be found.

Another problem regarding control is the tendency during progress reviews to focus exclusively on what has happened regarding the steps of the plan to date. It is altogether too easy to look back and see what has been done. Comparatively little value can be added by a control system that is always concerned with the past. Although the past can and does hold many valuable lessons for all of us, unless management teams examine what has happened in terms of its effect on the future, they can easily get caught up in finger pointing and blame fixing. Reviews of progress must instead be focused on the consequences of progress to date, how past actions have changed the situation, whether plans need to be altered, and how to get on with the action in the most effective way.

Using the Concepts

The Air Force Contract Management Division (AFCMD) is the primary organization performing contract administration on the major aerospace products being purchased by the U.S. Air Force. With its Headquarters at Kirtland AFB, Albuquerque, New Mexico, the division has more than 4200 people assigned to offices that are located in the industrial facilities of many of this country's largest aerospace firms. In essence, AFCMD's mission is to ensure that the airplanes, missiles, electronics, and spacecraft which the government is buying meet the agreed-to technical specifications, are delivered on time, and are within the contractual cost limits. This job is accomplished by a highly skilled group of professionals in areas as diverse as engineering, quality assurance, and flight operations.

The nature of the division's mission has resulted in a very decentralized and functionally aligned organization. AFCMD's Air Force Plant Representative Offices are located at twenty-six major locations throughout the United States and northern Europe. Each one of these offices is composed of specialists in eight separate areas involved with the business and technical aspects of managing large, complex industrial operations. These factors—decentralization and specialization—have made AFCMD a natural for the integration, communication, commitment, and follow-through that accompanies the successful implementation of a corporate planning system.

developing the AFCMD Corporate Plan

AFCMD began its experience with integrated planning in late 1973, when work was begun to design and implement a management-by-objectives/results (MBO/R) program. That initial effort has evolved over the years to the point where an integrated "Corporate Planning System" now enables the division to put the planning concepts mentioned earlier into practice.

The cornerstone of the division's planning and implementation system is a detailed strategic plan developed to provide both a long-range assessment of the internal and external environments and a description of the directions in which the organization will be moving during the next three to five years. The assessment and the delineation of goals comprise volume one of the AFCMD Corporate Plan. The document is a "rollover" plan. That is, it

is redrafted annually by the division's planning staff, based on detailed reviews of a number of critical information elements, such as the Commanding General's views; higher headquarters' planning and guidance; progress on last year's plan; workload; human resource and budget data; production schedules; and organizational strengths, weaknesses, opportunities, and threats as seen by the division's top management team. The draft plan is then analyzed by a Corporate Planning Board consisting of eight top-level managers from both the field and headquarters. This board discusses and modifies the plan, puts it in final form, and presents it to the commander for approval and release. With publication of volume one, the entire population of AFCMD has access to the current strategic thinking of the top-management team and can begin the process of defining how each office or individual fits into the "big picture." This task is accomplished in large measure through the management-by-objectives/results system, thereby providing the clear linkage between strategic and operational planning that is essential for the long-term success of any large organization. The MBO/R system used is based on the generally accepted model of negotiation and self-control. Thus, it provides for the one-on-one communication between boss and subordinate that is so vital to this process.

When volume one is published, the headquarters staff and field are asked to examine the goals and to propose objectives that the division should accomplish this year in order to move closer to the goals. When those suggestions are received by the planning staff, they are boiled down into a set of draft objectives and action plans, which is presented to the Corporate Planning Board for further screening and elaboration. When the board's work is done, they present the proposed objectives to the commander for discussion, approval, and release to the workforce. From that point, a cascading process begins in which the successively lower levels of management develop objectives

to support their boss's objectives. Of course, the managers also develop objectives on items of local significance, i.e., on items that may not have a direct relationship to their boss's objectives but which are important to the management of the particular subunit in question. As the cascade continues, the objectives become more specific, detailed, and oriented to the operations of the subordinate unit. At each level, the objectives are negotiated between boss and subordinate, and agreement is reached that the objectives represent important accomplishments which support, in their own way, the organizational goals and objectives. When the process is complete, the division, headquarters staff, and detachment-level objectives are compiled and published as volume two of the AFCMD Corporate Plan.

The division is not infatuated with publishing planning documents. In fact, the top-management team feels that the cognitive and communicative processes used to develop the plans are much more important than the plans themselves. But the two volumes of the Corporate Plan are important in that they foster a sense of teamwork throughout the organization. The volumes provide a complete picture of where AFCMD is headed, how the organization will get there, and what each subordinate unit will contribute. Thus, each member can see what his or her role is compared to other parts of the organization and can get on with the job of achieving results.

Once the operational plans are formulated and put on paper, they enter into a continuous loop of performance, control, and evaluation of results. Bosses and subordinates come together at least quarterly to discuss progress, solve problems, make any needed changes to the plans, and discuss new objectives. These sessions are the primary vehicles for controlling progress toward the goals. Even though the emphasis is on self-control, knowledge that one's boss will want to discuss progress against an agreed-to plan tends to make one more serious about meeting commitments. When this

review/control process is applied throughout the organization, the likelihood of making real progress toward the goals is increased.

keys to success in AFCMD planning

Experienced planning executives will tell you that one of the surest ways to kill a planning system is to lock both the process and the resultant plans in concrete. This advice was taken to heart in designing the AFCMD system. Although the division has a clear idea of the format for the planning documents (volumes one and two), the process of gathering, analyzing, and reviewing the information that shows up in the plans is flexible. This flexibility is displayed best in the situational approach taken in implementing the management-by-objectives/results portion of the system. The top managers of the twenty-five detachments are required to establish objectives throughout their organizations, but they are given great latitude in the methods they use. Conceivably, each detachment could have a different scheme for determining and reviewing objectives. Experience has shown that this latitude enables the managers to tailor the MBO/R technique to fit the environments, personalities, and cultures of the individual detachments. Such flexibility is allowed within the context of a well-documented corporate plan. The unique approaches that result for the various subunits promote both important field-level support of the overall goals and effective planning and control of significant local-interest initiatives.

Another aspect of AFCMD's pragmatic approach to planning is the flexibility of the plans themselves. Recognizing that change is a way of life, managers do not attempt to lock past or current goals/objectives/action steps into concrete. If situations surrounding a plan change significantly and it makes sense to alter the steps or schedule in response, then the change is implemented. These midcourse adjustments are always made with an eye toward the long-range goals and how they will be affected.

AFCMD chose to use a protracted implementation approach rather than an "instant" introduction. Because the structured planning and control approach was itself a major change, the division took several rather small, yet significant steps spread out over three to five years. During the entire implementation period, the system has continued to evolve to the point where management has confidence that the approach fits the requirements of the organization. This deliberate, patient approach has given the management team the opportunity to get comfortable with the technique as it develops. Hence, there have been none of the traumatic upheavals that other organizations have experienced as a result of rapidly introducing prepackaged "programs."

It has been (and will probably continue to be) difficult to ascertain whether AFCMD's Corporate Planning System is fully implemented. This uncertainty is primarily due to the evolutionary nature of plan implementation and the flexibility built into the system. When significant changes occur, both the plans and the system are looked at for possible modifications. The focus is always on the future and what the division must do to accomplish important results when it gets there.

THE PROCESS of corporate planning has become essential for the organization interested in obtaining significant results. It matters little whether the organization is large or small or whether it is in the private sector or government service. When an organization has the need to move into the future with a high degree of confidence in what that future holds, it needs corporate planning. The integrated approach of deciding on a set of long-range goals and then developing the objectives and plans to reach them is the most reliable tool that the organization can use to define its own future and ensure success. In other words, it is the surest way that the management team can become what George Odiorne called "system makers"—people who are willing to take the

time to make things happen instead of responding only when their buttons are pushed.[6]

Andrews AFB, Maryland

Notes

1. Heinz Weihrich, presentation to the Tenth Annual Management by Objectives State of the Air Conference, Long Beach, California, 19 November 1982.

2. Russell L. Ackoff, *Creating the Corporate Future* (New York: John Wiley and Sons, 1981), pp. 1-24.

3. Adapted from J. C. Higgins, *Strategic and Operational Planning Systems Principles and Practice* (London: Prentice Hall, International, 1980), pp. 14-28.

4. Ackoff, pp. 25-50.

5. George L. Morrisey, *Management by Objectives in the Public Sector* (Reading, Massachusetts: Addison-Wesley, 1976), pp. 145-69.

6. George S. Odiorne, *MBO II* (Belmont, California: Fearon-Pitman, 1980), pp. 41-76.

Taken as a whole, no body of armed men can be considered to be an army—that is, an organized fighting force—unless it reacts to the will of one man, for a multi-headed army is clearly a monster. Nor can this body be maintained as an army unless it is fed and supplied. An army is, therefore, a three-fold organization comprising a body, its combatant arms; a stomach, its administrative services; and a brain, its command. Because the destruction of any one of these parts renders the other two inoperative, it follows that there are three tactical objectives. Of these, the first, the combatant arms, which may be compared to the shell of an egg, occupies the outer or forward area, and the second and third, the command and administrative services—representing the yolk and white—occupy the inner or rear area. There are, therefore, two tactical areas of attack and defence, the forward and the rear, and the second may be compared to the vital area of operations.

J. F. C. Fuller
The Second World War, 1939-1945, p. 36

CHANGE OF COMMAND: LEADER SUCCESSION IN THE MILITARY ORGANIZATION

DR. RAY W. COYE

THE orders have been read, the inspection is over, and the class A uniforms have been put away. It has taken but a few hours to accomplish the ceremonial aspects of the change of command. The precision and standardization of this event, however, may belie a state of affairs that had its beginning weeks before and will not see its conclusion for weeks to come: disruption in the organization brought about by the succession process.
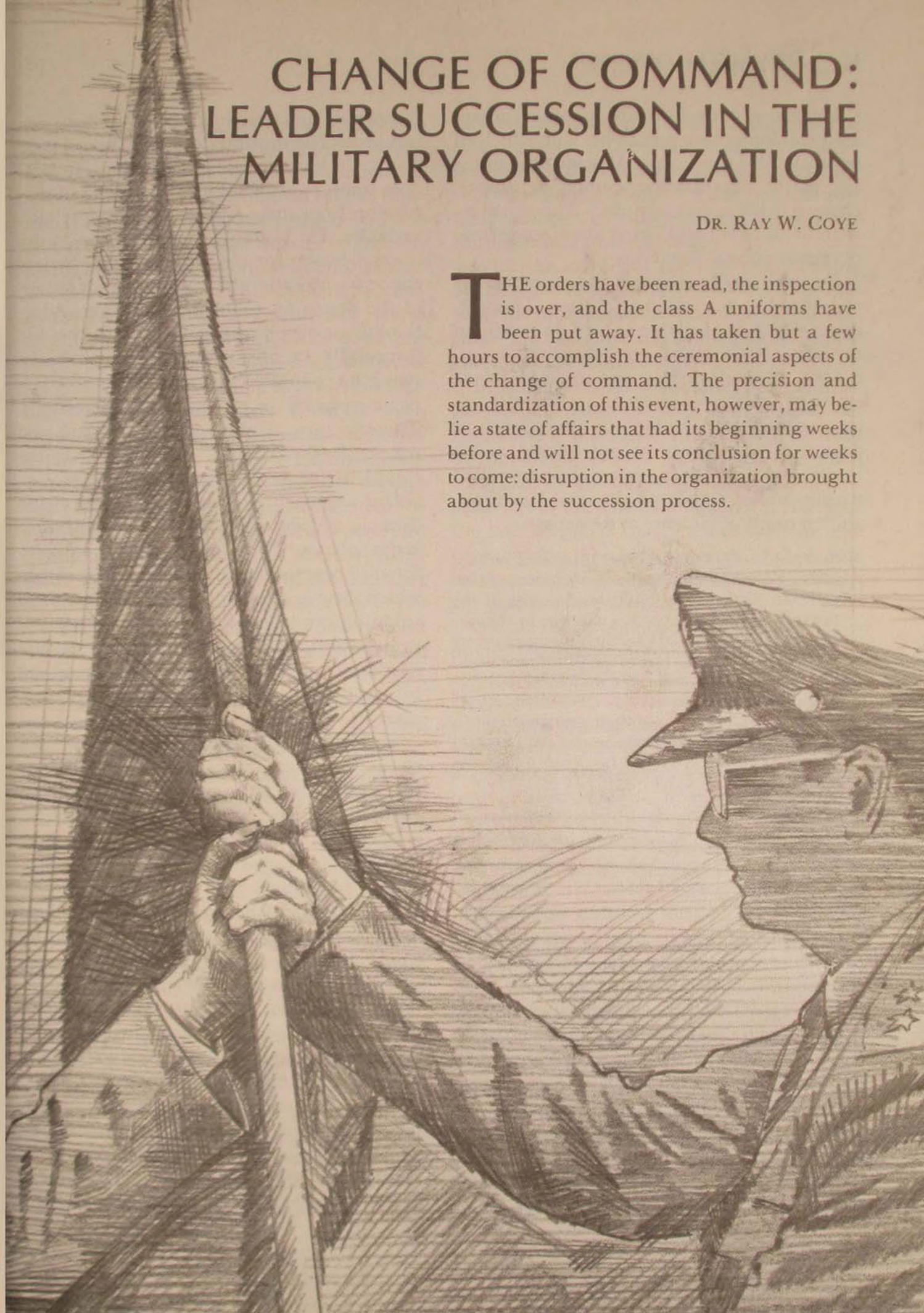
Succession of the formally appointed organizational leader is an occurrence with which all organizations must cope. At some time in the life of the organization, public or private, changes in leadership take place. These changes will, in all likelihood, bring about some form of organizational instability.[1]

Research on the processes and consequences of leadership succession is limited. That evidence which is available is predominantly in the form of case analyses of individual organizations. In these studies, one common theme emerges: a change of leadership is disruptive to an organization. Numerous investigations document such disruptive consequences as disintegration of cohesive work groups, increased tension among employees, increased turnover, and even acts of violence and sabotage.

> Succession is disruptive to organizations because it sets the conditions for the development of new policies, disturbs the traditional norms of the organization, and promotes changes in the formal and informal relationships among members or the system. . . . Succession can (simultaneously) promote conflict among the staff and lower employee morale, consequences that are obviously dysfunctional in terms of their contribution to a lack of organizational cohesiveness and a general decrease in the effective functioning of the system."[2]

Generally the research supports the assertion that the disruption associated with succession stems from an upsetting of the normative standards in the organization. With the departure of the predecessor from the organization go unique characteristics of policy interpretation, interpersonal relations, style of leadership, and other role behaviors.[3] "However, what is more important is that which happens to the general social system of the organization as the successor takes over. Because it is a natural time for reasserting old felt needs and presenting new ones to the new audience and judge, succession is often accompanied by a change in the way things are."[4]

Shouldn't members of a military organization, so used to changes of assignment and of command, find that succession problems are minimal? The routinization of this process of change in bureaucratic organizations, in fact, does result in reducing the likelihood of disruption from some typical succession-related variables. For example, since rotation is the normal reason for change, there may be less concern with issues about the success or failure of the departing commanding officer. Additionally, it may be difficult if not impossible (especially in operational units) to make sweeping changes in the staff officer group, a tactic common in private-sector successions. These factors, associated with frequent and routine leader changes, do not result in the complete absence of disruption, however.

One approach to understanding succession dynamics divides the process into pre- and post-arrival phases.[5] This model provides a straight-forward, comprehensive framework within which various aspects of a change of command situation can be considered. An awareness of those factors which contribute to the disruption associated with change of command can be a valuable asset for the prospective commanding officer.

Three aspects of the prearrival phase are pertinent to military succession: the actual and perceived characteristics of the successor, the group's experience with succession in general, and the new leader's mandate.

Although change of leadership at the division or department level may involve internal (unit) movement, change at the command level most often results in movement into the unit from other sources. At this level, the expectations of subordinates concerning characteristics of the unknown successor become important. Considerable evidence indicates that unmet expectations can be dysfunctional to the individual and the organization.

Although providing realistic job previews for the new commander has had some impact on reducing problems of unmet expectations, similar "realistic leader previews" for those in an organization that is receiving a new com-

mander may not be a viable option. Consequently, the information available to subordinates about a new commanding officer is likely to come from the rumor mill. In certain functional specialties (or in the Coast Guard and perhaps the Marine Corps with their relatively small officer corps), an officer at the 0-4 or 0-5 level may be preceded by his or her reputation. By the time an individual reaches 0-6, even in the most populous specialties someone at the new unit is usually able to provide sufficient information for the rumors to begin circulating. The result of this process is the establishment of expectations (quite possibly unrealistic) in unit members well before the new commanding officer arrives. Although not conclusively established, it seems reasonable that the more closely matched the actual and perceived characteristics of the successor, the more likely that a smooth relationship will develop after the change of command. This does not imply that subordinates are necessarily pleased with the relationship; it simply means that they know where they stand.

Since leader succession is routine in the military, members expect it, and many will have experienced the process previously. This expectation of and experience with the process can also result in difficulties for the new commanding officer. A unit in which the major assigned task normally involves interdependence between the leader and subordinates, when faced with frequent command changes, may restructure itself to minimize the role of the leader in that task.[6] Thus, a new commanding officer may be faced with an essentially empty job and with strict unit norms of noninterference.

The final prearrival factor relates to the mandate given the new commanding officer. For existing units, it is not uncommon to hear comments indicating that the new commander was given the unit in order to reduce downtime, improve combat readiness, raise crew morale, or make other specific changes. In reorganization situations, mandates may be issued to establish new operational units, combine existing units, or carry out a myriad of other possibilities. Such mandates often result in disruption brought about by changing the role relationships that currently exist between the command and unit members.

With the arrival of the new commanding officer at the unit, postarrival factors come into play: the mutual observation process, the successor's actions and reactions, and the power and influence source.

During the initial observation phase, subordinates are likely to make comparisons between the new and the old. Even if disliked earlier, the predecessor may be idealized when compared to the successor.[7] Also during this phase, both the new commanding officer and the unit members indicate and evaluate role expectations. The interpretation of these role messages by all concerned results in establishing patterns for future behaviors.

During the initial observation phase, subordinates begin to evaluate the successor's actions and reactions, judging the new leader's behavior in relation to their expectations. Although official descriptions of superior roles may exist, evaluation usually is on the basis of the informal standards represented in these expectations. Ralph Stodgill, in his comprehensive review of leadership, concluded that "leader behavior which conforms to follower expectations is associated with follower satisfaction."[8]

One of the crucial issues with which the new commanding officer must deal is the necessity for gathering information. Knowledge about the formal and informal modes of operation in the unit is of vital importance if the commander is to administer the responsibilities of command effectively. The good buddy and the prolific directive/memo writer are typical and opposing examples of successor reactions to this information need. The buddy may carry to extreme the use of existing social networks to acquire and pass information, while the writer resorts to increased formalization and rigid application of policy to accomplish the same end.

Although comprehensive coverage of power and influence processes is beyond the scope of this discussion, it is important to note that a succession situation may be characterized by changes in the nature of the power source. Clearly, the new commanding officer, upon arrival, has legitimate power associated with both assignment to command and the personal rank or grade. Other sources of power may be nonexistent or may not be in evidence until the initial observation and action-reaction phases are well under way. Over time, unit members will assess the new commanding officer's expertise, task competence, leadership skills, personal attractiveness, and other attributes that seem important to them. Unit member perceptions of these aspects may become increasingly important, providing (or denying) additional sources of power and influence for the commanding officer and, ultimately, affecting unit success and mission accomplishment.

THE KEY to minimizing problems associated with a change of command is awareness of the potentially disruptive influences inherent in the succession process. Unit members establish expectations about a new commanding officer's characteristics and behavior, evaluating reality, as they see it, in terms of those standards. Additionally, some unit members, in anticipation of the change, may be preparing to reinitiate old requests, reopen old controversies, or otherwise situate themselves to take best advantage of the process. Such activities may serve to promote better morale or more effective operations in the long run, but unless understood in the context of the succession process, these may simply add to the burden and confusion felt by the successor.

It is impossible to provide the prospective commanding officer with prescriptions to cover all contingencies. The model presented here may be helpful as a framework through which commanding officers and subordinates can evaluate past experiences with leadership succession or consider aspects of forthcoming changes of command.

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Notes

1. Oscar Grusky, "Administrative Succession in Formal Organizations," *Social Forces*, December 1960, pp. 105-15.
2. Ibid., p. 106.
3. Donald L. Helmich, "Executive Succession in the Corporate Organization: A Current Integration," *Academy of Management Review*, April 1977, pp. 252-56.
4. R. Carlson, *Executive Succession and Organizational Change* (Danville, Illinois: Interstate Printers and Publishers, 1962), p. 42.
5. Gil E. Gordon and Ned Rosen, "Critical Factors in Leadership Succession," *Organizational Behavior and Human Performance*, April 1981, pp. 227-54.
6. Ibid., p. 243.
7. Ibid., p. 246.
8. Ralph Stodgill, *Handbook of Leadership* (New York: The Free Press, 1974), p. 416.

THE OPEN-DOOR POLICY: COMMUNICATION CLIMATE AND THE MILITARY SUPERVISOR

MAJOR CHARLES E. BECK
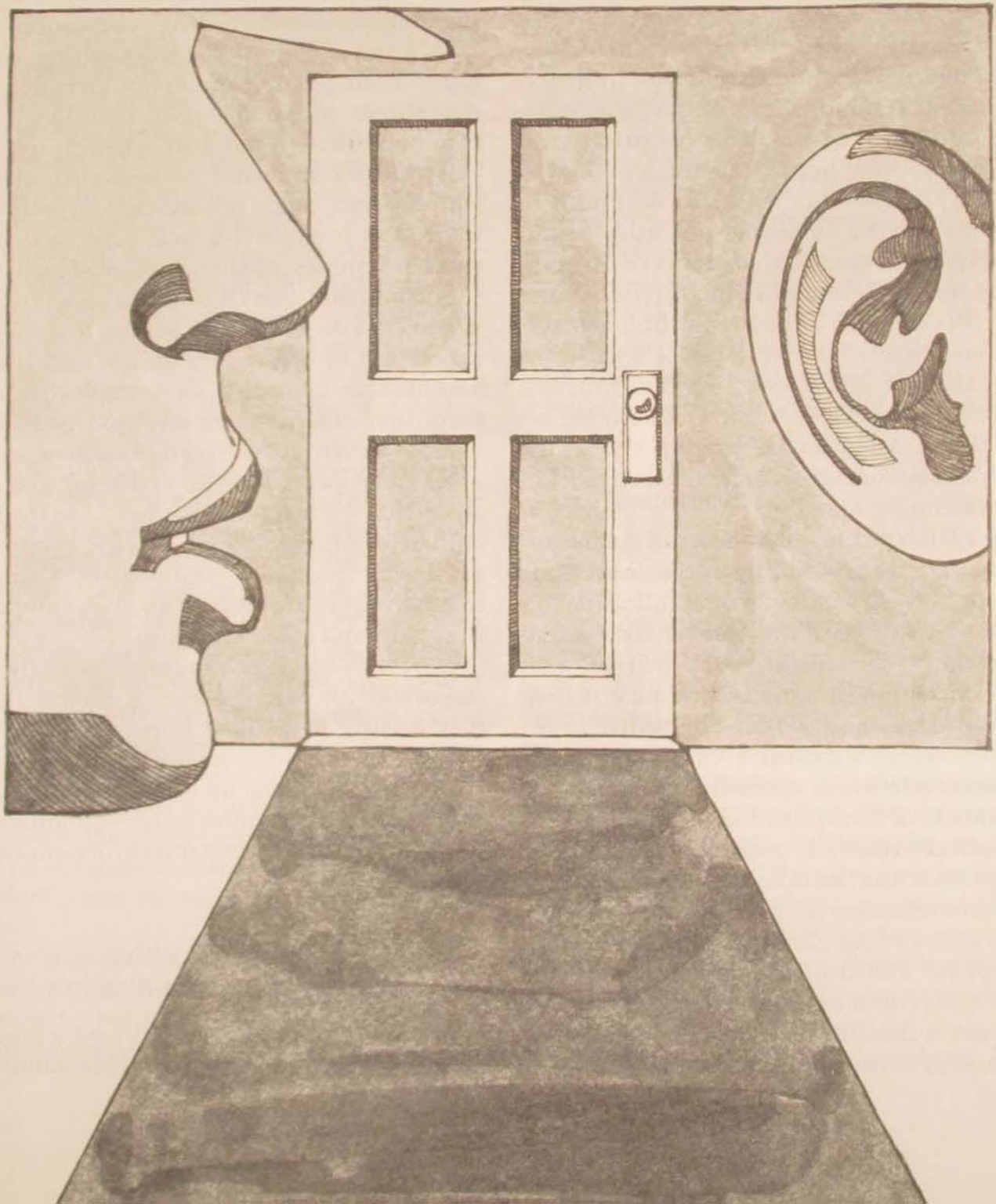
COMMANDERS and supervisors often pride themselves on announcing an open-door policy, feeling that this policy conveys their willingness to listen to subordinate concerns on a one-to-one basis. Such policies are frequently announced at meetings, written into operating instructions, and emphasized through informal gatherings in the workplace. Despite such policies, supervisors become frustrated when subordinates do not avail themselves of the open door. These supervisors and commanders may not realize that the perspective of the open door differs, perhaps, depending on one's position in the organization. A junior officer in a large organization once remarked somewhat sarcastically: "If they have to announce an open-door policy, it probably means that there really isn't one!"

There may be an element of truth in this statement, but the situation does not necessarily mean that the organization chiefs announce such a policy out of bad faith. Commanders and supervisors may legitimately want to be open and sincerely wonder why this intended openness is not perceived throughout the organization. The problem may arise from the type of communication climate established in the organization.

Jack Gibb postulates a theory of communication that can give military supervisors some insight.[1] His structure of communication climates resulted from a U.S. Navy study of group discussions. In general, Gibb believes that communication climates may be organized on a continuum ranging from supportive to defensive, where supportive exchanges invite openness but where defensive remarks cause resentment or breakdowns in communication. On such a continuum, traditional principles of supervision can unintentionally initiate or reinforce defensive climates. If supervisors become aware of the elements involved in both supportive and defensive climates and how these affect communication, they can then understand subordinates' reactions and try to promote genuine open communication.

Supervisor's Role in Communication Effectiveness

The U.S. Air Force has continually stressed the need for improved communication, including writing and speaking ratings on personnel effectiveness reports and providing numerous courses to improve communication skills. On a wider organizational scale, we in the military focus on information systems, base newspapers, and professional journals in areas ranging from engineering to driver's education. But within the organizational work setting, communication between supervisor and subordinate should receive increased attention. Such communication determines whether specific tasks are accomplished or neglected, affects employee motivation and satisfaction, promotes or reduces productivity, and, ultimately, ensures or impedes mission accomplishment.

Subordinates who are comfortable with their supervisors on the job are willing to question procedures or orders they do not understand and to make innovative suggestions that may help their organizations to improve. To encourage such constructive contributions, managers and supervisors need to develop and use an "effective and mature method . . . to create a climate in which all employees feel comfortable asking questions."[2] Ultimately, a strong relationship exists between good communication skills and good leadership.

Obviously, good communication skills are important for the first-level supervisor, but they become even more important with increasing rank. As some studies indicate, higher-level managers spend up to 80 percent of their time engaged in communication—communication that is frequently essential to organization success.

Creating a Positive Climate of Communication

Commanders and supervisors need a practical way to fill the need for improved communi-

cation. One approach is to focus on a climate of communication—the overall background for communication encounters.

Jack Gibb identified two extreme climates of communication: those that are supportive and those that are defensive. Supportive climates encourage individuals (particularly subordinates), while defensive climates put individuals on guard, resulting in a defensive reaction to the words and tone of the speaker. By breaking down the overall communication climate into six categories or dichotomies, Gibb explains the general concept of climate, a concept that can be clarified with examples from typical military situations.

These examples illustrate Gibb's theoretical framework and the range of communication climates in the military setting. Supportive climates derive from attitudes of equality, description, spontaneity, problem orientation, provisionalism, and empathy. Defensive climates evolve from superiority, evaluation, strategy, control, certainty, and neutrality.

superiority-equality

As Gibb indicates, the superior/equal dichotomy is the most significant distinction that affects the communication climate. Since the commander or supervisor is in the "superior" position, the communication attitude that he or she manifests may vary from "I'm in command here; do it or else" to "we're in this together." This latter attitude reflects equality of importance—the subordinate is recognized for making a valuable contribution to the mutual task. A subordinate who has experienced an "I'm in command" attitude will be reluctant to approach the supervisor with a problem or even a recommendation, constantly expecting a rebuff under the guise of "Yes, but I'm the boss."

The management-by-objectives (MBO) approach initially developed from a desire to change this basic position of superiority. MBO strives to enhance the climate of equality, let-

ting the employee determine individual goals and objectives and participate in decision making. Such recognition, conveyed honestly, respects the knowledge and talent of the subordinate.

Indeed, in technological areas the supervisor may well know less about specific matters than those accomplishing the "hands-on" tasks of the organization. Frequent changes in assignment for the military supervisor, particularly in organization structures manned by talented, long-term civilians, may reinforce this perception even further. Such supervisors placed "in charge" of a unit may feel inadequate for the job of supervising.

To cover feelings of inadequacy, a supervisor may convey a tough image to ensure that he or she is indeed "in charge." A put-down remark such as, "Haven't you figured out that problem yet?" might be tempting to put subordinates "in their place." On the other hand, the supervisor who approaches the situation with "Perhaps we have a problem here; can we work it out?" indicates mutual concern and may move more effectively toward achieving a solution. In such a manner, the climate of equality could overcome the defensiveness set up by the position of command or supervisor authority.

evaluation-description

Evaluation that involves passing judgment, blaming, or questioning standards, values, and motives puts others on the defense. In contrast, description supports individuals by asking questions to obtain information, presenting feelings and perceptions, and participating in a process without implying that the receiver must change behavior. Subordinates are often reluctant to approach the supervisor for fear of "looking bad," performing in a way that might reflect negatively on an evaluation report. In fact, organizational theory abounds with descriptions of the filtering phenomenon, whereby subordinates send "up the chain" only such information that makes the employee look

good. While such behavior is prompted by a variety of motives, perhaps the effect of the "evaluation" climate explains the basic rationale for such limited communication.

When approached with a problem, commanders and supervisors may react instinctively with their own perceptions, often without understanding the context of the operation or the specific project that an employee is working on at a given time. For example, the supervisor might say, "This repair project is behind schedule; when are you going to get caught up?" Conversely, the supervisor could ask, "What is the status of this repair?" The first expression puts the receiver on the defensive, whether the project is actually behind schedule or not. The second asks directly for information. An accusing tone, however, will still create a defensive climate regardless of the words used.

strategy-spontaneity

A climate of strategy usually involves overt or covert manipulation of people. When using strategy, a speaker attempts to appear open, yet many times actually has a preconceived direction or a hidden agenda. Often the listener hears leading questions and wonders what the final objective is. Again, the situation places the listener on the defensive. People generally resent being manipulated and seldom communicate openly with those whom they recognize as manipulators.

Conversely, honest and straightforward communication conveys a different message: the supervisor realizes the individuality of each worker and respects each as a person. For example, in an organization that has a policy of flexitime, the supervisor who asks "Don't you think nine o'clock is a little late to start work tomorrow?" is manipulating; this loaded question is not open to yes and no responses. The supervisor who conveys openness acknowledges an agenda with a statement like, "I'd like you to come to work at eight o'clock tomorrow so that we can work on this budget; do you think

that you can make it?" Such a request is honest, openly states the desires of the supervisor, and avoids game playing.

control-problem orientation

In a climate of control, a supervisor attempts to influence subordinates by using status or coercion to change their attitudes or behavior. In contrast, problem orientation defines mutual challenges and seeks solutions without inhibiting the receivers' goals, decisions, and progress. Too often, the supervisor may approach the employee with the question: "Why haven't you tried this method?" This approach belittles the subordinate for not acting, when perhaps the person has already considered the idea and discarded it for good reason. A climate of control implies that the supervisor's view is the only valid operational alternative. In another instance, the commander might propose a solution prior to asking subordinates for alternatives. Although the commander may believe that asking for alternatives shows openness to new ideas, the tone of voice and overall attitude (part of climate) have already communicated that the subordinate should say yes to the commander's already proposed solution.

On the other hand, the commander could say, "There seems to be a snag here; what can we do in this case?" This problem-oriented emphasis conveys an attitude of openness. The commander appears willing to consider various options, presents a climate of mutual support in trying to achieve the ultimate objective, and promotes a cooperative work atmosphere. Especially in solving complex technical problems in mission-essential areas, such an approach is more likely to achieve results with less friction, accusation, or resentment than a control approach will. It also offers subordinates a sense of work satisfaction as they realize their contribution to task completion.

certainty-provisionalism

The climate of certainty appears in the dogmatic, "need to be right" type of supervisor.

This person will often remain adamant in an initial decision, regardless of the adequacy of the idea. In contrast, a provisional person is willing to experiment with alternatives, explore other ideas, and even adopt new behavior patterns. The attitude of certainty prevents a subordinate from raising an issue with the supervisor, breeding subordinate feelings that "they never listen to us anyway—they think that we don't know anything." Given such a climate, it is understandable that a supervisor's door remains open but few subordinates cross the threshold.

Likewise, with rapidly changing technology, a climate conveying attitudes of "we've always done it this way" or "back when I was on the line, ..." no longer suffices. The successful supervisor realizes that managing a complex process is more challenging than directing a fixed system; he or she must have enough self-confidence to realize that there is more than one way to accomplish a task. Provisionalism expresses a willingness to say, "Could we try this idea to see whether it helps? If not, we can certainly regroup." Again, the tone of voice must indicate a sincere provisionalism, not an attitude of ". . . but we'll end up doing it the traditional way!"

neutrality-empathy

In the neutrality-empathy dichotomy, neutrality connotes a lack of concern for the individuality of another person instead of a respect for the other's worth and an overall willingness to listen and share the feelings of others. Its counterpart, empathy, reflects the human relations schools of thought, emphasizing the insights of Mayo, Herzberg, and Maslow. In practical terms, it might mean a supervisor's taking time for the subordinate. A published open-door policy is meaningless if the supervisor does not take the time to be available or to demonstrate a true concern for his or her people.

When the supervisor's office receives few communicative subordinates because the supervisor has other commitments or pseudo-commitments, the "policy" is never actualized. The supervisor may also approach a communication situation with a "hurry up, state your problem, I've got to go" attitude, which is soon apparent to the employee. In another situation, the supervisor may sit behind a threatening desk, building a barrier to empathic communication. Until the "Hi, how are you?" greeting becomes a meaningful set of words, with the supervisor sincerely desiring to hear the answer, it remains little more than a formal conversational introduction or a mere cliché.

Communication Climate and Traditional Management

Gibb's six dichotomies plausibly show how the commander's or supervisor's approach in a situation can result in defensive reactions in the subordinate. A reason for these reactions, as well as for the failure of subordinates to perceive a genuine open-door policy, could be that traditional management principles tend to produce defensive rather than supportive climates. Thus, many persons who assume command or supervisory roles in established organizations may unintentionally promote counterproductive communication patterns.

• The attitude of superiority described by Gibb relates to the hierarchies and chains of command inherent in military organizations. This element is the underlying, unquestioned principle behind supervision and management. Thus the rank of commanders and supervisors within the organization can establish a defensive climate before they even utter their first words to their subordinates. Ultimately the pervasive influence of hierarchy makes it the most difficult aspect of defensive climate to overcome. To compensate for this difficulty, commanders must step off the pedestal and convey a sense of common humanity. If doing so proves too difficult, those commanders who desire a true open-door policy must work all the harder to overcome the remaining five aspects.

• Evaluation as described by Gibb relates to managerial feedback and analysis. Systems theory and the wider use of management information systems stress the need for continual feedback and analysis by managers to create a frame of mind that tends toward constant evaluation. This necessary function of command, if taken into each communication situation, can produce unintended defensive reactions, limiting true feedback.

• Strategy forms an integral part of strategic and tactical planning. The commander is the individual who looks beyond the immediate task to see how it fits into a wider framework; supervisors must balance short-range and long-range objectives according to successive plans (weekly, monthly, annual, or five-year). As defined by Gibb, the propensity for strategy (if carried into the commander-subordinate communication encounter) leans toward a sense of individual manipulation—a machine orientation rather than a personal reaction—and again produces a defensive climate.

• Gibb's control is part of the traditional managerial function also called control. Because supervisors are held responsible for the productivity of their workers, control seems a universal function of command management although a major detriment to a supportive communication climate.

• The element of certainty contained in Gibb's theory comes closest perhaps to the traditional managerial function of directing. Rules, regulations, departmental operating instructions, and directives—these types of certainty outline operational details and tend to block any opportunity for provisionalism or adaptation. The manager must appear "in the know" to succeed, but that characteristic often appears as close-mindedness to others who are perhaps more knowledgeable. Thus, certainty, a major area that tends to pervade command management theory, bolsters the manager but simultaneously fosters defensive communication.

• Neutrality, Gibb's final element, corresponds to scientific objectivity, the apparent backbone and foundation of the scientific method. As our society becomes more complex and as technological advances further impact daily operations, commanders and supervisors may regrettably become more number-oriented and thus more neutral than empathic. Similarly, overconcern for the bottom line and quantitative productivity tends to produce a viewpoint that regards people more as tools in the production process than as individual human beings. Principles of scientific management or operations research, if taken in simplistic, superficial ways, reduce the human element in the consciousness of the organization's managers, producing a defensive climate.

ULTIMATELY, responsibility for the communication climate of an organization rests with the commander who, in good faith, announces an open-door policy, sincerely wanting to listen to the subordinates who work in the organization. For open communication, the commander must progress through the main barrier, superiority. Although possessing the power and authority to act, the commander must be willing to express a common humanity in dealing with subordinates. The sense of concern must be genuine, not superficial. When subordinates perceive this humanity, they are no longer defensive because of rank differences. They become willing to use the open door, realizing that they can present ideas and questions without fear of negative judgments or evaluations. Above all, subordinates must feel a sense of personal worth and importance within the organization.

Once subordinates perceive that the commander is open to new ideas and genuinely wants input from individuals at all levels of the organization, subordinates usually offer their contributions. If the commander's sense of humanity pervades the daily dealings of people within the organization, there perhaps will be no need to announce open-door policies: man-

agement openness will be obvious to all within the organization.

Establishing and maintaining such a positive communication climate present a tall order for a commander or supervisor. Effective organizational operations will require some openness on the part of the commander, but the wealth of management theory and tradition militates against such openness despite an individual commander's good intentions. With increasing specialization and technological advances, managers will more frequently find themselves in positions of responsibility where subordinates are indeed the experts. Increasingly, commanders and supervisors will be managers of uncertainty rather than of standard, fixed operations.

Those commanders who see beyond all of the ingrained traditional perspectives, who take a "metamanagement" perspective, will increase the likelihood of open communication within their organizations. In the process, they will achieve not only increased subordinate satisfaction and motivation but actual improvements in organizational effectiveness. More than merely an announced abstraction, the open-door policy within such organizations will be an implemented reality contributing constructively toward mission fulfillment.

Wright-Patterson AFB, Ohio

Notes

1. Jack R. Gibb, "Defensive Communication," *The Journal of Communication*, September 1961, pp. 141-48.

2. John F. Samaras, "Two-Way Communication Practices for Managers," *Personnel Journal*, August 1980, p. 645.

All those involved in defense policy-making will readily admit that strategy and all the other intangibles are of decisive importance, but they continue to neglect them. Recoiling from the complications of strategy, unwilling to make the effort needed to seriously examine tactical and operational matters, reluctant to immerse themselves in the infinite mass of details of leadership, cohesion, and morale, Pentagon officials and far too many military men happily cooperate in focusing on the inputs, the costs and material details that can be understood and argued about in perfect certainty. Then there is no need for strategic wisdom, nor for any serious study of military craft; the lowly skills of the bookkeeper are quite sufficient.

Edward N. Luttwak
The Pentagon and the Art of War, p. 152

SEVENTY YEARS OF NETHERLANDS AIR FORCE HISTORY

COLONEL MOZES W. A. WEERS, ROYAL NETHERLANDS AIR FORCE (RET)

ON 1 July 1983, the Royal Nether-lands Air Force (RNethAF) cele-brated its seventieth anniversary. From one (borrowed) aeroplane in 1913, the Dutch air force has developed into a modern and versatile air arm, with the General Dynamics F-16 as its principal weapon system. In NATO, the RNethAF forms part of the Sec-ond Allied Tactical Air Force, and Dutch air force personnel hold important positions in the integrated organization. The presence of the USAF 32d Tactical Fighter Squadron in the Netherlands is a visible token of the good rela-tionship between two air forces that are both dedicated to the maintenance of peace and freedom.

The crest of the Royal Netherlands Air Force bears the words *Parvus Numero—Magnus Me-rito* ("small in number but great in merit"). The beginning of this force was indeed very small. On 1 July 1913, Queen Wilhelmina of the Netherlands established by Royal Decree an aeronautical section as part of the Royal Neth-erlands Army. In its early days, this aeronauti-cal section consisted of one automobile, one borrowed aeroplane, and three pilots, soon to be reinforced by three Farman F-20 aircraft, the well-known French pre-World War I model.

Three years before, in 1910, the first Dutch pilots had received their wings in France; and

that same year, on 1 October 1910, one of them, H. Wijnmalen, scored the world's high-altitude record by climbing to a height of 2800 meters. Also in 1910, on 26 March, the Netherlands War Minister had installed a "Military Aero-nautics Committee" to report on the issue of "aeronautics . . . both from a military and a technical viewpoint." The final report of that committee is dated 9 April 1912 and consists of more than 100 pages. Much attention is de-voted to the use of balloons. The committee recommends the creation of an aeronautical section, however, in order to compensate for the weakness of the Dutch cavalry.

The newborn aeronautical section was based at Soesterberg, the same air base from which the USAF 32d Tactical Fighter Squadron is now operating but at that time no more than a piece of dry heathery land. When the First World War broke out in 1914, its strength had risen to eight aircraft. The Netherlands gov-ernment had decided on a policy of strict neu-trality; in consequence, the Dutch aircraft had to fly reconnaissance missions along the Neth-erlands borders, which—more often than not—resulted in a simple three-word debriefing: "Nothing to report." The short ranges of the Farmans necessitated the use of additional air-strips in the southern and eastern part of the Netherlands, some of which are still in use with

today's air force. Also, in 1916, the Dutch government bought a piece of land near Amsterdam in order to be able to concentrate its air fleet behind the main Dutch defense line, the so-called Dutch water line, if the Netherlands should become involved in the war. This airstrip later became Holland's national airport, Schiphol.

As a result of the war, no spare parts could be imported from France, and Dutch engineers had to improvise; but the same war provided (rather surprisingly) many additional aircraft, as more and more foreign pilots were forced to make emergency landings on Dutch territory. By the end of World War I, not less than 107 aircraft were interned and—unless they were too much damaged—bought by the Dutch from the original owners. The young Dutch air arm thus became a peculiar mixture of aircraft, but its pilots were certainly among the most versatile in the world!

When World War I ended, the situation in the Netherlands did not differ greatly from that in other countries. Everybody believed that this had been *the* war to end all wars, and defense funds became scarce. Nonetheless, the 1919-40 period will be remembered because of some remarkable feats, such as the performances of the first Netherlands stunt team, the "five fingers of one hand," as they were called, and the first flight to the then-Netherlands Indies in 1924 in a Fokker F-VII civilian airplane, manned by KLM's chief-pilot Thomassen à Thuessink van der Hoop and Lieutenant Van Weerden Poelman. This first trip took no less than fifty-four days, but it marked the beginning of KLM's international airline schedules. In 1932, two open-cockpit Fokker D-VII aircraft were stationed in Iceland for meteorological observations during the Second International Pole Year. These observations were made at an altitude of 18,000 feet!

During World War I, Anthony Fokker had lived and worked in Germany, but he came back to his native country and founded Fokker Aircraft Industries, the main supplier of mili-

tary aircraft for the Dutch air arm between 1920 and 1940. In 1919, the Dutch government placed an order for fifty-six Fokker C-1 reconnaissance aircraft and twenty single-seat Fokker D-VII fighter aircraft. The main weapon system for reconnaissance and fighter purposes became the Fokker C-5 single-engine, two-seat biplane, some of which were still in operational service when the war broke out in May 1940.

Its successor, the Fokker C-10, was the last biplane to be introduced in the Netherlands air arm. It was in full operational service during the early days of the war and, although it was inferior to the modern Messerschmitt aircraft, Dutch pilots outwitted their German opponents by what became known as the "house-tree-animal" technique of flying very low over the flat Dutch countryside. In 1937, under pressure of the international situation and the aggressive policies of Hitler-Germany, the Netherlands government started a modernization program for the Dutch air force. Fokker had developed a new monoplane, the D-21, thirty-six of which were ordered. The D-21 was simple in construction and maintenance and easy to fly but not as fast as its contemporaries: the Messerschmitt 109, the Hurricane, and the Spitfire. Another new Fokker product was the twin-engine T-5 bomber, sixteen of which were ordered for the new bombing wing. The increasing international political pressures forced the government to place contracts with other companies beside Fokker Industries, e.g., Douglas, which delivered, in 1939, eighteen Douglas 8-A aircraft. The pride of the Dutch, however, became the Fokker G-1 fighter, a slender, twin-engine, twin-tail aircraft, which carried no less than eight forward machine guns and one gun in the taildome. It was secretly developed in 1934 and was demonstrated for the first time at the 1936 Paris air show. The government ordered thirty-six of these fast aircraft.

On 1 September 1939, Hitler attacked Poland—an event that marked the beginning of World War II. It soon became clear that,
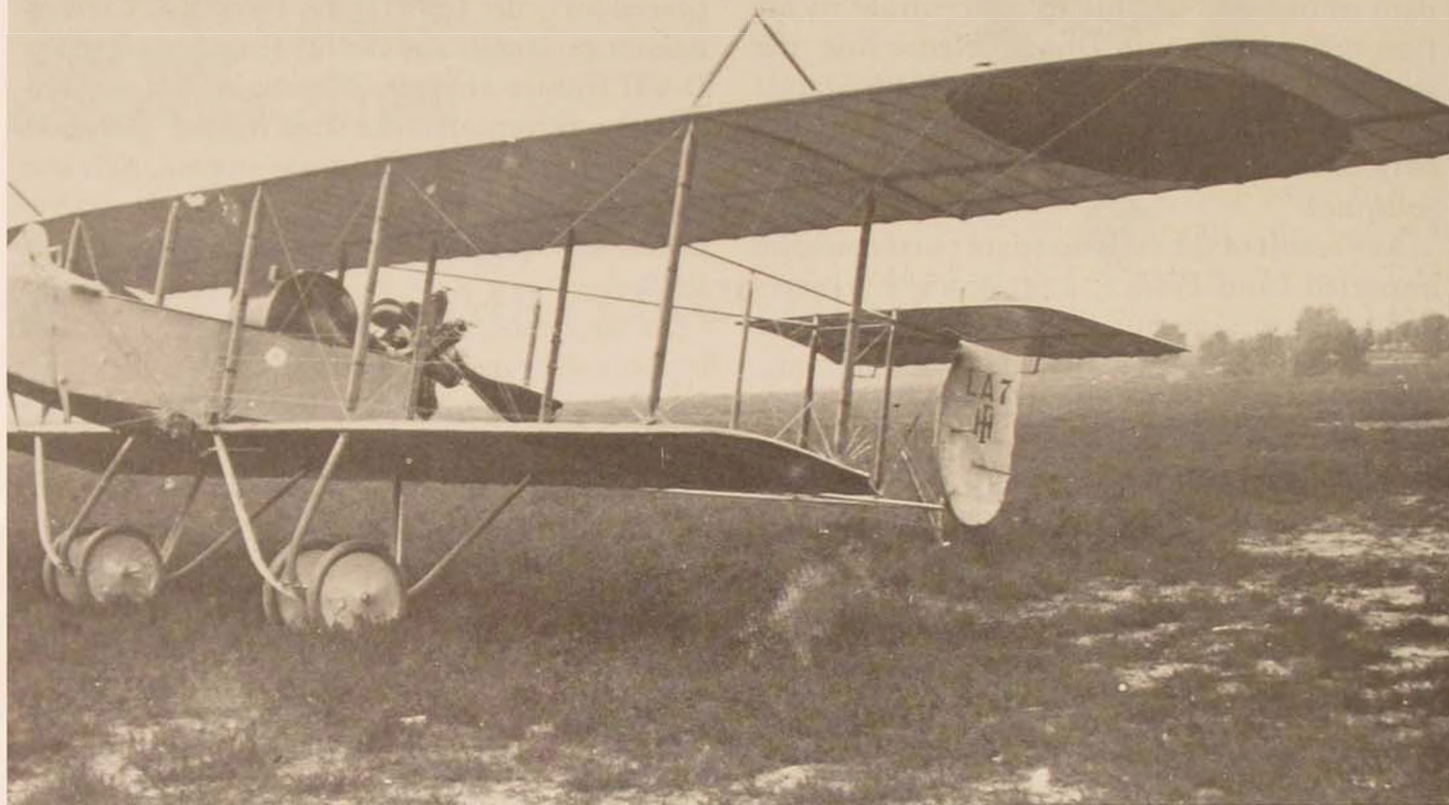
unlike 1914, the Nazi government would not refrain from violating Dutch neutrality, when, on 10 January 1940, a German aircraft made an emergency landing in Belgium and plans were found for a German attack on Belgium and the Netherlands. The Netherlands air arm, now consisting of two operational air regiments, accordingly prepared itself for war.

Number one regiment consisted of a staff and two groups: a strategic group of ten G-10 strategic reconnaissance aircraft at Bergen and nine T-5 bombers at Schiphol, plus a fighter group made up of four sections (squadrons) of eleven and nine D-21 aircraft and ten and thirteen G-1 aircraft, respectively. The second regiment consisted of four reconnaissance groups, which had nine, twelve, thirteen, and eight aircraft (both Fokker C-5 and Koolhoven FK 51 aircraft), and a fighter group with one section of nine D-21 aircraft and another section with eleven Douglas D 8A aircraft. Fighters and re-

connaissance aircraft were dispersed over several airfields in the Netherlands. The grand total was 124 operational-ready aircraft. But what about their value in a struggle against the Luftwaffe? The Douglas D 8A was a light bomber-reconnaissance plane; to use it in a fighter role was a costly mistake. The Fokker D-21 was a good aircraft but not fast enough; the Fokker C-10's range and speed were insufficient for a strategic reconnaissance plane; and the Fokker T-5 bomber was not quite ready for operational use, only one aircraft having been equipped with a good bomb rack. All in all,

only seventy-two modern aircraft were available to withstand an overwhelming majority.

The German plans included two attacks by the airborne corps under General Karl Student's command. One group was to land near The Hague in order to capture the Royal family and the government; the second group received orders to attack the river crossings south of Rotterdam to facilitate the advance of the German 18th Army. Not less than 430 Ju 52 transport aircraft were made available to General Student; air support was to be given by General R. Putzier's units, totaling approximately 160 serviceable bombers (Heinkel 111, Ju 88, and Ju 87) and 240 fighters (Me 109 and Me 110).

The German attack did not come wholly unexpected. As of 8 May, each morning from three to eight o'clock, all aircraft were on quick-reaction alert status. During the night of 9-10 May, many German aircraft flew over Holland in a westerly direction. The Dutch air defense command did not possess radar but received its reports from an air observer corps. The Dutch thought that the Germans had violated their neutrality for the purpose of mounting an air attack against Great Britain—as had happened before. However, over the North Sea the German planes made a 180° turn and approached the Dutch coast at very low altitudes in order to attack the airfields of Bergen (G-1 fighters and C-10 recce aircraft), Schiphol (D-21 and T-5 aircraft), Valkenburg, and Ypenburg (C-5, FK-51, D-21, and D 8A aircraft). Other airfields were attacked simultaneously by fighter aircraft. The unexpected bombardments caused moderate to severe damage but demoralized the airfield defense forces. At Bergen, the recce aircraft had been dispersed and thus remained undamaged, but the thirteen G-1 fighters had been closely packed together so

Anthony Fokker returned from Germany in 1920 to continue building airplanes in his native country. The Fokker D-VII (top), of World War I vintage, served until 1938. . . . The C-V (below) entered service in 1934 and was in the inventory when German troops invaded Holland in May 1940.

that only one aircraft had been able to take off. At Schiphol and Ypenburg, practically all aircraft were able to take off in time. Fifty minutes after this attack, many German transport planes appeared near The Hague and south of Rotterdam. Paratroopers were dropped by the hundreds, with orders to conquer the four main airfields in their regions within thirty minutes so that other transport planes could bring in reinforcements.

For five hectic days, the Dutch fought against the German invaders. During this period, Dutch pilots and antiaircraft gunners succeeded in bringing down 345 enemy aircraft, including
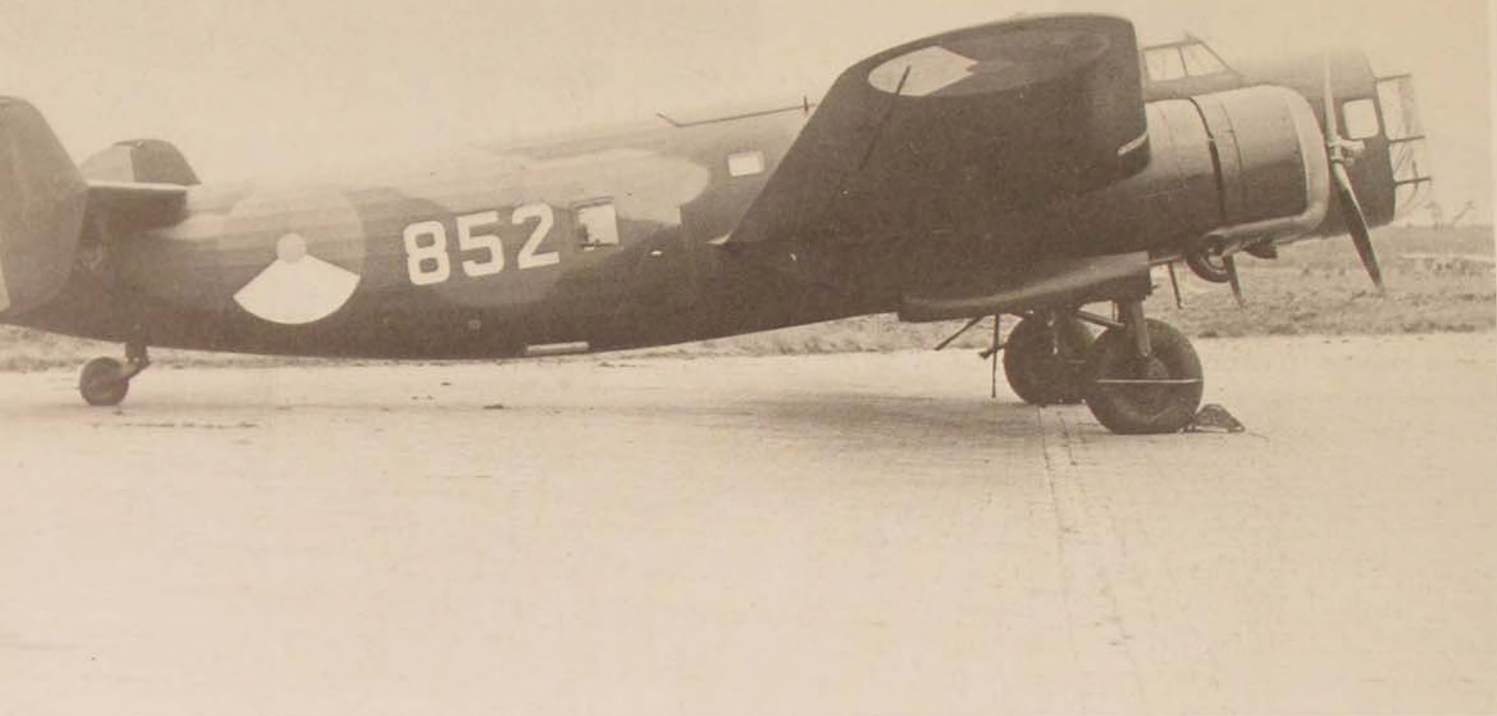
When World War II erupted, there were 124 airplanes in the Royal Netherlands Air Force, about half of which were ready for combat. Only one of the dozen-or-so T-V twin-engine bombers (above) had been fitted with bomb racks. . . . After the war, when Holland vowed to create an effective air force, it began by building the British Gloster Meteor jet fighter (below) in Fokker factories.
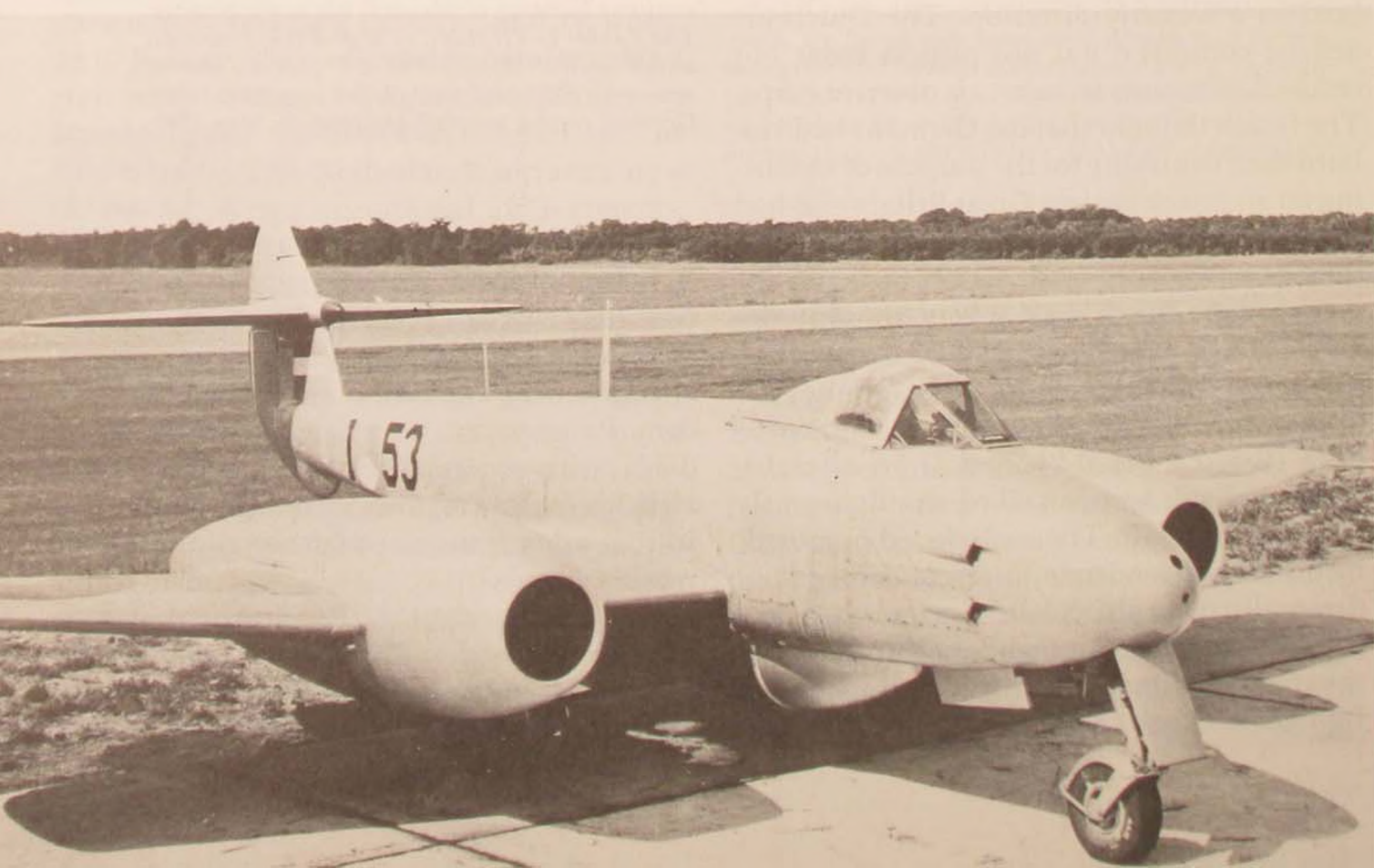
222 Junkers 52 transport planes—more than 75 percent of the then-existing Luftwaffe transport fleet. Dutch losses were heavy, however: nearly all aircraft were lost, and seventy-five men were killed in action. On 18 May 1940, the Commander-in-Chief, Royal Netherlands Army, who had capitulated when the Germans bombed Rotterdam on 14 May, and who represented the Netherlands government in occupied Netherlands, awarded to the Netherlands air arm the "Militaire Willemsorde," the highest award for courage, conduct, and loyalty.

The cadets of two Dutch flying schools and some instructors and other personnel succeeded in escaping to France, from where they were brought to England. The group consisted of some 250 men, soon to be reinforced by others who had succeeded in escaping occupied Holland. Some of these men were attached to the

Though a relatively small force, today's Royal Netherlands Air Force plays a vital role in NATO. Newly acquired F-16s provide added clout to a force committed to the motto "small in number but great in merit."

Dutch Naval Air Arm (320th Squadron and 321th Squadron), the backbone of which consisted of naval personnel who had taken refuge in England with their aircraft, Fokker T-8W seaplanes. In 1941, Dutch prince consort Bernhard persuaded the British government of the desirability to form a Dutch squadron within the Royal Air Force organization—the 322d Dutch Spitfire Squadron. Many more Dutchmen were trained and enrolled in all sorts of allied squadrons; they flew Mosquitos, Lancasters, Halifaxes, Typhoons, etc. The 322d Squadron later became part of the 2d Allied Tactical Air Force and as such returned to the Netherlands in the wake of allied ground forces on 3 January 1945.

So far, nothing has been said about the Dutch possessions in the Far East, the Netherlands-Indies (now the Republic of Indonesia). The Dutch armed forces in this territory—with the exception of the Royal Dutch Navy—did not come under the competency of the Netherlands War Ministry but belonged to the Ministry for Colonies. The buildup of the Netherlands-Indies air arm, like that of forces in the

Netherlands, had suffered from the Dutch policy of strict neutrality and the lack of funds in the years before 1940. But contrary to the homeland, the Netherlands-Indies government had one more year in which it could make preparations for the struggle against imperial Japan. Thus when—on 30 November 1941—the air arm was fully mobilized, it consisted of 224 first-line combat aircraft—80 Glenn Martin bombers, 72 Brewster Buffalo, 16 Curtiss Hawk and 20 Curtiss Interceptor aircraft, and 36 Curtiss Falcon recce aircraft—plus an additional 19 Lockheed Lodestar transport planes. On order—but not delivered in time—were 162 B-25 Mitchell and 162 Brewster Bermuda aircraft. The Dutch Navy possessed in the Indies another 60 seaplanes (Dornier and Catalina flying boats).

The first Japanese landing came on 17 December 1941 near Miri in the Sarawak province of Borneo. The struggle lasted until 7 March 1942, when the Dutch commander-in-chief was forced to capitulate. Before this date, however, nearly 500 pilot-students with their instructors had been evacuated to Australia. This group was reinforced with remnants of the army and naval air arms and with a number of experienced pilots who had been sent to Australia to collect B-25 aircraft but who found that these aircraft had not yet arrived. Thus, a considerable number of personnel were available to continue the fighting against the Axis powers.

In April 1942, the Dutch government in exile (London) decided that the flying school should continue its activities in the United States. Thanks to the cooperation of U.S. authorities, the Dutch could settle down in Jackson, Mississippi, under the command of Major-General L. H. van Oyen. The base commander at that time was Colonel Mayer, USAAF. All aircraft were made available by the U.S. government under the conditions of the lend-lease program, with the exception of all twin-engined aircraft, which were bought by the Dutch government. The flying school became a tremendous success with army and navy personnel

brought together in one organization. The school included not only flying training but also training for navigators, bombardiers, air gunners, and other specialists. For these additional training programs, detachments were formed in Sioux Falls, San Antonio, Midland, Corpus Christi, Panama City, Pensacola, and Myrtle Beach. The total strength of the Dutch organization amounted to some 700 people.

The first group of pilots was honored by U.S. officials, who allowed the group to make a "goodwill" tour of the United States with a formation of twelve B-25 bombers. Also, these pilots were to ferry their own aircraft across the Pacific Ocean without the help of U.S. ferry pilots. The trip of approximately 17,000 miles went according to plans, and this first ferry flight was followed by a second one. Much to their regret, the fighter pilots, with their P-40 aircraft, had to cross the ocean by ship because of the short range of their aircraft. On 8 February 1944, the Dutch flag was lowered at Jackson for the last time: the training program was finished.

In the meantime, the Dutch had formed No. 18 Bomber Squadron in Australia, but because of difficulties it was not until January 1943 that this squadron became operational. Initially, squadron losses were high due to insufficient familiarity with the new aircraft, unreliable armament, and injudicious tactical utilization by the Royal Australian Air Force headquarters, which was in operational command of No. 18 Squadron. No wonder that everybody was happy when new crews arrived from the United States to relieve the first group after an overextended operational tour. The fighters were brought together in No. 120 P-40 Squadron, which operated most of the time from Merauke, and—as of April 1945—from Biak on New Guinea.

The third Netherlands-Indies squadron that

became operational during the war was No. 19 C-47 Transport Squadron. Crews for this squadron were in part recruited from USAAF 374th Troopcarrier Group under Colonel Ray T. Elsmore: they were Dutch airline pilots who had escaped from the Indies at the beginning of the war.

V-J DAY, 15 August 1945, marked the end of World War II but not the end of military operations for the Netherlands-Indies army and air force. From the point of view of an air force man, it was an interesting period, characterized by a fast buildup under difficult circumstances and close cooperation with the air force in the Netherlands. The immense territory was divided into three regional commands, and air force headquarters was set up in Batavia (now Bjakarta). New aircraft, which had been ordered before the end of the war, arrived; and two additional fighter squadrons were formed, equipped with the North American P-51. Personnel and equipment arrived from the Netherlands, and ex-POWs also reinforced the army and the air force. By early 1947, there were fifteen air bases in use, occupied by two bomber squadrons, one photorecce flight, two transport squadrons, three fighter squadrons, and seven light aircraft recce/communication flights, plus a flying school and a maintenance base.

On 21 July 1947, this refurbished air force was put to a test when organized fighting started between Dutch and Indonesian forces. Similar to what the Israelis did to the Egyptian air force during the Six-Day War, the Dutch, in a sweeping attack, destroyed all Indonesian (ex-Japanese) aircraft but one, which was destroyed later. Thus, all air force resources became available for the support of ground forces. This pattern was repeated during the second policing action, which commenced on 19 December 1948 and lasted until 9 January 1949. Totals during this second action were 2403 sorties and about 4100 flying hours for the loss of

four fighters and five light aircraft and their crews.

The military victory was overshadowed by political events, however. A "Round Table Conference" resulted in the acquisition of complete independence by the young Republic of Indonesia. Among the terms of the agreement was one that meant the end for the Netherlands-Indies air force: all installations, aircraft, and other equipment were to be transferred to Indonesia. On 26 July 1950, the last of a series of transfers took place, and thirty-six years of military air force history came to an end.

In the Netherlands, the postwar air force had to start with fewer assets than their colleagues in the Indies. The Dutch government in exile in London possessed a directorate for the air force, which was transferred to The Hague soon after the liberation of the Netherlands in May 1945. In 1947, this directorate was reorganized into an Army Air Force Command for the Netherlands, and plans were made to move toward establishment of one independent Netherlands air force with an air staff in The Hague and two separate operational commands—one in Holland and another in the Indies. The air staff started its work, but events in the Indies made it necessary to change these plans drastically.

Operational units during these postwar years consisted of the 322d Dutch Spitfire Squadron, deactivated by Great Britain's Royal Air Force but now reactivated as a national squadron; No. 6 Auster Squadron (light aircraft); and a transport squadron, the TRANSVA, later numbered as the 334th Squadron. In 1948, international developments led first to the Brussels Treaty and, one year later, to the founding of NATO. The Netherlands accepted a Medium Term Defence Plan, whereby Belgian and Dutch air spaces were combined to one air defense area to be defended by No. 69 Group. The Royal Air Force was to take care of German airspace with two groups. This plan marked the beginning of international cooperation in

the air defense field in what later would become the 2d Allied Tactical Air Force. It also was determined that tactical fighter bomber squadrons to support offensive and defensive ground operations needed to be established. But what about the costs of realizing these ambitious plans?

Since 1945, the 322d Spitfire Squadron, the light aircraft squadron, more than 1000 volunteers, and four companies of airfield defense troops had been sent to the Netherlands-Indies to reinforce the forces there. Accordingly, the Dutch had to start practically from scratch in a country that had suffered tremendously during the last year of the war and where every penny was to be used for reconstruction purposes. Fortunately, the government decided to buy Great Britain's Gloster Meteor, which was already in use with the RAF. More important was that the Dutch Fokker factories were licensed to build the Gloster Meteor, with Belgium's Fabrique Nationale as producer of licensed Rolls-Royce Derwent engines. As a result, the first Meteor squadron was founded in 1948, to be followed, in 1949 and 1950, by four additional squadrons.

In the meantime, the U.S. government had agreed to the Mutual Defense Aid Program (MDAP). It was under the terms of this program that the tactical squadrons were to be equipped. In 1951, the first F-84E Republic Thunder jets arrived; and by 1953, with the support of U.S. MDAP teams, four tactical squadrons had obtained operational status. The buildup was accompanied by organizational changes. Army Air Command Netherlands was split up, forming an Air Defense Command, a Tactical Air Command, a Logistics Command, a Training Command, and an Air Field Defense Command. Two more air defense squadrons were added to the Dutch strength, as well as one more tactical fighter-bomber squadron and a photorecce squadron. In 1956, three night fighter squadrons, equipped with F-86K Sabre jets, completed the buildup.

This fast extension of the Dutch air forces in so short a period put a severe strain on personnel resources and would have been impossible but for the return to the Netherlands of the majority of the Netherlands-Indies Air Force personnel in 1950. Thus, in a different way than originally planned, both air forces were merged, eventually becoming an independent air force in 1953 by Royal Command.

The history of the Royal Netherlands Air Force during the last thirty-or-so years since 1953 is very much a history of NATO, of changes in strategy (from massive retaliation to flexible response), of modernization of aircraft and other equipment, but also of increasing costs and of diminishing Dutch readiness to make sacrifices for the defense of the West. As a result, the Dutch air force today is smaller than it was thirty years ago. Some of the highlights during this period were:

• On 16 November 1954, a detachment of the USAF 512th Fighter Day Squadron arrived at Soesterberg Air Base "to augment the Royal Netherlands Air Force Defense Forces under NATO." The U.S. Air Force is still operating from Soesterberg, but the unit has since been redesignated the 32d Tactical Fighter Squadron, while the original F-86 Sabres have been replaced by F-15 Eagles. It is the only U.S. Air Force unit that bears the crest of the RNethAF with the Crown and Wreath of the Royal House of Orange.

• In 1957, a first group of Dutch air force technicians went to the United States to be trained in guided missiles operations; and, since 1960, European air defense has been reinforced by Dutch Nike and Hawk antiaircraft missile batteries that are stationed in Germany. These batteries are part of the Dutch air force organization but are under NATO operational command.

• In 1956, the first generation of jet aircraft—the Meteors and the Thunderjets—had to make place for new aircraft, namely, the British Hawker Hunter and the F-84F Thunderstreak, which, in turn, were replaced by the F-104G Starfighter during the early 1960s. In 1971, a modified F-5 Northrop fighter, known as the NF-5, was introduced. All these aircraft have been removed from active service now and have been replaced by the General Dynamics F-16 (except the NF-5, which will be replaced at a later date). The F-16 represents a completely new generation of versatile fighter aircraft, and it is very adroitly called "the air force's whirlwind."

• In 1960, the famous C-47 Dakotas of the 334th Transport Squadron were replaced by Fokker F-27 aircraft, the only original Dutch aircraft still in use with the RNethAF. In the early 1970s, all light aircraft were replaced by helicopters—French Alouettes and German Bölkows.

New strategic and tactical concepts, as well as the need to reduce personnel costs to a minimum, have resulted in a streamlining of the RNethAF organization. Under the general direction of the Air Staff in The Hague, the former five operational commands have now been reduced to two: a Tactical Air Forces Command, comprising both the air defense and the tactical fighter components and working in close cooperation with NATO's 2 ATAF Headquarters, and a combined Logistics and Training Command, comprising nearly all other air force units. Only a few specialized units come directly under the Chief of the Air Staff, who is at the same time Commander-in-Chief of all RNethAF forces.

WHEN, in 1913, the advisory committee wrote its report, these wise men concluded that the Netherlands defense organization had to be enlarged with an aeronautical section because "the possession of appliances of the same nature as are available to a potential enemy is not only necessary from a purely practical point of view but also, and to a very large extent, from a moral point of view." These words still hold true after seventy years of Dutch air force history. The Royal Netherlands Air Force is proud of its heroic past, but it is even more proud of the fact that with its sophisticated equipment, its high training standards, and the loyalty of its personnel, it is a valuable asset in NATO's defense of the free world: *Parvus Numero, Magnus Merito!*

Apeldoorn, The Netherlands

LASER GYROSCOPES—THE REVOLUTION IN GUIDANCE AND CONTROL

COLONEL WILLIAM D. SIURU, JR., USAF (RET)
MAJOR GERALD L. SHAW

THERE is an ever-increasing demand for accurate, yet low-cost and highly reliable guidance, control, and navigation systems for air, land, sea, and space vehicles. The heart of these systems are gyroscopes, devices which can precisely measure changes in orientation of an airplane, ship, tank, or satellite as it moves.

The familiar mechanical gyroscope with its rotating wheels is now seeing competition from the laser gyroscope, another application of the versatile laser. For this reason, military readers may find it helpful to know how the laser gyroscope works, its advantages and disadvantages, the current status of laser gyro-

scope technology, and what it all means in terms of future military system capability.
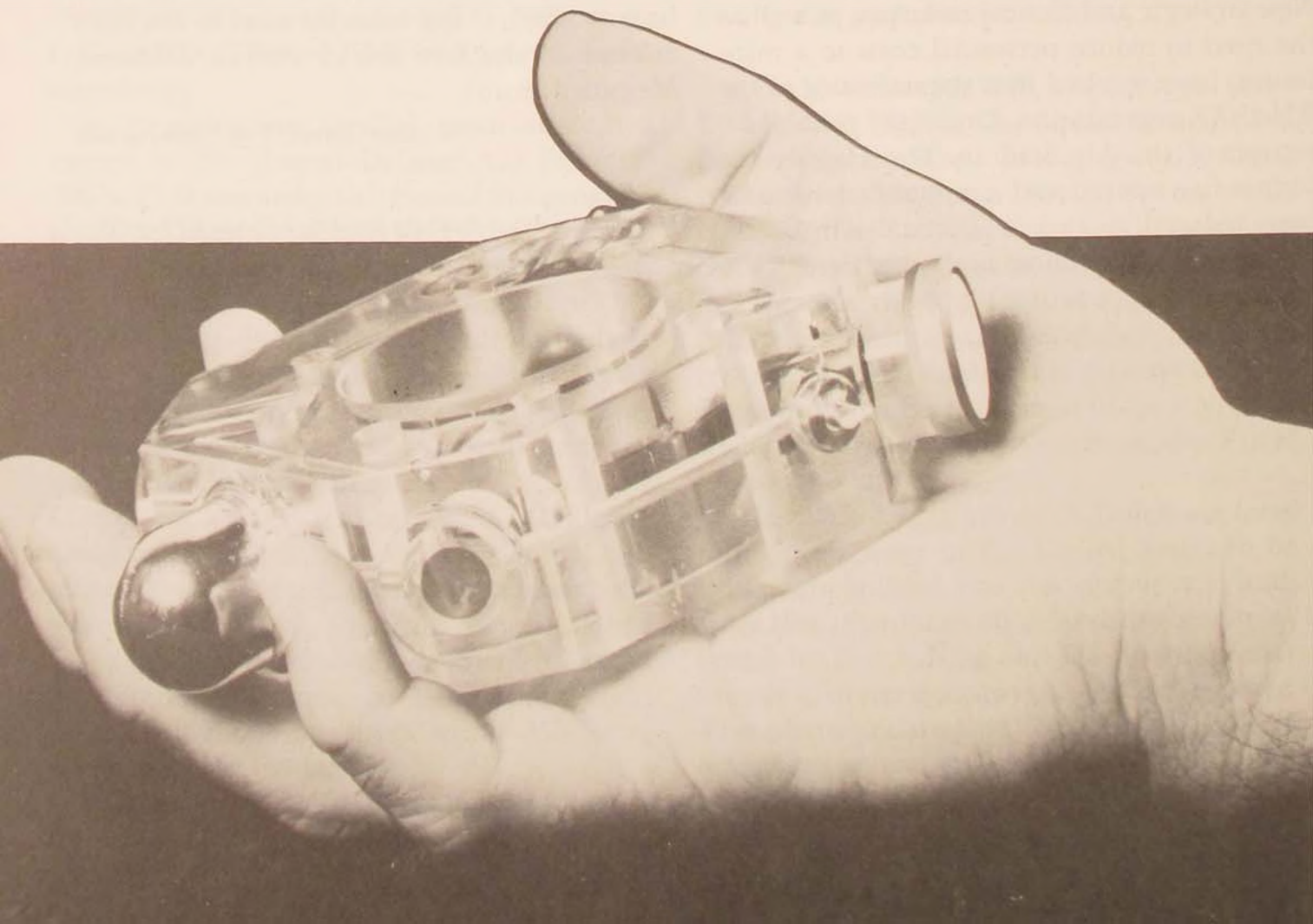
How a Laser Gyroscope Works

The laser gyroscope works on a physical principle discovered by the French physicist G. Sagnac in the first decade of this century. In simple terms, Sagnac found that the difference in time that two beams, each traveling in opposite directions, take to travel around a closed path mounted on a rotating platform is directly proportional to the speed at which the platform is rotating. This principle is incorporated in a laser gyroscope. Although Sagnac and other scientists demonstrated the concept in the laboratory, it was not until the 1960s, with the advent of the laser beam with its unique properties, that the principle could be used in a practical gyroscope. The key properties of the laser that make the laser gyroscope possible are the laser's coherent light beam, its single frequency, its small amount of diffusion, and its ability to be easily focused, split, and deflected.

In the laser gyroscope, the two counterrotating laser beams travel around a closed circuit or ring, which is usually rectangular or triangular. Such a laser gyro is referred to commonly as a ring laser gyroscope. (See Figure 1.) Mirrors are located at each corner to turn the beams. At one corner, there is a detector or an output sensor. However, rather than detecting time-of-travel differences, the detectors measure differences in frequency, using the Doppler principle which is the basis of range-finding radars. The beam that is traveling in the direction of rotation of the platform has a longer distance to travel and thus a lower frequency. Conversely, the beam traveling against the direction of motion has a shorter path and a higher frequency. The difference in frequency is directly proportional to the rotation rate.

In an actual application such as an aircraft autopilot, three laser gyroscopes would be used to sense changes in pitch, roll, and yaw. In addition, there would be three accelerometers
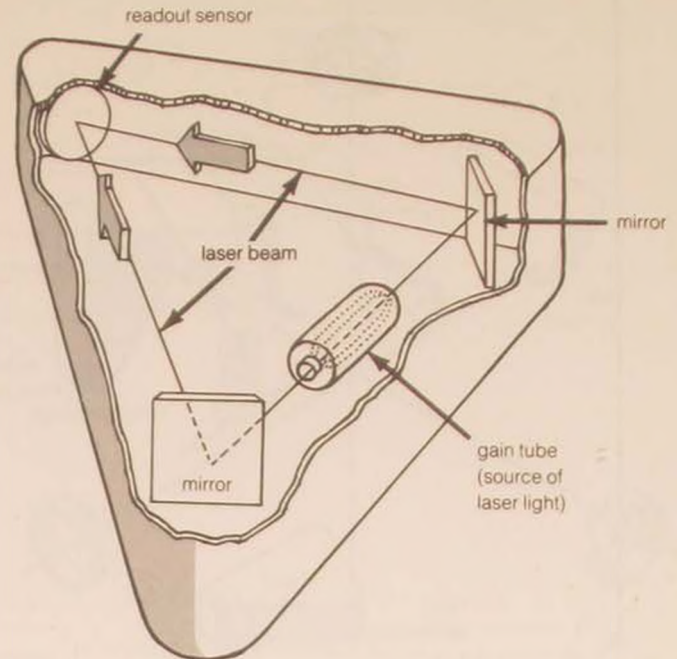
Figure 1. Ring laser gyroscope

to measure longitudinal, lateral, and vertical motion. (See Figure 2.)

Advantages and Disadvantages

There are many characteristics desired in a gyroscope for military applications. These include accuracy, long-term stability, low cost, high reliability, low maintenance, high tolerance to accelerations and vibration, small size and light weight, minimum start-up time, and low power requirements.

One of the significant attributes of the laser gyro is its use of very few moving parts. Indeed, it is theoretically possible to build laser gyros without any moving components. Unlike the conventional spinning gyroscope with its gimbals, bearings, and torque motors, the laser gyroscope uses a ring of laser light, together with rigid mirrors and electronic devices. Thus the laser gyroscope is more rugged than conventional gyros, offering the obvious advantages of much greater reliability and lower maintenance requirements. Typically, laser gyros have a mean-time between failures about twice that found in conventional gyros.[1] Not

Figure 2. Three laser gyroscopes would be combined with three accelerometers to form a complete navigation, guidance, and control system.

only does the greater reliability of the laser gyro mean lower life-cycle costs, but such gyros potentially could be less costly to produce in the first place. Current technological efforts are under way to get production costs down. Indeed, some of the advanced work on very small solid-state devices portends substantial reducti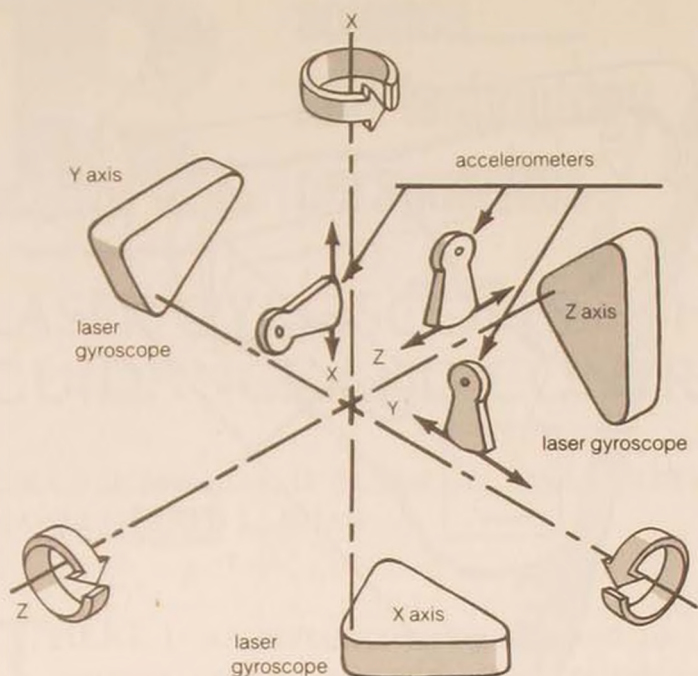on in cost and increases in reliability. The miniature laser gyros that may result could be used in such applications as low-cost tactical missiles and even "guidance" systems issued to the individual foot soldier to replace his compass.

Because the laser gyro uses solid-state components and "massless" light, it is insensitive to variations in the earth's magnetic and gravity fields. Likewise, shock and vibration have little impact. The laser gyros are especially attractive for high-performance aircraft, remotely piloted vehicles, and missiles. High-speed turns, dives, and jinking maneuvers do not represent a real problem to a laser gyro. Unlike a conventional gyro that requires a finite time for wheels to spin up and bearings to come up to operating temperatures, the laser gyro is essentially ready instantaneously when turned on. Again, because of the absence of moving parts and solid-state components, a typical laser gyro has much lower power requirements than a conventional laser and requires half as much cooling.[2]

In regard to the important matter of accuracy, the laser gyro has the potential to provide accuracy equivalent to that offered by mechanical gyroscopes, even to the accuracy levels required for the ballistic missile role.[3] (See Figure 3.) Today, accuracy levels of laser gyros in production are in the range of slightly less than one nautical mile per flight hour—about the minimum required for typical aircraft missions and for use in tactical cruise missiles. Short-range tactical missiles such as the AIM-7 and AIM-9 can do very well with rate gyros in the 10-nm/hr to 100-nm/hr class.

One of the inherent difficulties of the laser gyro is the problem of frequency "lock-in." As previously mentioned, the laser gyro measures turning rate by sensing frequency differences. When the rate of turn is very small and thus the frequency difference between the two beams is also small, there is a tendency for the two frequencies to couple together, or "lock-in," and a zero turning rate is indicated. Lock-in limits the accuracy of the laser gyro at important low turn rates. Fortunately, there are several ways to overcome the problem of lock-in. The approach currently used in production devices is to "dither," or vibrate, the gyroscope, either mechanically or electromagnetically. This dithering of the laser gyroscope adds to the complexity, weight, and size of the device, and, in the case of mechanical dithering, adds moving mechanical parts. Another approach is to use a passive ring laser gyro. In a passive system the laser itself is located outside the actual ring. This is in contrast to an active laser gyro, where the laser is an integral part of the ring. (See Figure 4.) To date, passive laser gyros are still in the experimental stage; the laser gyros in production are all active devices.
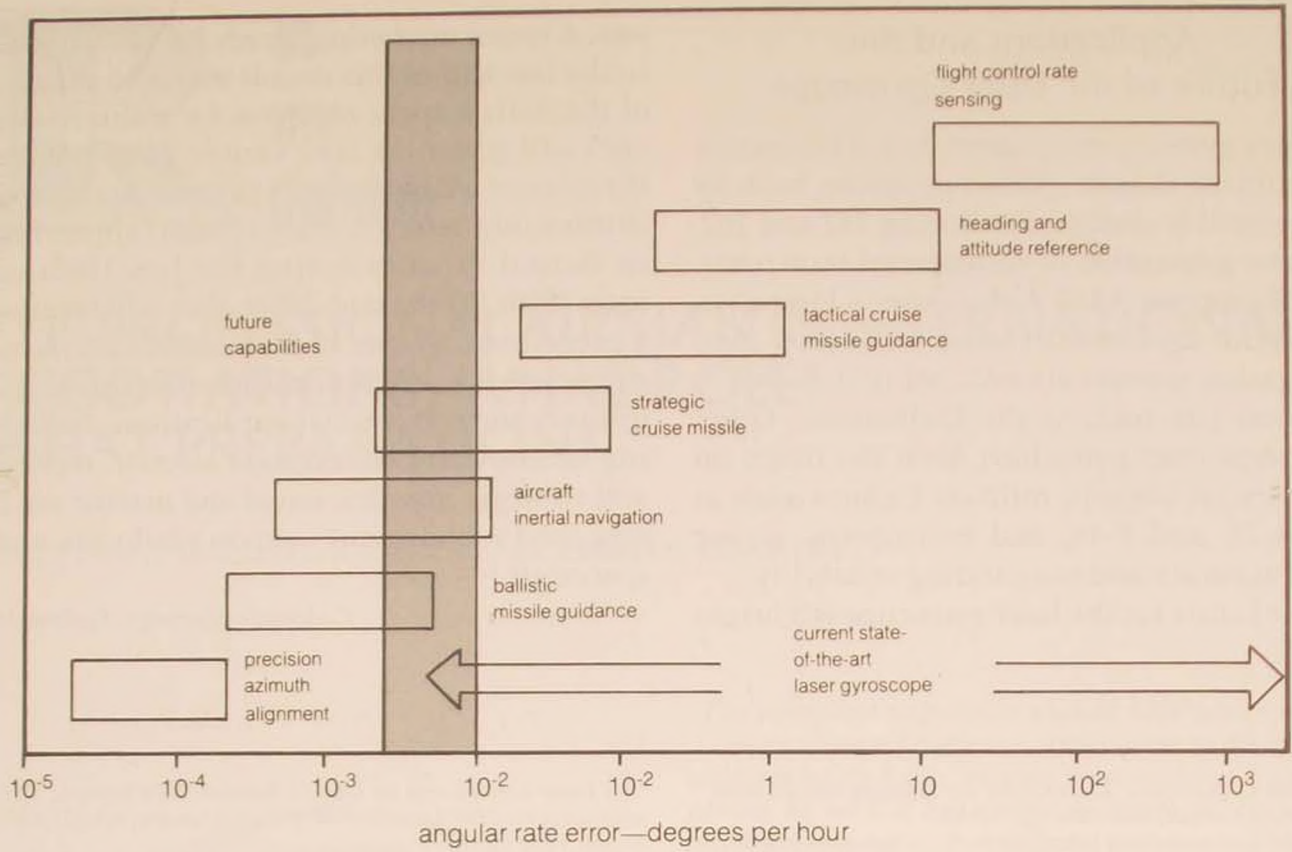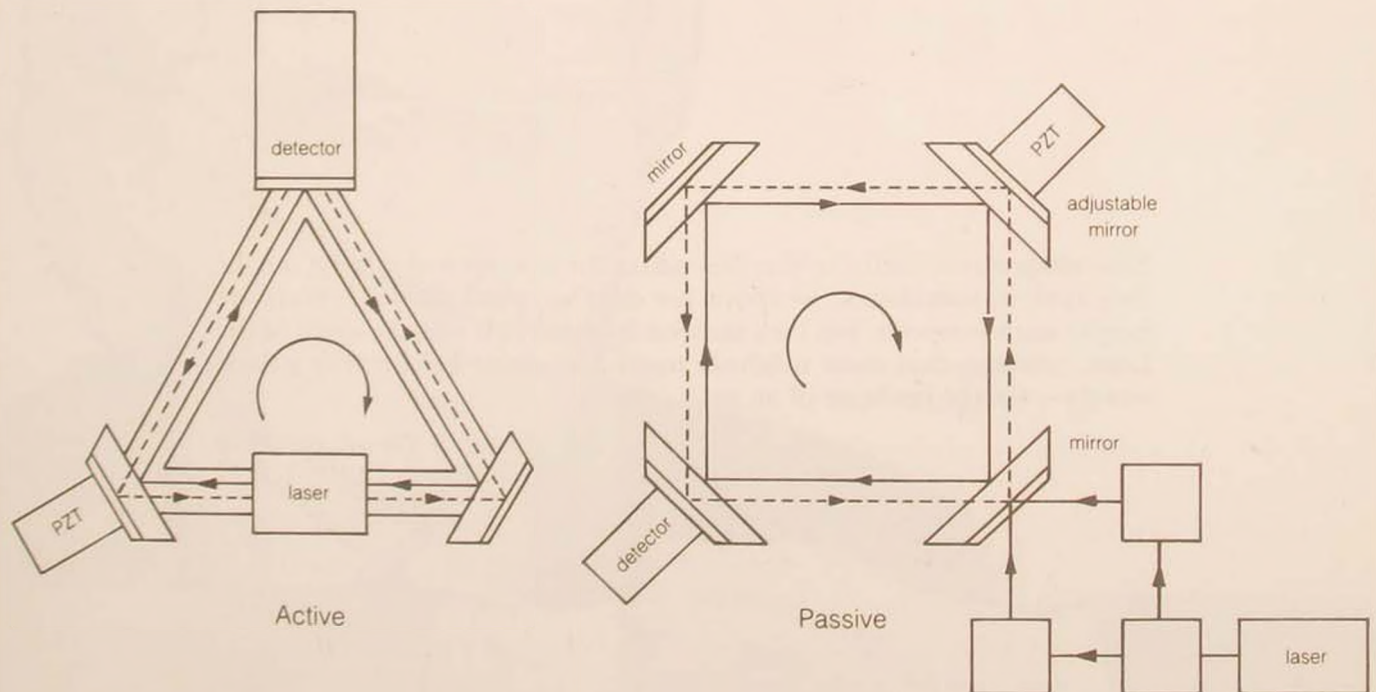
Figure 3. Attitude rate sensing requirements

Figure 4. Types of laser gyros

Applications and the Future of the Laser Gyroscope

Laser gyroscopes are more than a laboratory experiment. A laser gyroscope system built by Honeywell is used on the Boeing 757 and 767, the new generation of commercial transports. The European A310 Airbus uses a laser gyro unit built by Litton. Honeywell's laser gyro navigation systems are now being installed in business jets such as the Gulfstream. Other prototype laser gyros have been test flown on commercial aircraft, military fighters such as the A-7E and F-14, and helicopters, giving good accuracy and outstanding reliability.

The future for the laser gyroscope is a bright one. A recent marketing survey has shown that in the last half of this decade about 50 percent of the dollars spent on gyros for military aircraft will go for the laser variety. In the 1990s, the amount will jump to 75 percent. According to this study, laser gyros should start appearing in tactical missiles during the late 1980s or early 1990s. By the mid-1990s, they will capture a predominant share of the market. The laser gyroscope is a viable contender for almost all military and commercial applications, including military and commercial aircraft, tactical and strategic missiles, naval and marine vehicles, land vehicles and weapon platforms, and spacecraft.[4]

Colorado Springs, Colorado

Notes

1. John C. Patterson, "Laser Gyros, Supplanting Inertial Navs," *Defense Electronics*, May 1981, pp. 106-09.
2. Jerry Lockenour and John J. Deyst, Jr., "Aerospace Highlight 1980, Guidance and Control," *Astronautics and Aeronautics*, December 1980, pp. 58-59.
3. W. Kent Stowell, Robert W. McAdory, and Robert Ziernicki, "Air Force Applications for Optical Rotation Rate Sensors," *Proceedings of the SPIE Laser Inertial Rotation Sensors*, vol. 157, 30-31 August 1978, pp. 166-71.
4. Robert G. Brown, "Growing Role Predicted for Inertial Technology," *Military Electronics/Countermeasures*, December 1980, pp. 40-46.

New weapons are useful in that they add to the repertoire of killing, but, be they tank or tomahawk, weapons are only weapons after all. Wars are fought with weapons, but they are won by men . . . It was the spirit of the Lord, *courage*, that came mightily upon Samson at Lehi which gained victory—not the jawbone of an ass.

George S. Patton, quoted in
Martin Blumenson, *The Patton Papers*, I, p. 17

R in my opinion

THE PROFESSIONAL AIRMAN IN INTERNATIONAL NEGOTIATIONS: WHAT ROLE? WHAT PREPARATION?

LIEUTENANT COLONEL RICHARD EARL HANSEN, USAF (RET)

The compleat negotiator should have quick mind but unlimited patience, know how to dissemble without being a liar, inspire trust without trusting others, be modest but assertive, charm others without succumbing to their charm, and possess plenty of money and a beautiful wife while remaining indifferent to all temptation of riches and women.

Manual on Diplomacy, published
during the
seventeenth and eighteenth centuries
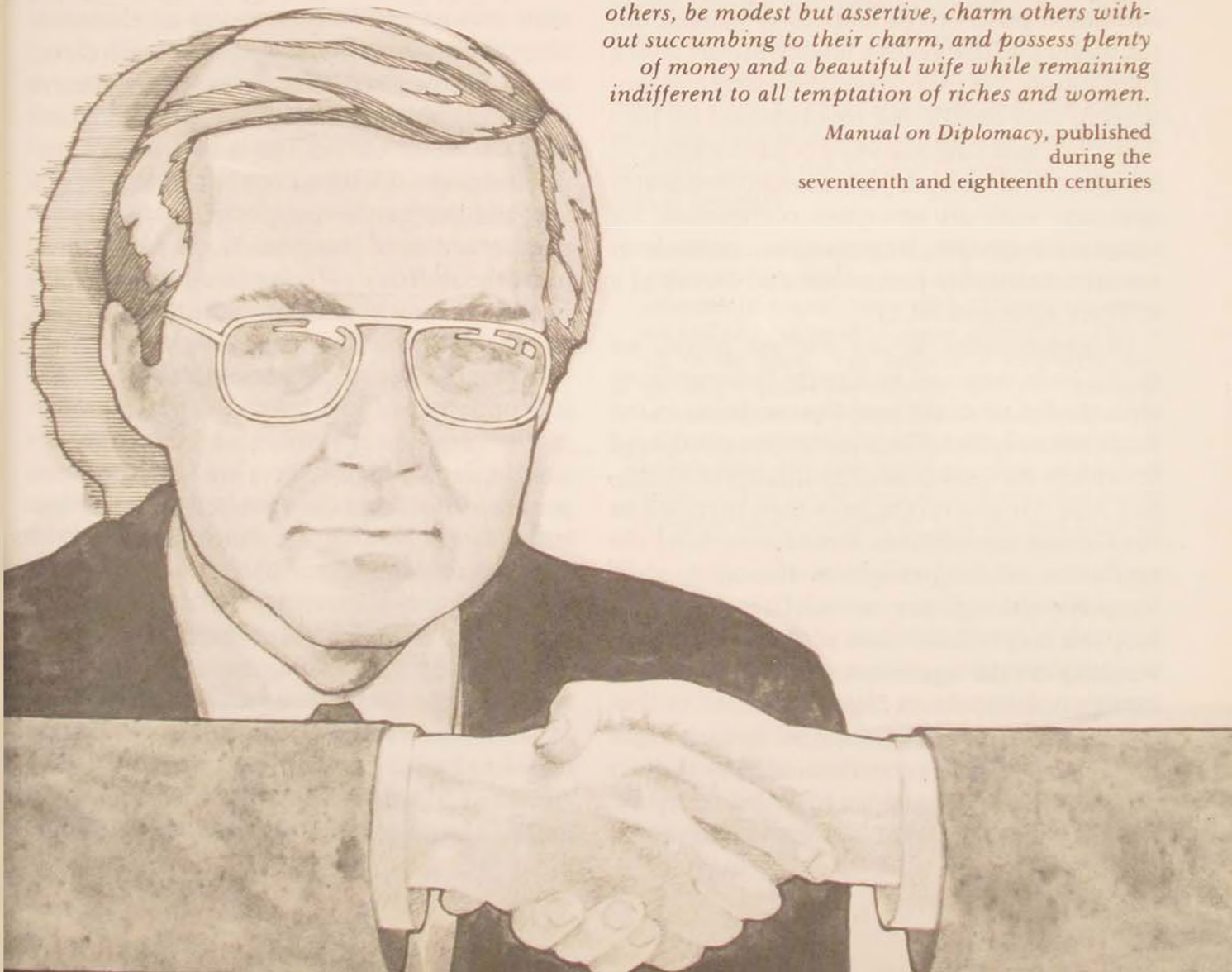
ONE must speculate that candidates for such a compleat negotiator will be hard to find within the U.S. Air Force officer or noncommissioned officer (NCO) corps, even if "plenty of money and a beautiful wife" were eliminated from the list of required qualifications. Today, as in previous eras, a good man is hard to find. Perhaps it is fitting that instead of trying to find a good man, or throwing the nearest reasonably qualified person into the breach, that the U.S. Air Force get down to the practical matter of educating a cadre of negotiators—a distinguished and skillful group from which individuals can be summoned as the requirement arises.

Not a day passes without our taking part in some form of negotiation. Today you may have negotiated with your compatriots over so simple a matter as who would buy the coffee. You may have negotiated a contract to paint the command post, or you may have worked out the wages and fringes of a labor contract with a local union. You may have been party to negotiations over conflicting requirements for limited office space among wing organizations. At a higher level, you may have negotiated major contracts with an aerospace corporation for weapons or services. Negotiations at some level are an inextricable part of the daily work of a military officer or NCO.

In negotiations at the highest plane, we might have seen you as a party to bargaining with the future of the nation at stake, as in the Paris talks of the 1970s which were conducted to achieve the cessation of hostilities in Southeast Asia. Or you might have been involved in the Geneva negotiations aimed at curbing the escalation of long-range or theater nuclear weaponry through arms control treaties. Then, too, you might have been in the Middle East working on the agreement for withdrawal of foreign military forces from Lebanon.

The role of military personnel in such high-level negotiations is often obscured by the fact that the leading participants are State Department officials or special envoys wearing mufti.

Nevertheless, military personnel, if they can be seen at all, are at the "right hand" of the official representatives, providing valuable support. Meanwhile, behind the scenes, other military participants are engaged in indispensable staff work, researching technological details, analyzing military implications, setting up logistical and force dispositions, and preparing position papers for the protagonists. In certain instances, as at Geneva in the Strategic Arms Reduction Talks (START), military figures *are* the principals. U.S. Army Lieutenant General Edward L. Rowny is such a protagonist, although he now has ambassadorial rank and has doffed his uniform.

From what well of experience do we select our U.S. military representatives and staff personnel for crucial politico-military negotiations? Does the Air Force have a pool of personnel prepared to participate in or finalize arms export agreements, siting of electronic surveillance outposts, insurgency resolutions, truce parleys, armistice talks, arms control meetings, and peace treaty conferences? Where does that reservoir exist of the requisite experienced persons with a keen knowledge of history and geography, perspicacity, military expertise, and razor-sharp intelligence? Not only must the military pick the face-to-face "point men," but it must gather a cadre of staff assistants with specialized hardware and tactical skills together with impeccable linguistic abilities both in using military terminology and in interpreting the rhetoric used by the opposition in negotiations. Have such experts been pre-identified? Are they selected on an ad hoc basis? Does the U.S. Air Force contribute its share? Specific data are hard to come by, but here is one example.

Admiral C. Turner Joy, chief of the United Nations Command delegation to the Korean Armistice Conference, was supported by a team of staff officers described by him as directly connected with the negotiations.[1] That team consisted of thirty-six Army, Navy (Marine), and Air Force officers. Of these, the Air Force

supplied eight. Admittedly, these eight included some starring, across-the-table performers, such as USAF Major General L. C. Craigie, Brigadier General W. P. Nuckols, Colonel D. O. Darrow, and Colonel Andrew J. Kinney. However, the USAF contribution was disproportionately small compared to the numbers of Army and Navy members. To what factors can this skewed representation be attributed? Is it possible that the reservoir of competence within the Air Force for such negotiations was too limited to assign a balanced representation?

There is, of course, a counterargument to preparing such personnel. Since this high-level kind of negotiation occurs perhaps once every generation, it would be uneconomical to prepare specialists for such a seldom needed requirement. However, this rationale ignores the fact that negotiations are an inseparable part of everyday life in the military. Negotiations of lesser importance are taking place regularly all over the world, involving not only departments, agencies, and private sectors of the United States but also the Soviets, Warsaw Pact nations and client states, our many allies, and a myriad of nonaligned Third World nations. A prime example is the seemingly endless negotiation of issues relating to the complicated situation in the Middle East.

Should not the United States (and the U.S. Air Force, in particular) be represented by the best trained negotiators available? Could not the Air Force lead the way in the creation of a mechanism for preparing a skilled pool of negotiators? Is it not possible that the Air Force might well become the service to which others might turn to prepare their military bargainers? Could the Air Force provide superbly trained technicians who are ready to face up to the stiffest competitors and, for example, negotiate complex internal issues successfully, retain advantages hard-won on the battlefield, or bring home agreements on arms control that achieve U.S. politico-military objectives? The considered answer seems to be yes.

Negotiations with foreign nations, particularly the Soviets, are often conducted under extremely arduous, sometimes bizarre circumstances and worrisome handicaps. Consider this report examining the negotiation proceedings that resulted in the interim agreement on strategic arms known as SALT I.

> Most Americans assume that the two sides begin negotiations by exchanging data on the weapons to be limited. This is not the case. For the last ten years [prior to 1978] we have reported on our missiles as well as our best estimates of Soviet Forces without receiving any information in return. In fact, according to Fred Ikle, a participant in the negotiations as Director of the Arms Control and Disarmament Agency under Presidents Nixon and Ford: "After we tell the Russians the ... characteristics of those weapons of theirs that would be limited, they refuse to confirm or deny the data—even though the data form a critical part of the agreement being negotiated.[2]

Today's negotiations in Geneva most certainly entail similar mind-bending handicaps differing only in character and dimension.

What is so different in negotiating with the Soviets? Fred C. Ikle, who has been associated with arms control negotiations for many years, testified before the Senate Committee on National Security:

> Many American officials ably expound the urgency of discovering and cultivating *common interests* in negotiations with Communist powers and of *healing the fissures* of conflict. This is all to the good. Yet, successful long-term bargaining requires not only flexibility but also perseverance, not only conciliation but also counteroffensive, not only understanding for the opponent's fears but also understanding of his bad sides.... The world is not so kind to us that we are likely to succeed where we lack the will to win.[3]

Thus, to be a successful negotiator, according to this seasoned veteran, requires knowledge of your own strengths and weaknesses; a depth of understanding of your "opponent's fears," as well as his "bad sides"; an altogether comprehensive grasp of your opponent's history, society, economy, military strengths and weaknesses, and current concerns; and awareness of the strengths and weaknesses of the individuals

who face you as representatives of that opponent.

Admiral Joy relates that during the Korean War armistice negotiations, he learned some special bargaining techniques from the North Koreans and Chinese. In his book, *How Communists Negotiate*, he labels and gives some examples of these techniques.[4] Most of the labels he ascribes are descriptive of the tactic that the other side's negotiators used: e.g., Stage Setting, Loaded Agenda, Roadblocks, Veto, Red Herrings, Inches into Miles, Welshers, and Wearying Tactics. These were the bargaining tools that the North Koreans and the Chinese employed to frustrate the Americans, who, they knew, typically like to take on a job and finish it as soon as possible. This American penchant for "getting on with it" is widely known. It can lead our negotiators into traps unless they are aware of those pitfalls and analyze critically each move or proposal of our opponents. Unlike most Communist negotiators, we in the West (particularly we Americans) tend to view negotiations as a conciliatory process. Witness our American heritage of "horse trading" in the marketplace and our modern history of "good-faith collective bargaining" between employers and workers.

In contrast, history tells us, the Communist aim in negotiations is to carry on the "struggle" to achieve the triumph of Marxism-Leninism, not specifically to solve the issue at hand. The Communists proceed in negotiations so as to achieve at the bargaining table what they may have failed to achieve on the battlefield or by other means. They use what we would call "tricks." One such gambit is the Stage Setting, as Admiral Joy labels it.[5] A striking example of this tactic, he relates, concerned the United Nations Command's offer to the North Koreans to negotiate a cease-fire aboard a neutral Danish hospital ship in Wonsan Harbor away from the battle zone. The North Korean response was, "If *you* desire a truce, come to Kaesong and we will talk." The reply was phrased as though no specifics had been proposed by the United Nations Command. The North Koreans ignored the reality that the talks were at the instigation of Soviet Ambassador Malik, who had let it be known that the North Koreans were ready for a negotiated settlement because they were severely hurting from attacks by U.N. forces. Ignored, too, was the U.N. offer that neutral ground be the site of discussions in order to eliminate partisan influences on the bargaining. Instead, the North Koreans pointedly picked the village of Kaesong—*within* their battle lines and *exactly* on Latitude 38—precisely for propaganda purposes.

General Matthew B. Ridgway, commander of the U.N. forces, accepted the location "in the interests of saving time and showing sincere intentions." Doing so was a tactical error, as it turned out. Colonel Kinney arrived at Kaesong with several other officers, unarmed, as befits any peace delegation, and riding in vehicles bearing white flags for safe conduct. Their mission was to set up the initial meetings. They were rudely surrounded by North Korean combat troops with submachine guns pointed at them. North Korean photographers and press had been summoned to take pictures of the United Nations Command representatives bearing white flags and under armed surveillance. They were prepared to report in their propaganda press and newsreels that the United Nations were suing for peace as the supplicants on the defeated side! The North Koreans had very artfully *set that stage* to their manifest advantage.

This example illustrates that to further negotiations to their advantage, Marxist-Leninist regimes may place propaganda high on their agendas. As a result, our negotiators must work under the handicaps created by propaganda barrages. Some Soviet propaganda thrusts are discernible in the 1980s, now designed to undermine the U.S. position vis-à-vis our European allies in theater nuclear missile reduction talks. Consider a recent example. The Honorable Paul H. Nitze, who served as the representative of the Secretary of Defense at the SALT

negotiations from the spring of 1969 through June 1974 and who has led more recent arms negotiations in Geneva, tells how the Soviets used propaganda in a global effort to influence the outcome.

> From the time of the initial SALT I negotiations, the Soviet Union has mounted a vigorous, multifaceted propaganda effort to persuade the world, including Americans, that the U.S.S.R. is uniquely devoted to peace, has been the initiator of every imaginative move toward peace, and is the threatened party surrounded by potential enemies who are plotting the encirclement of the Soviet Union. This campaign has consistently *depicted the United States as making excessive demands and refusing to make the necessary compromises for agreement.* [Emphasis added.][6]

John Patrick Walsh, former U.S. Ambassador and former State Department Advisor to the Air University Commander, in discussing U.S. bargaining with the Soviets on nuclear arms reductions indicates that "negotiations with the Soviets are difficult under any circumstances" but that we encounter additional complications because "we operate in negotiations on different wavelengths . . . We take pride in concepts of principle, rationality, and fair play. These are extraneous concepts for them, secondary to the imperatives of perpetual struggle and the correlation of forces." Ambassador Walsh recalls former U.S. Secretary of State Dean Acheson's observation that "the Soviets negotiate by *acts* rather than debate, offer, and counter offer. By their acts, they strive to create situations of objective reality which *preempt or preclude alteration,* i.e., to establish *areas of non-negotiability.*" (Others have summarized the basic Soviet guideline even more succinctly: "What's ours is ours; what's yours is negotiable.") Ambassador Walsh summed up his views by stating:

> To the extent that we acquiesce in this type of intransigence, we dilute our basic negotiating position. In effect we then lean toward negotiating *for them.* Unfortunately, "hang tough" is a slogan rather than an American principle [of negotiation].[7]

Today, books on the art of negotiation fill the market and achieve sales in the millions. One such volume has been translated into thirteen languages, and its author is firmly convinced that successful negotiating can be learned.[8] Negotiation institutes have been established in the nation to provide instruction in negotiation to U.S. government agencies, as well as to such prestigious corporations as General Electric Company, J. C. Penney Company, and General Motors Corporation. Such bellwether efforts in teaching negotiation could possibly be used by the U.S. Air Force's center for postgraduate education, the Air University. Although today's experts deal mainly in business negotiations of the West, there certainly is much in their books and institutes that offers potential benefits for the military services. Such proven foundations for the teaching of negotiation could well provide the seminal concepts around which the Air Force could build a specialized curriculum or perhaps its own institute committed to excellence in this field.

WHAT constitutes competency for negotiations under all situations but especially at the highest levels affecting our nation and the international climate of tomorrow? Can such competency be defined or quantified? Certainly, partial answers to those questions already exist in the writings and teachings of experts on the subject. However, we need to examine our own house and determine where we in the Air Force stand now with respect to negotiating skills. Specifically, can the Air Force assume that all colonels and general officers are already skilled in the role of across-the-table negotiator by virtue of their current postgraduate preparation for staff and command duties? Are these officers uniformly ready to deal effectively with complex global issues and the convoluted reasoning and tangled gambits of Warsaw Pact bargainers? At a lower level, solely by virtue of their normal postgraduate officer or

NCO education, can our squadron and field grade officers, along with our noncommissioned officers, be considered skilled as behind-the-scenes staff assistants adept at preparing negotiating positions, fall-back positions, and innovative approaches to further negotiations? Can we feel assured that the standard curricula of our senior staff colleges and NCO academies offer adequate preparation for a negotiator pool?

Might not the Air Force be better served if certain individuals (i.e., those with the special abilities, skills, and background identified as keys to successful negotiations) were honed in the art of negotiating by participating in special seminars, case studies, and practical exercises? Should not the art of negotiation be included as a specific part of the curricula of USAF staff colleges and academies?

Were such curricula changes effected, very beneficial outcomes could be visualized. For example, when the next parley comes up (as it surely will), the senior USAF officer could feel confident in advising the unified commander who will participate that especially well-qualified blue-suit personnel are standing by, already prepared to enter the bargaining room and perform with skill, endurance, and finesse. And if, in this instance, the adversaries across the green baize are from the Marxist-Leninist school of bargaining, the USAF negotiators will be unimpressed with that particular style and capable of punching through rhetorical fog, handling propaganda ploys with equanimity, and ultimately obtaining a favorable agreement.

In addition, the mundane daily negotiations that take place on our own air bases will receive the educated attention of senior NCOs and officers adept in the skills that are needed. To cite a few examples, the negotiation of a fair local labor pact, the efficient conclusion of local agreements for the purchase of goods and services, and the inescapable routine negotiations of an equitable apportionment of tasks, manpower, and facilities within the air base structure will receive competent professional attention yielding beneficial results. Although, ultimately, commanders decide, "This is how we'll do it," commonly leading up to those moments is a multilevel process in which many individuals and groups may be involved. The accumulation of facts, input of opinion, interplay of professional skills, and pressing of individual wills that take place during that preparatory process may all bear on the decisions that commanders make before they voice that crisp statement of intent. Skilled supervisors, leaders, and staff members educated to guide such everyday negotiations effectively, fairly, and with tranquillity thus may make significant contributions to the commonplace yet important task of managing routine Air Force activities well.

As a lecturer and the author of ten books on the subject of negotiation, Gerard I. Nierenberg earnestly advocates, "If you know that . . . you will find yourself across the table from your negotiating opponents, how do you prepare for this face-to-face encounter? How can you foresee the strategy of the opposite side, and how can you prepare to cope with it? . . . Do your homework! . . . [Achieving] *successful results . . . requires the most intensive type of short- and long-range preparation and training.*"[9]

Prattville, Alabama

Notes

1. C. Turner Joy, Admiral, USN (Ret), *How Communists Negotiate* (New York: Macmillan, 1955), chapter 1.
2. Constantine C. Menges, "Closing the Loopholes, SALT II: Truth or Consequences," *The New Leader*, 25 September 1978.

3. Fred Charles Ikle, "International Negotiation," Memorandum prepared at request of the Subcommittee on National Security and International Operations (pursuant to Senate Resolution 311, 91st Congress) of the Committee on Government Operations, U.S. Sen-

ate, GPO, 1970.
   4. Joy, p. 1.
   5. Ibid.
   6. Paul H. Nitze, James E. Dougherty, and Francis K. Kane, *The Fateful Ends and Shades of SALT* (New York: Crane, Russak and Company, 1979), p. 41.

   7. John Patrick Walsh, "Negotiating with Soviets No Easy Job," *Advertiser-Journal*, Montgomery, Alabama, 30 January 1983, p. 2B.
   8. Gerard I. Nierenberg, *The Art of Negotiating* (New York: Hawthorn/Dutton, 1968).
   9. Gerard I. Nierenberg, *Fundamentals of Negotiating* (New York: Hawthorn/Dutton, 1973), p. 47.

THE NAVIGATOR: WHAT NOW?

LIEUTENANT COLONEL CHRIS L. JEFFERIES

WITH the repeal on 18 December 1974 of Section 8577, Title 10, U.S. Code, which limited command of flying units to pilots, came the expectation among navigators that the opportunity to command flying units would lead to promotion rates equal to those of pilots. Indeed, it was because of concern that the law might be discriminating against navigators that repeal was sought.

Promotion data since that time, however, indicate that navigator expectations have not been realized: for whatever the cause, promotion rates for navigators are not equal to those of pilots. Moreover, the perception persists among navigators that they continue to be discriminated against in promotions, in selection for most key assignments, and thus for promotion to general officer rank.

What the Data Reveal

A review of officer promotion rates since 1974, notwithstanding the repeal of Section 8577, shows that navigator concern about promotion is justified. Despite the passing of a decade, navigator promotion rates still lag significantly behind those of pilots. Average promotion rates (i.e., the percentages selected of those eligible for promotion) during the past five years illustrate the point:

• To major, pilots were promoted in the primary zone at an average rate 9 percent higher than navigators. In the secondary zone, average pilot rates were 1.7 percent; navigator rates, 1 percent.

• To lieutenant colonel, pilot rates in the primary zone averaged 14 percent higher than navigator rates. Secondary zone averages: pilots, 3.7 percent; navigators, 1.9 percent.

• To colonel, average pilot rates in the primary zone were 18 percent higher than navigator rates. Secondary zone averages: pilots, 5.2 percent; navigators, 1.0 percent.[1]

In general officer ranks, the ultimate goal of career progression, navigators continue to be underrepresented. In 1974, the distribution by rating was as follows:

	Pilots	Navigators	Nonrated
1974			
General	14	0	0
Lieutenant General	34	0	4
Major General	128	6	9
Brigadier General	183	10	23
Totals	359	16	36
	(87 percent)	(4 percent)	(9 percent)

Ten years later, in October 1984, the distribution looked like this:

	Pilots	Navigators	Nonrated
1983			
General	13	0	0
Lieutenant General	33	2	3
Major General	88	9	23
Brigadier General	121	7	44
Totals	255	18	70
	(75 percent)	(5 percent)	(20 percent)

Among the selectees for brigadier general, eighteen are pilots, one is a navigator, and three are nonrated.

The number of navigator-rated general officers has increased by only two over that of 1974. More significant for navigators is that although the percentage of pilot-rated general officers has decreased (from 87 percent to 75 percent, the beneficiaries of this decrease are nonrated officers (an increase from 9 percent to 20 percent).[2]

Thus, the perception among navigator-rated officers that they do not have career prospects equal with pilots—and in many cases with their nonrated contemporaries as well—appears to be supported by promotion rate data and the distribution of general officer ranks by aeronautical ratings.

Many factors of varying importance contribute to lower navigator promotion rates. Some of these have been explored on the pages of this journal over the years. However, the key to being competitive for assignments of increasing responsibility, and thus promotion, has long been acknowledged as experience in command of flying and flying-related units. That navigators were ineligible for command of flying units and were thus denied experience to be competitive with pilots was a major justification for seeking repeal of Section 8577. Indeed, Air Force personnel analysts continue to attribute higher pilot promotion rates in part to greater command and key management experience.[3]

After the repeal of Section 8577, navigators hoped to be assigned to command flying and flying-related units, thus allowing them to gain the requisite experience for promotion; and, to a *limited* extent, their hopes have been fulfilled. Some navigators are filling some operational command and command-related positions. As of 31 March 1983, navigators filled 166 flying-unit command positions: 9 at wing level, 41 at squadron level, and 116 as flight commanders.[4] However, based on the number of multiseat aircraft units employing navigators[5]

and counting four command-related positions per wing (CC, CV, DO, ADO) and two per squadron (CC, DO), the ratios of navigators to pilots in command-related positions are one navigator for every forty pilots at wing level and one navigator for every eight pilots at squadron level. (A ratio for flight commander positions is too difficult to determine because of the wide variety of flight organization and use from command to command.) Such ratios are hardly encouraging to the navigator who expects or hopes for career prospects equal to his or her pilot-rated peers!

Alternatives to Consider

Given lower promotion rates for navigators and dissatisfaction among navigators with their career prospects, where does the Air Force go from here with the navigator career issue? Three alternatives appear to represent the possible directions: institute an aggressive "affirmative action" program to place navigators in assignments where they will gain experience competitive with pilots; continue the current policy as is, counting on already instituted changes to move promotion trends toward rates equal with those of pilots; or abolish the navigator rating and use nonrated "systems operators" on limited flying tours to perform remaining navigation tasks.

the "affirmative action" alternative

Using an "affirmative action" program for navigators has some precedents. The British Royal Air Force and the U.S. Navy used this approach successfully to resolve a similar problem in their respective services. Their experience could provide a pattern for the U.S. Air Force, where the goal would be to allow navigators to gain requisite experience in order to be competitive with pilots for increasingly responsible operations positions and, ultimately, for promotion.

An affirmative action program, for example, could change the concept of "aircraft commander" in multiplace aircraft to one of "mis-

sion commander" in which command of the aircraft remains with the pilot but command of the flight mission goes to the ranking rated officer or, in the case of navigation-oriented missions, to the navigator. Strategic bombing and low-level tactical air drop missions are excellent candidates for such changes. A second example would be to identify in all flying units in which navigators are assigned and fly as regular crew members those operations positions that officers traditionally fill in preparation for command. A target percentage of these positions could then be established for navigator placement, based on a unit's ratio of navigators to pilots. Positions could include squadron operations officer and commander positions, the respective wing operations and command positions, and command-post controllers. Then, navigators who have demonstrated leadership and command ability could be identified, and an aggressive program based on merit could be developed to begin placing these candidates in the identified positions.

the "do nothing" alternative

Continuing the current policy without change assumes that the changes instituted since the repeal of Section 8577 have not had time to produce the desired effects. Though navigator promotion rates are not yet equivalent to that of pilots, the fact that navigators are now being allowed to fill low-level operational positions (such as flight commander) rather than intermediate or high-level positions could mean that these navigators, with more time and increased experience, will advance to positions of more importance. The greater experience gained in these positions might then be reflected in promotion rates.

Tenuous support for this approach might be found in the results of recent major promotion boards, where the expanded operational experience being gained by junior-ranking navigators is first likely to be reflected. In 1982, pilots were selected for promotion in the primary zone at a rate only 1 percent greater than navigators; in 1983, at a rate only 4 percent greater than navigators.[6] (Secondary zone promotion rates were respectively 30 percent and 17 percent greater than navigators.) However, promotion rates for navigators to lieutenant colonel and colonel in 1982 and 1983 show less improvement (15 percent and 10 percent greater for pilots to lieutenant colonel; 15 percent and 8 percent greater for pilots to colonel). Given more time, one could argue, rates for lieutenant colonel and colonel will likewise show similar improvement.[7]

the nonrated "systems operators" alternative

The third alternative would eliminate navigators as rated officers, replacing them with nonrated "systems operators." Justification for this approach is the trend away from aircraft that require performance of classic navigation tasks and toward aircraft that instead require operation of avionics systems. Duties on these latter aircraft include monitoring navigation systems, updating weapon delivery data, acting as a safety observer, assisting in the monitoring of general aircraft operation—tasks that might be performed with training short of that currently required for an aeronautical rating.

The systems operators who replace the traditional navigator would be officers trained to operate specialized equipment and possessing only minor "navigation" skills. They would be assigned from a primary, nonrated career field for a limited time of about five years (in effect, a nonrated supplement to rated duties), receive flight pay when performing flying duties, and, most important, compete for promotion as a nonrated officer. The navigator career field would remain in existence for a period of time to provide instructors and planners to oversee the transition and to ensure that navigator requirements for older aircraft are met.

Which Approach?

Alternative one, an "affirmative action" approach, most directly addresses the problem. It

would do the most to improve navigator morale, and it holds the promise of most quickly redressing the navigator-pilot promotion imbalance. This was the U.S. Navy and British experience. On the other hand, it would probably be the most difficult to implement since those who must make the decision to do so (pilots) have the most to lose. In addition, experience in other "affirmative action" programs suggests that "backlash" resistance to change could occur on principle, if not on substance; that is, the perception may grow that people might be given preferential consideration because of the program and not because of merit.

Alternative two, leaving matters as they are, would be the easiest approach; it has been, after all, only a decade since navigators were permitted to fill operational command-related positions. This approach, however, does little to improve navigator perceptions of career and promotion opportunities. Furthermore, recent promotion-rate trends indicating that navigators are competitive with pilots in the primary and secondary zones are still tenuous; the numbers of navigators serving in operational command positions have shown *no* increase at squadron and wing levels—in fact, they have *decreased*—since 1979, when such statistics became available. Perhaps given a *long* lead time (another decade?), navigators might yet achieve a more balanced promotion rate with pilots and gain proportional representation in general officer ranks. However, without some positive, "affirmative" effort now, such a shift appears unlikely.

Alternative three, eliminating the navigator, does not solve the problem; it simply avoids it. Moreover, this approach has several significant disadvantages. First, implementing this alternative would take a long period—at least one career "generation" (twenty years) or until all but a few rated navigators have either retired or resigned. Second, after an official acknowledgment that there will no longer be any navigator career prospects, navigator morale during the transition would suffer greatly. Third, middle- and senior-ranking navigators currently fill many operations support positions on staffs throughout the Air Force. Background for many of these positions requires more flying experience than would probably be gained by a nonrated systems operator serving a single five-year flying assignment. Assuming that these staff positions really do require rated expertise, from where would individuals come to fill them if not from the navigator ranks? If the Air Force were to encourage multiple or back-to-back five-year flying tours for nonrated systems operators to provide individuals with sufficient background to fill operations staff jobs, then the systems operator might risk losing competitiveness as a nonrated officer. Furthermore, if the Air Force creates a "new" career field for systems operators, then the same problems inherent in the navigator career field would probably resurface. Therefore, while the instituting of a systems operator specialty may have merits on its own, it does not appear to be a satisfactory answer to the navigator issue.

Which alternative, then, should the Air Force adopt? If the Air Force is serious about resolving the navigator problem, then alternative one must be the approach; it is most likely to achieve results. An affirmative action program should be implemented by first conducting an in-depth study of both the British Royal Air Force and the U.S. Navy experience in solving the problem. The results of this study could then form the basis of the USAF affirmative action plan. A comprehensive action-plan should be developed to begin placing qualified navigators in greater numbers in operational command and command-related positions. The program would require a decision by the Secretary of the Air Force and the Chief of Staff, but major command support of the program must be cultivated since it is the commands that control operational assignments.

NAVIGATORS expect not only selection rates equal to those of their pilot contemporaries but

also proportional representation at all rank-levels, even among general officers. However, navigators recognize that Air Force *needs* must be primary—the best qualified individuals should get command jobs, regardless of their rating, and promotion must be based on *merit*. Indeed, few navigators see lower promotion rates as an indictment of the Air Force promotion system. What navigators are hoping for is an opportunity to compete equally for operational command and command-related positions at *early* career points in order to develop and demonstrate their ability for higher-level positions. Navigators would like to know that no position is closed to them by tradition or limiting preconceptions. Progress toward that awareness remains frustratingly slow.

Hq USAF

Notes

1. Five-year promotion rate *averages* (1979-83), provided by AF/MPX (Directorate of Personnel Plans), Hq USAF, are as follows:

	Major		Lt Colonel		Colonel	
	Pilots	Navs	Pilots	Navs	Pilots	Navs
In the zone	82%	73%	69%	55%	48%	30%
Below the zone	1.7%	1.0%	3.7%	1.9%	5.2%	1.0%

2. General officer data were obtained from AF/MPG (General Officer Matters).

3. A summary of five-year in-the-promotion-zone averages by aeronautical rating was compiled by AF/MPX. In its narrative section, analysts indicate that lower promotion rates for navigators are, in part, "a function of the number of pilots with command/key management experience."

4. Since 1979, data on the number of navigators in command positions have been monitored and reported by AF/MPC/ROF, which provided these figures.

5. Figures on the number of squadrons flying multiseat aircraft are derived from the Quarterly Phase Force and Equippage Table.

6. Promotion rates in the primary zone during 1982 and 1983 were:

	Major		Lt Colonel		Colonel	
	Pilots	Navs	Pilots	Navs	Pilots	Navs
1983	79%	75%	65%	55%	49%	41%
1982	79%	78%	71%	56%	50%	35%

7. Unfortunately, promotion rates for 1984 do not reflect an improvement to lieutenant colonel and colonel:

	Lt Colonel		Colonel	
	Pilots	Navs	Pilots	Navs
First time in the zone	66%	54%	46%	31%
Below the zone	3.4%	1.3%	4.5%	0.8%

Neither do promotion rates to major:

	Pilots	Navs
First time in the zone	82%	75%
Below the zone	1.3%	1.0%

OFFICER EFFECTIVENESS REPORT: SLAVE OR SLAVE DRIVER?

COLONEL ROSS L. MEYER

The purpose of the officer evaluation system is to provide the Air Force with information on the performance and potential of officers for use in making personnel management decisions, such as promotions, assignments, augmentations, school selections, and separations. It is also intended to provide individual officers information on their performance and potential as viewed by their evaluators.

AFR 36-10, *Officer Evaluations*
25 October 1982

OFFICER effectiveness reports (OERs) perform vital functions. Not only do OERs complement our promotion and selection processes, but they serve the additional purposes of evaluation and feedback. OERs are important for *what* they say. *How* they say it is another matter and should have little impact on the officer being evaluated. I contend, however, that far too much emphasis is placed on the mechanical/administrative aspects of the OER:

errorless typing, perfect capitalization and hyphenation, favored spellings, and artificial punctilios.

CERTAINLY, OERs should be typed. It is difficult to identify a USAF organization that has responsibility for the preparation of OERs but does not have access to a typist. In those extremely rare cases where typing support is nonexistent, AFR 36-10, *Officer Evaluations* authorizes OERs to be printed or legibly written. The paragraph that authorizes printed or handwritten reports also provides guidance concerning the physical preparation of AF Form 707: "Reports containing an excessive number of erasures or any corrections to ratings must be reaccomplished," and "only corrections or erasures that change sentence meaning need be initialed by the evaluators." By any reasonable interpretation, these instructions are saying that it's okay to make typographical errors as long as they are corrected and there aren't too many of them. The regulation excludes any instructions that direct, or even suggest, that error-free evaluations are required or desired.

In spite of the guidelines of AFR 36-10, we have instituted policies that have placed us in a position of requiring nearly perfect OERs, at least regarding their physical preparation. To further complicate the process, we have begun worrying about such other problems as favored forms of spelling, capitalization of certain words, hyphenation, and other issues that have no bearing on the evaluation of the officer who is the subject of the report.

Clearly, there should be no misspelled words in an OER. Misspellings in sections I through VI suggest that the rater is not a good speller, did not read the report after it was typed, or only casually reviewed it before signing. Misspelled words also indicate that the additional rater, if there was one, and the indorser neglected to read the report carefully. However, although misspellings should be corrected,

should we really be concerned about the difference between *insure* and *ensure?* As one OER mandate put it, ". . . use the word *ensure* rather than *insure*. *Insure* is a variant of the word *ensure*. However, *ensure* is the stronger of the two words." Based on this guidance and interpretation, I wonder why Section VIII of AF Form 707 has not been changed from *Indorser Comments* to *Endorser Comments?* As it is typically found in OERs, I agree with using *ensure* rather than *insure*, but should we really be concerned about such a minor point? Is it necessary to reaccomplish an entire report because of such a misspelling? I don't think so.

Capitalization should be in accordance with AFP 13-2, *Guide for Air Force Writing*. In certain instances, the use of lowercase letters where uppercase ones are required constitutes a glaring error. The beginning of a sentence and a person's name are but two examples. But when the writer or typist slips and capitalizes rank where it is not followed by the officer's name, or when the word *commander*, for example, is improperly capitalized, is it essential that the OER be rejected and sent back for reaccomplishment? To me, it makes little difference whether we write "lieutenant colonel" or "Lt Colonel," yet one critic wrote, a bit condescendingly, "There is not now, nor has there been, a grade of Lt Colonel or LTC. It's either lieutenant colonel or Lt Col." Granted, we should strive for perfection, but I contend that a reasonable application of the rules will not dilute the significance of our reports.

Hyphenation is another recent OER issue. Current trends in Air Force writing suggest that few compound words be hyphenated. Thus "inter-service" has become "interservice," while "pre-establish" is now written "preestablish." Unfortunately, this new style causes problems, such as "belllike" for "bell-like," "antiintellectual" for "anti-intellectual," and "recollect" for "re-collect." A sub-issue (or is that "subissue"?) concerns the correct method for hyphenating a word at the end of a line where the typist has run out of space. The rules

regarding this are clear. When we slip, however, and make a hyphenation error, should we feel compelled to retype the entire report? I think not.

A final criticism concerns artificial, usually unnecessary, punctilios. Is there really any justification for *insisting* that OERs be typed in ten pitch? Can there be a realistic reason for *never* allowing more than two lines in Section III? Does it make sense, at least good sense, to *require* that all the space in sections VI, VII, and VIII be filled? Is there a realistic reason for *requiring* an OER to be reaccomplished simply because all the letters in an exercise title were not capitalized? These and similar rules add little to the legitimate purposes of the OER.

IT SEEMS clear to me that we should continue our emphasis on accurate and well-written OERs. They are vital to the individual officers and the systems they serve. For most of us, writing a good OER—a well-written report that fairly and accurately portrays the officer's performance and potential—is a difficult and time-consuming task. We need to continue to worry about the quality of our writing and the accuracy of the words. We should, however, reduce the scrutiny of our "checkers" and stop worrying about erasures, capitalizations, hyphenations, and artificial rules. We must remember that officer effectiveness reports are written to serve, to be slaves. Let's not let them become slave drivers.

Fort Hood, Texas

A MODEST PROPOSAL FOR REFORMING THE OER

COLONEL JOHN J. KOHOUT III

THE Air Force officer effectiveness report (OER) system has been a source of chronic concern for a long time. It is widely perceived to be an organizational burden, ill-conceived to contribute to the difficult decisions required to manage the officer force well. Moreover, every time that reform is attempted, more turbulence than improvement is generated and the U.S. Air Force looks more and more like the subject of a psychology student's experiment with one blind alley after another. Is there a way out of the OER maze?

BEFORE exploring a way out of the maze—that is, a new perspective, and a new approach to officer performance evaluation— let's examine some of the problems of rating and review the failure of the controlled OER system.

There is nothing inherently wrong with the OER forms that the Air Force has used over the years; the problem lies with what Air Force people have tried to do with those forms.

The Air Force supervisor, like any other competent supervisor, feels much more intensely the need to motivate his people and accomplish the mission than he does any imperative to establish an objective basis for deciding who is promoted and who is not. Consequently, the effective supervisor uses all tools at his command to respond to the most closely felt need. The OER is one of these tools. Its use as a motivator has led to inflation, chronic inflation, and still more inflation. Inflation has led, in turn, to extreme measures on the part of raters to ensure that their solid performers are promoted. Recognizing that the Xs are "firewalled" across the Air Force, they fall back on secret codewords as discriminators; they escal-

ate both the level and the verbosity of their endorsements; and they insist on letter-perfect typing, which creates administrative nightmares fully capable of absorbing a dismaying share of the administrative capacity of any Air Force organization (Is our mission to fly and to fight, or to type and to proof?) The result is a burdensome process through which supervisors attempt to communicate with so confusing a mix of signals that crucial "promote early," "promote on time," and "don't promote" decisions must be made without documentary support.

The controlled OER cycle was a noble attempt to restore objectivity to the OER system so that it could once again carry its share of the load in making rational promotion decisions. Unfortunately, the controlled OER idea failed to accommodate the truth that although supporting promotion decisions was the declared function of the rating system, its primary bureaucratic utility actually was its role as the vehicle of choice for communicating psychic reward from the supervisor to the troops. The controlled rating system interrupted this function and, thereby, spread chaos across the officer corps.

The turmoil created by implementing the controlled OER system was then only exceeded by the disruption caused by its subsequent demise. This left the Air Force once more burdened as Marley's ghost with the rating system chain it had forged in an organizational life of false starts.

How can we then provide the Air Force with the tools to see over the walls and find its way out of the maze? Two such aids are needed. The first is the answer to this question: "Exactly how much do we need out of a formal rating system?" There are a lot of things we don't need. We do not need an OER to document job description or level of responsibility. While these are key elements of information needed to track career progress and project potential, they can be adequately maintained as a part of objective personnel records insulated from subjective performance judgments.

Neither do we *need* OERs to communicate psychic reward for a job well done or to motivate an officer to do better in the future. Obviously, such functions will become attached to an OER system if the system is vulnerable to such intrusions. However, the Air Force supervisor is quite capable of finding a variety of other vehicles for communicating the positive strokes needed to fuel the locomotive of high-quality performance. Indeed, military organizations have historically institutionalized effective vehicles for rewarding their people: awards and decorations programs, formal communications, expressions of elite status both from within and without the organization, and informal communications based on the essentially paternalistic view that the organization's leadership expresses toward fellow members. Finally, supervisors are involved, all the way up through the Air Force's most senior leadership, in seeking individuals' selection for high-quality, follow-on positions when it comes time for reassignment.

What we really need a rating system to do for us is to evaluate, as objectively as possible, the quality of an individual's performance of whatever job he holds as it casts light on his ability to perform at higher levels of responsibility in the organizational structure. This evaluation function must be as well protected as possible from the accretion of other bureaucratic functions, which, like barnacles, tend to proliferate on any solid rating instrument and ultimately detract from its central function.

Thus, the second thing that the Air Force needs for seeing its way out of its maze is an evaluation tool which can do what is needed while avoiding the attachment of other bureaucratic functions it was never intended to bear. Creating such a tool is a monumental task, particularly were we limited to the talents we assemble in blue suits to perform our Air Force mission. But we are not limited to in-house resources and can draw on the full resources of modern behavioral science as it is being applied every day with great success in

industry and academia. Drawing on the resources available, we should be able to design a rating device with a number of questions that characterize an individual's performance, plus a variety of carefully worded responses which reflect the specific ways the ratee might do his job (perhaps using the ten performance dimensions on the front side of today's OER form). The alternative responses could provide a range of performance characteristics in terms of images that allow a supervisor to match to a greater or lesser degree the way each ratee performs, without telegraphing a subjective better or worse connotation. Responses should not be listed in a worst-to-best progression that indicate value judgments or suggest how each response contributes to an aggregate rating. Rating thus becomes a pure best fit matching exercise to the greatest extent possible.

Such a rating tool might consist of, say, twenty questions designed to evaluate perhaps ten characteristics with from one to three questions targeted against each characteristic. Besides these comprehensive questions and alternative responses, the form would contain no space for rater comments. The endorser would have a small space for comments intended only to indicate substantial disagreement with the rating. Otherwise, the endorser would only be certifying the rating as valid.

At the outset, such a form, if designed properly, should be relatively free of inflation or attempts to second-guess the system. But have no illusions that ratings would be able to escape inflationary tendencies indefinitely. The only way to keep inflation out of any rating system, even with the best discriminators, is to supersede a given edition of the form with an entirely new one on a recurring basis (perhaps every six months). This approach should avoid the chronic tendency toward inflation, which has plagued the current rating system. No ratee would have more than one rating based on the same questionnaire, and all raters would have to address subordinates' performance in new descriptive terms often enough to preclude

"gaming the system" by trying to "pick the right answer" for each question and thereby resuming present-day patterns of inflation.

Translating a pattern of responses on a series of questionnaires into meaningful decision information is where this new rating system can have its greatest value to a promotion board. Once these new OERs become a matter of record and each edition has been superseded by the next, the mark-sense forms can be "graded" and individual "ratings" established. In a heavily automated process, an individual performance and potential profile can be sketched out graphically. Information on the most recent rating can then be aggregated with previous ratings to show simply, clearly, and graphically an entire career performance profile with trends or sustained performance levels on a single page. This profile should assist board members in coping more easily with the masses of data they are asked to review in arriving at their decisions, enabling them to focus more objectively on all the factors that go into the appraisal of an individual's career rather than having to spend time puzzling through the codewords and endorsers' signature blocks in today's verbose and inflated rating forms.

Obviously, this approach implies a well planned and executed preparation and implementation phase, followed by the continuing process of developing questions and responses, assembling them into questionnaires, validating them as measurement tools, and monitoring the individual and global impact of the results. Resources applied to this task would necessarily be considerable. A team of behavioral scientists or evaluation specialists would have to be assembled either within the Air Force or on a contractual basis, and its efforts would have to be integrated into the Air Force personnel community; a process for developing rating tools would have to be implemented and sustained; and teams of field workers would continually assess and validate the effort, its results, and raters' responses to candidate measurement tools. However, since the

needed talents do exist, such a system could be assembled without disproportionate effort.

It is obvious that mounting the effort needed will cost money and man-hours. But whatever it costs, within the bounds of good management, the cost will be far less than the executive and administrative man-hour burden on the entire Air Force that now exists to execute our current rating system—a system of questionable utility to sound, efficient officer personnel management.

THIS revision to officer performance and potential rating promises to accomplish the intended function with greater objectivity than at present; avoid, or at least minimize, inflation of ratings; and reduce Air Force administrative costs associated with the current system. No rating system is perfect, nor will a given system do everything; but with the development effort the task deserves, the approach outlined here can enable us to do the job that needs to be done.

Offutt AFB, Nebraska

WORKING WITH CIVILIANS: AN R&D PERSPECTIVE

CAPTAIN STEVEN G. REZNICK

THE role of the military officer in the research and development engineering environment is significantly different from that of the officer associated with flying organizations; relationships with coworkers, diversity of work contacts, and the personality skills required to accomplish the technical research mission successfully can be markedly different from the skills required to achieve the man-machine interface and command orientation of flying.

In December 1980, when I entered the Air Force Flight Dynamics Laboratory, via the Air Force Institute of Technology at Wright-Patterson AFB, Ohio, for a rated supplement assignment, the first significant adjustment I had to make was in regard to the composition of the workforce: roughly 80 percent of my coworkers were civilian. Having spent my military career up to this point surrounded by an entirely military workforce, I was now a member of a military minority in this particular Air Force organization. I had to assimilate into my field of

reference my first perceptions of civilian coworkers, their perceptions of me, and our feelings about how each other was perceived. The fact that the majority of these civilians had been in the branch more than fifteen years deepened my initial feeling of being an outsider. While my five years of flying experience had given me a wider mission perspective, it also represented a period during which I had not continued my engineering development; this digression set us farther apart.

Probably the strongest initial bond I had with my civilian counterparts revolved around education. During the course of the undergraduate engineering program at the U.S. Air Force Academy and an extensive graduate program in residence at the Air Force Institute of Technology (AFIT), I had received excellent technical preparation using essentially the same engineering texts and reference works which they had used during their undergraduate and graduate studies at various civilian institutions. Also my thesis project at AFIT had been

sponsored by the Flight Dynamics Laboratory, one of the four laboratories composing the Air Force Wright Aeronautical Laboratories, Aeronautical Systems Division, Air Force Systems Command, at Wright-Patterson AFB. It had given me the opportunity to work on a problem of direct interest to laboratory researchers and to develop productive contacts with them. Moreover, many of my coworkers had either taken or taught courses at AFIT or presented papers, briefings, or seminars there. As a result, they were familiar with my technical background.

My initial reaction that civil-service engineers were, in general, very professional in their approach to work responsibilities has been reinforced with the passing of time and additional experiences. However, we often do have differing perceptions of what should constitute work responsibilities. I view their outlook as that of engineers working for the government, as opposed to government employees working as engineers. Although there are exceptions, their work goals are often in terms of advancing the state of technology, with resultant improvements to defense applications (technology push), rather than pursuing improved defense applications that may require new technological developments (technology pull). This technology push approach is very appropriate to an organization such as the National Aeronautics and Space Administration, whose charter is to develop new technology for the general use of the aircraft industry. The same approach is not as applicable to the Air Force Systems Command responsibility to develop weapon systems to support the Air Force mission, although there are defensible arguments for a limited basic research effort.

Mission accomplishment is directly related to individual dedication. I have seen civilian engineers further a development program or support another engineer's investigation without benefit to their own advancement opportunities. Some put in extra hours and work weekends without extra compensation or special recognition. But there are those who will covet programs as their personal ticket to career advancement, sometimes to the detriment of those programs; there are others who treat their jobs merely as attendance requirements to acquire comfortable salaries. It can be frustrating to expect needed corporate loyalty and organizational pride from these latter individuals, especially when they identify more strongly with neighborhood or community organizations than with their workforce.

My perception of pay scales and performance rewards is that opportunities are essentially equal for military and civilian personnel. The higher basic salaries of the civilian employees are sometimes offset by incentive pay for rated or engineering duty that the military receive. Military engineers have better access to government-sponsored graduate education. Both military and civilians are promoted based on performance ratings, and both compete for organizational awards that recognize technical or managerial excellence. Probably the most significant difference in rewards is that a civilian can be awarded a monetary incentive for overtime or outstanding performance, whereas a military person cannot; the latter must be satisfied that exceptional performance will result in improved promotion opportunities or a broadening of responsibilities, which can be very gratifying. My personal view is that most professionals react more favorably to opportunities to wield greater authority or solve problems of greater significance than to strictly monetary rewards.

There are other, often overlooked, differences between military and civilian research and development employees that are no less significant for their subtlety. Until recently, military engineers have had a specified wartime duty position, typically in a zone of hostilities, to which they would mobilize if required for national defense.[1] All rated military engineers still retain a flying position as their primary duty identifier and fully expect to be mobilized to flying duties in times of national emergency.

The flexibility implied by these commitments and reinforced by regular PCS moves highlights a significant point of contrast. The military engineer-manager is not only expected but required to change jobs and areas of professional responsibility regularly; a civilian employee is normally able to live in the same location, specialize in a given technical area, and continue with it for a large portion of his or her career. Military mobility reflects the expectation that the officer will bring operational experience, new ideas, a capacity for critical evaluation, and contacts with other organizations into the gaining organization. While the officer will have more contacts in the flying-force user community through previous shared assignments and schools, civilian teammates will probably maintain the edge in technical experience and corporate memory. Ideally, these two positions should not be in competition but should complement each other for the greater accomplishment of the technical development mission. The officer-engineer can use earlier operational interface to maintain the credibility of the organization in terms of whether its products contribute to the Air Force mission "to fly and fight." The effective civilian engineer-manager has the background of having nurtured the research effort through five to ten years of development before it is ready for release and general scrutiny; without these contributions of technical excellence, experience, and contacts in the industrial community, the project would never come to fruition.

Instances of poor military-civilian interaction aggravated by the military officer can occur because the offender, typically in a supervisory position, is more concerned with taking credit for program accomplishment for personal enhancement than with the product itself. Such individuals typically fail to recognize and support the predominantly civilian research and development personnel who have done the preponderance of the program preparation. The officer-supervisor might also de-emphasize important long-term research in favor of short-duration projects that have immediately visible payoffs. Subordinates can sense when they are being used, with a resulting drop in morale and productivity. Correspondingly, civilian manager detriment to the military-civilian team can occur when a well-entrenched civilian manager will not willingly share program background or insight with military peers. The civilian manager's reticence may be due to a lack of trust or respect for the contributions that the military members will make or a suspicion that innovative ideas or work already accomplished will be appropriated for the other's gain. When such situations occur, programs can stagnate for lack of fresh approaches, constructive criticism, and extra organizational support. Entire research laboratories have closed in part because their projects were perceived to lack mission relevancy or their objectives became fragmented.[2] Therefore, it is not surprising that most management structures in Air Force laboratories have military-civilian management teams at virtually all levels of command, with the military member as commander and the civilian as deputy, or vice versa.[3]

Another significant difference in the respective roles of civilian and military coworkers is that, higher in the Air Force Systems Command organizational structure,[4] the proportion of military in command positions becomes dominant. My rationale for this situation is that the military engineer is expected to have developed more executive capacity than comparable civilian engineers, primarily as a result of varied operational assignments, professional leadership schooling, and exchange tours with other organizations and agencies. To anyone who compares the relative age and rank of military and civilian supervisor-managers with equivalent responsibilities, it becomes obvious that the military officer rises more quickly and is expected to transition to management functions as much as ten years earlier than civilian coworkers. This situation is not merely the status quo; it is the expectation.

Thus, the military technical manager, in the thirties age bracket and with only two years' time in a branch, competes for manpower and budget resources with civilian technical managers who are in their forties or fifties and who have been in the organization for twenty years. Simultaneously, these managers, although competitors, must also cooperate for mission accomplishment.

The challenge to champion the people in the supervisor's particular work element who need a certain level of backing, while synergistically supporting the overall goals of the parent organization, requires deft management skill and political savvy. This high-pressure situation requires, and often results in, rapid professional development by the officer. It also lays the groundwork for similar responsibilities of decision and judgment, at higher levels, in future assignments.

MY advice to officers entering research and development assignments is to fully integrate yourself with the civilian workforce, from which you will draw strength, to which you must repond, and over which you will eventually exercise authority. Every social and work opportunity to interface with these well-established research partners should be exercised; the rewards in terms of enhanced mutual respect and organizational support will more than compensate the effort expended. If a firm bond with civilian counterparts is not established, not only will the military engineer-manager be a less effective individual, but the organization as a whole will be less dynamic. Due to routine PCS moves, an officer's opportunities to develop into a technical specialist are diminished; thus, few officers have the chance to become the national expert in a technical area. However, the professionally mature officer can be satisfied that his or her primary contribution to the Air Force is the effective application of leadership. You must develop the team which will bring the product on-line and accomplish the national defense mission.

Wright-Patterson AFB, Ohio

Notes

1. Such wartime AFSCs were removed from general use in 1982.
2. My perception of contributing factors to the deactivation of Aerospace Research Laboratories (AFSC) in 1974, from interviews conducted with former members of ARL. Other factors, perhaps more significant, included the desire to spread the highly qualified technical talent from ARL among other laboratory organizations and the need to make major cuts somewhere due to budgetary restraints. ARL, under its parent organization, may not have had the organizational muscle needed to compete for budget against MAJCOM-sponsored agencies.
3. My observation from the Air Force Wright Aeronautical Laboratories organizational charts.
4. Aeronautical Systems Division organizational chart, January 1982.

ON THE DANGER OF NUCLEAR DECAPITATION

LIEUTENANT GENERAL WINSTON D. POWERS

DR. Howard Tamashiro's article "The Danger of Nuclear Diplomatic Decapitation" was interesting and thought-provoking.* His discussion of the technical issues and political difficulties facing our diplomats in today's nuclear environment was pertinent and thoughtful. However, I must disagree with Dr. Tamashiro when he implies that all our government's efforts have been devoted to improving military C³ capabilities while threats to diplomatic and other C³ systems have been ignored.

Starting in the Carter administration and continuing through the present administration, the government has undertaken a comprehensive review of its National Security Emergency Preparedness (NSEP) functions and responsibilities and the ability of each federal department and agency to perform those functions during times of crisis and emergency. As part of this activity, all the federal departments and agencies have examined the ability of their communications systems to support the execution of their NSEP functions.

As a result of this review, the Reagan admin-

istration has taken several important actions affecting telecommunications. First, it published a new policy that recognized the importance of communications to our national security and the ability of the entire government, not just the military components, to support national security goals and objectives. This policy, National Security Decision Directive 97 (NSDD-97), "National Security Telecommunications Policy," was published in June 1983. It established the principle that "the nation's domestic and international telecommunications resources, including commercial, private, and government owned . . . are essential elements in support of U.S. national security policy and strategy." It further states that "a survivable telecommunications infrastructure able to support national security is a critical element of U.S. deterrence," and that "if deterrence fails, the national communications infrastructure must be capable of supporting the essential national leadership requirements." Conducting diplomacy is specifically named as an essential national security requirement that must be performed in peace and war.

The second action taken by the administration was to create the National Communications System (NCS) as a framework for solving

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*Dr. Howard Tamashiro, "The Danger of Nuclear Diplomatic Decapitation," *Air University Review*, September-October 1984, pp. 74-79.

the NSEP telecommunications issues faced by the federal departments and agencies. The promulgation of Presidential Executive Order 12472, "Assignment of National Security Emergency Preparedness Telecommunications Responsibilities," in April 1984, established the National Communications System and assigned it the mission of coordinating the planning for and provision of NSEP telecommunications for the federal government under all circumstances. The NCS is composed of twenty-two federal organizations with operational, policy, and regulatory responsibilities for telecommunications. The solutions adopted by the NCS members will improve the government's NSEP telecommunications systems and capabilities.

Implementing NSDD-97 is a joint responsibility of the federal departments and agencies, the National Communications System, and the commercial telecommunications industry. A steering group, chaired by the Assistant to the President for National Security Affairs, was established to ensure that implementation is accomplished throughout the entire federal government. The Manager of the National Communications System was designated to develop coordinated plans that will implement the NSDD-97 principles and consult with the steering group regarding implementation of solutions. In recognition of the importance of the commercial and private communications resources, the President created a National Security Telecommunications Advisory Committee (NSTAC) to provide him and the NCS with information and advice, from the perspective of the telecommunications industry, on the best ways to implement NSDD-97 goals and principles.

To date, this joint planning process has proved to be highly successful. The government and the NSTAC have conducted studies of a number of initiatives to improve NSEP telecommunications, including an NSTAC study of ways to improve international diplomatic telecommunications, which was completed in 1984. This report was presented to the Department of State, which is now evaluating its recommendations. Several other matters now actively being studied include possible ways of enhancing the ability of commercial telecommunications networks to survive the effects of electromagnetic pulse and recommended ways to improve the survivability of NSEP-related automated information processing systems.

I cannot comment on Dr. Tamashiro's operational, political, and policy recommendations. However, I can say with certainty that the administration, government communicators, and members of the telecommunications industry are actively working to find ways to solve the technical issues discussed by Dr. Tamashiro. I am confident that these efforts will be successful and that the solutions adopted will improve not only our ability to conduct diplomacy in an increasingly dangerous world but also the ability of the entire telecommunications community to support the nation in emergency situations.

Washington, D.C.

General Powers is the Manager of the National Communications System.

ON THE AIR FORCE OFFICER CORPS: QUO VADIS?

MAJOR CARL R. FUTORAN

THE editorial "Air Force Officer Corps: Quo Vadis?" in the November-December 1984 issue of the *Air University Review* left me distinctly uneasy. Concern for the future of the officer corps is indeed in order, but to indicate a possible correlation between the number of officers with technical degrees and a decrease in the generalist portion of the officer corps is invalid.

The editor cites the high percentage of Air War College graduates with nontechnical degrees as support for his suggestion that generalists (i.e., those selected for higher rank) are those with nontechnical degrees. Such an isolated statistic fails to support the argument when the reader does not know the percentage of nontechnical degrees in the U.S. Air Force and, more specifically, whether the percentage of nontechnical degrees in Air War College is significantly higher than in the total population eligible for Air War College.

I suggest that events postdegree have a much larger impact on an individual's development as a generalist than does the degree itself. A college degree in any subject area only finishes the foundation that an individual brings to an Air Force career. Far more important for the officer corps is what is built on that foundation. After all, we are brought into the Air Force and specifically trained as specialists. Those of us who use the broadening opportunities that are made available (professional military education, reassignment, additional du-ties, career-broadening assignments outside of the primary duty area, etc.) and also perform tend to be promoted. Those who perform only in their primary area, no matter how well, tend to be left behind.

As officers, our concern should not be with an individual's college degree but with what happens to the individual once he or she is commissioned. Does PME emphasize broadening, or does it emphasize development of specialists' skills in management? Are leadership and initiative recognized, developed, and rewarded? Do we really promote the generalist, or do we merely define a military management specialist as a generalist?

Those of us with social science and humanities degrees should take care in how we define competence. The issues raised in the remainder of the November-December *Air University Review* dealt with technology. Officers who have not developed the skills to lead that technology will be left behind just as surely as those who are not developing the necessary military/political, historical, and management skills. The fault lies not with the college degree but with the individuals who are not competent in all parts of their profession.

Chanute AFB, Illinois

Major Futoran is Chief, Programs Office, Chanute Technical Training Center.

ON THE JUNIOR OFFICER-SENIOR NONCOMMISSIONED OFFICER RELATIONSHIP

Captain Barbara J. Shea

AFTER reading the November-December 1984 issue of the *Review*, I was prompted to respond to Major Richard Estes's assertion that rated officers have immediate credibility as supervisors—that their experience as flight crew members prepares them for supervisory positions.* I see daily evidence to the contrary.

In most support career fields, a second lieutenant about to be promoted to first lieutenant has held a wide variety of additional duties such as security manager, mobility officer, and supply officer. He has directly supervised enlisted personnel and has completed his initial OJT. Frequently, he will have served as the unit commander's representative to the supported wing's staff.

On the other hand, few rated first lieutenants have had such opportunities for experience in directing activities in a support area. Rather, a young rated officer has focused entirely on developing his technical skill as a crew member. He emerges from the process as a junior captain with six years' time in service who has functioned only within the unique but limited environment of aircraft operations. Such officers going into rated supplement fields must start from square one: learning how to supervise in a nonoperational environment and working hard to establish their credibility.

If you don't believe me, simply ask a young rated officer how well his aircrew duties have prepared him to function as a supervisor or commander in the support environment.

Little Rock AFB, Arkansas

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*Major Richard H. Estes, "Mission Critical: The Junior Officer-Senior Noncommissioned Officer Relationship," November-December 1984, pp. 71-78.

Captain Shea is a wing weather officer.

ON ASSESSING LEADERSHIP POTENTIAL IN THE AIR FORCE

Lieutenant Colonel John M. Lattig

What is leadership? We don't know exactly. What we do know is that if we create, build, and sustain it, proper leadership will stimulate managerial skills and functions and bring other resources to life. Conversely, we know that without it, work in any office or ship, or on any flightline, must inevitably grind to a halt.

General Bennie L. Davis, USAF
Precommissioning Education Review
Fall 1980

IN my opinion, creating, building, and sustaining proper leadership should be our goal when we examine leadership assessment techniques and how they can benefit the Air Force officer corps. Major James H. Slagle, in a recent article in the *Air University Review*, proposed that a "leadership assessment center" approach be implemented to correct what he views as a fault in our selection of officers for key billets.* We need quality leadership at all

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*Major James H. Slagle, "An Old Challenge, A New Dimension: Assessing Leadership Potential in the Air Force," *Air University Review*, January-February 1985, pp. 88-90.

levels of our profession, and I agree with Major Slagle that a "leadership assessment center" concept offers us a tool to achieve that end. However, leadership assessment should be viewed as a developmental tool that can provide valuable feedback *throughout* an officer's career, not simply a diagnostic tool to be used in the job selection process.

In his article, Major Slagle represents the current job selection process as a one-dimensional approach (i.e., a records check) that fails to identify officers with desirable leadership characteristics. In my view, the Air Force uses a multidimensional approach to select officers for "critical" leadership billets; that is, we do not rely solely on a records check. At the wing level, we often "promote from within." Key positions, such as flight commanders, are filled by personnel who have been on station for a period of time, demonstrated their technical and leadership skills, and earned the trust and respect of their fellow officers. Their leadership potential has been evaluated in the work environment; it is not limited to a review of OER content.

In saying that, I do not mean to imply the OER is not a valuable tool. What is said about an officer's judgment, adaptability to stress, and leadership performance gives a perceptive reviewer a strong indication of the officer's leadership potential. When the OER is used in conjunction with a review of past job experience (breadth, level, etc.) and education, we find that an officer's records provide a valuable profile to guide us in the selection process. The Air Force has also implemented adjunct programs to assist in selecting officers for key leadership positions. Major command squadron commander boards are one example. These boards are normally comprised of wing commanders with a wealth of experience in the specific mission of that command. Their depth of experience makes them eminently suitable to review and select officers for squadron command billets. Furthermore, this process is not a sterile records check; there is much "give and take" in the discussions, and senior leadership has an opportunity to "weigh-in" on behalf of officers who have demonstrated desirable leadership characteristics.

What characteristics do we seek in our leaders? Major Slagle uses the job description of a ground-launched cruise missile flight commander to support his view of a need for leadership assessment center involvement in the job selection process. In my opinion, his example may suggest a need to screen carefully for specific technical skills, but it does not support the concept of a formalized leadership assessment program in job selection. Quoting from Major Slagle's article: "In addition, various personnel must dig and inspect foxholes; string, test, and verify communications lines; camouflage vehicles; site hygiene areas; place sophisticated sensors, etc. Few Air Force missions require this type of field leadership." Field *expertise* would be a more appropriate term to use in that context. Major Slagle has identified a commander's need to understand technical mission skills; he has not focused on leadership characteristics. This technical knowledge is important to the leader—he needs to understand how to accomplish the mission—but the leadership assessment center approach is not designed to measure specific job skills. Rather, as Major Slagle points out, it is a "controlled environment where officers can be placed in situations requiring them to display certain leadership characteristics. The 'characteristics' can be observed and recorded for later evaluation of the officer's leadership style and potential, and results can be fed back to the officers." Identifying an officer's leadership style and giving feedback are the principles of leadership assessment; the goal should be leadership *development* for the individual.

In 1976, the Squadron Officer School (SOS) staff developed an experimental leadership assessment center. A psychologist from AT&T (a leader in industry leadership assessment) was employed to train selected members of the staff in leadership assessment techniques, and sev-

eral exercises were developed to serve as a medium for the assessment process. Specific leadership skills were identified for assessment, and test programs were conducted for two consecutive SOS classes. Control groups were put through the exercises under the observation of trained assessors, rated on leadership characteristics, and provided feedback. This procedure was conducted during the first few days after the student arrived at SOS. The assessed student was then encouraged to establish individual leadership development goals based on the feedback. Throughout the remainder of the student's stay at SOS, the staff conducted periodic counseling sessions with the students to evaluate their progress.

To my knowledge, this SOS program was the Air Force's first experience with a "leadership assessment center" approach to leadership development in our officer corps. Remnants of this approach still exist at SOS. The SOS experiment serves as a positive example of the developmental uses that make a "leadership assessment center" a viable tool in improving the strength of our leadership.

In my opinion, a developmental approach to leadership assessment makes infinitely more sense than an approach that uses leadership assessment as a diagnostic tool to guide job selection. We do not rely solely on a records check to guide us in selecting people for "critical" leadership billets. Rather, the judgment of our seasoned leaders, combined with the individual's documented performance, serve as a multidimensional basis for making job placement decisions. Leadership assessment, used developmentally throughout an officer's career, can strengthen the leadership of those being considered for key positions. If resources are available, expanding the SOS experiment to target a broad range of officers at various phase points in their careers will provide an ongoing cycle of assessment/feedback/development that can pay important dividends in developing effective leaders for the U.S. Air Force of tomorrow.

Reese AFB, Texas

Colonel Lattig is Commander of the 64th Student Squadron at Reese AFB.

ON EDUCATION AND TRAINING

COMMENTS BY
DR. ANDREW D. WOLVIN

DR. John Kline's article on education and training raises an important distinction in approaching the development of an organization's human resources.* It is critical for educators in academic institutions of all types to recognize the distinction: training is a closed system to prepare individuals with the neces-

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*Dr. John A. Kline, "Education and Training: Some Differences," *Air University Review*, January-February 1985, pp. 94-95.

sary skills to do their jobs; education is an open system to provide individuals with cognitive and affective development that may well extend beyond the specific job requirements. Kline's recognition of these distinctions is timely, for adult education has become big business.

The National Center for Education Statistics noted an increase of more than one million participants in adult education between the years of 1975 and 1978 alone.[1] As the size of the

adult population has been projected to grow throughout the 1980s, "the number of adult education participants will continue to grow."[2]

This increase in the adult learner population has been met with considerable increase in training and education opportunities in the work place. The Carnegie Foundation for the Advancement of Teaching has issued a "Corporate Classrooms" report which reveals that courses for corporate employees, ranging from remedial work to doctoral programs both in and out of the organization, enroll nearly eight million adults at a cost of more than $40 billion a year.[3] The U.S. Office of Personnel Management estimates that in 1980 alone, 521,659 government workers received 33,503,002 hours of training at a cost of $327,365,725.[4]

Not only does this activity occur at the work place, but training and education for working adults also have returned to the college campus. In 1984, American corporations spent approximately $71.5 million for postdegree courses for managers and executives, and the amount spent is expected to increase in 1985.[5] Much of the funding goes to business courses, but executives also are encouraged to go back for a broader foundation in liberal arts.

This increased interest in the training and education of adults in the American work force requires of educators a new model for dealing with the instructional needs of these "students." The American Society for Training and Development identified thirty-one competencies needed by training and development specialists. "Knowing how adults acquire and use knowledge, skills, and attitudes" in order to understand "individual differences in learning" ranked as one of the important training skills identified in the survey.[6]

The pioneer authority on adult education, Malcolm Knowles, distinguishes between pedagogy ("leading children") and "andragogy" ("leading adults").[7] Knowles and other adult education experts stress that adult learners come to the classroom with a wealth of experience and with job-related skills and needs.

Consequently, the teacher or trainer ought to serve more as a learning facilitator than as a directive teacher in the learning experience. Indeed, calling for the professional development of new trainers, Martin Broadwell argues that trainers must be concerned with "learning instead of teaching."[8]

Such an orientation to learning could be fruitful for trainers and teachers at all levels. Utilizing the experiences of the learners, including the early childhood of elementary students, certainly ought to make for a more meaningful learning process. Nevertheless, trainers and teachers must be careful not to assume that principles of "andragogy" suggest an unstructured group-discussion type of classroom. My experience suggests that even adult learners appreciate a great deal of structure—including lectures—but with the immediate application of principles to their work clearly evident. Further, adult learners welcome the opportunity to *practice* skills with careful observation and feedback in order to improve those skills. But such characteristics of adult learners are not unique to them. Adolescent and even younger students learn best when the material "connects" with their experiences and interests.

Understanding effective approaches in training and education should serve an organization well. A solid foundation of meeting the needs of the adult learners can enable an organization to develop the necessary leadership opportunities for all its members. In the same issue of the *Review*, Major James Slagle ("An Old Challenge, A New Dimension: Assessing Leadership Potential in the Air Force," pp. 88-90) calls for Air Force leadership assessment centers, centers that ought to be tied closely to the training and development functions. And Captain Dieter Barnes ("Education: Formal Schooling *Plus* Personal Preparation," pp. 99-100) calls for continued education and professional development of officers. American corporations have recognized the importance of similar training and education efforts. The

American Society of Training and Development reports that future management training efforts will focus on negotiation and personnel relations, communication skills, leadership, performance appraisal/evaluation, motivation, establishing goals and objectives, time management, MBO, problem solving, team building, and delegation/authority/responsibility.[9]

Developing future leaders, whether in American corporations or in the U.S. Air Force, will require commitment to developing the human resources of the organization. Such development will require systematic management of both the training and the education functions in order to best achieve the organization's objectives. As Kline notes,"genuine accomplishment . . . incorporates both" in a dynamic partnership.

University of Maryland

Notes

1. National Center for Education Statistics (NCES), "Adult and Occupational Education," *The Condition of Education* (Washington: NCES, 1980), p. 230.

2. Ibid., p. 231.

3. Nell P. Eurich, *Corporate Classrooms* (Princeton, New Jersey: Carnegie Foundation, 1985) as summarized in Lawrence Feinberg, "Education by Industry Is 'Booming,' " *Washington Post*, 28 January 1985, p. A4.

4. U.S. Office of Personnel Management, "Employee Training in the Federal Service Fiscal Year 1980" (Washington, 1981), pp. 2, 3, and 6.

5. Philip S. Gutis, "Executive Education's Unconventional Side," *New York Times*, 24 March 1985, p. F17.

6. Patricia A. McLagan and David Bedrick, "Models for Excel- lence: The Results of the ASTD Training and Development Competency Study," *Training and Development Journal*, June 1983, p. 18.

7. Malcolm S. Knowles, *The Modern Practice of Adult Education* (New York: Association Press, 1970), pp. 37, 38.

8. Martin M. Broadwell, "Professional Development for New Trainers," *Training and Development Journal*, May 1982, p. 72.

9. James F. Bolt, "Are We Meeting the Management Training Challenge?" *Training and Development Journal*, January 1985, p. 64.

Dr. Wolvin is Professor of Speech Communication at the University of Maryland-College Park.

COMMENTS BY

MAJOR JOHN A. STIBRAVY
MARILYN L. ATKINSON

DR. John A. Kline's comments about the inexact nature of education are worthy of further reinforcement. Military educators must recognize the differences between training and education. Even more essential in institutions of learning is that supervisors know whether their subordinates consider themselves to be trainers or educators. Too many times, institutions that need trainers are assigned educators. The reverse is also true. Often, a school such as the U.S. Air Force Academy is assigned trainers when educators are needed. Although Dr. Kline noted that genuine accomplishment incorporates both training and education, in application too many people fail to understand the nature of education.

A clear understanding of the real value of education is needed. In our opinion, the best military leaders are the results of education rather than of training. In war, the individual who merely acts, rather than thinks, is restricted from full effectiveness. Therefore all

individuals who have the potential to be leaders should be primarily educated rather than trained.

Schools often make the mistake of regarding education as if it were a commodity that could be marketed—as if so many years of education would result in so many promotions and so many extra dollars. By taking additional training courses, military students may indeed learn a trade skill, which may also result in greater earning potential. However, material rewards should not be the goal of education. Instead, education, in contrast to training, is designed to help the student think in a logical manner. No more and no less.

Students who object to mandatory core courses have clearly failed to ascertain the real goal of the educational process. As the Yale Report of 1828 suggested:

> But why, it may be asked, should a student waste his time upon studies which have no immediate connection with his future profession? . . . In answer to this, it may be observed, that there is no science which does not contribute its aid to professional skill. "Every thing throws light upon everything." The great object of a collegiate education, preparatory to the study of a profession, is to give that expansion and balance of the mental powers, those liberal and comprehensive views, and those fine proportions of character, which are not to be found in him whose ideas are always confined to one particular channel.[1]

Generally, courses in an educational institution are a blend of the particular and the general. The courses may be composed of facts, the learning of which teaches discipline of the mind; or the courses may provide the motivation for research, invention, reflection, synthesis, and other pursuits of the mind that lead toward wisdom.

Education should also contribute to the development of a sense of duty. A society's education system usually produces in students an awareness of the society's culture and a feeling of obligation to uphold that culture's values. Woodrow Wilson noted in his 1896 essay "Princeton in the Nation's Service" the obliga-tion that educational institutions have in this regard:

> It is plain that it is the duty of an institution of learning set in the midst of a free population and amidst signs of social change, not merely to implant a sense of duty, but to illuminate duty by every lesson that can be drawn out of the past.[2]

Since a sense of duty is particularly important to the military, continuing education should be essential to all airmen. Besides instilling a sense of duty, continuing education pays numerous other dividends, perhaps the foremost of which is the increased ability to solve problems by recognizing patterns and relationships. The military person who can discern and reconcile diverse relationships and apply his or her knowledge of those relationships to solving abstract problems is more effective in any organization. For this reason alone, commanders should encourage not only formal civilian schooling but also the increased use of short courses offered by such schools as AFIT.

As Dr. Kline implied, education should be a lifelong process, not something to be terminated once a desired academic level has been reached; rather, "persons are encouraged to develop their potential." As Wilson further remarked in his essay:

> It somehow comes about that the man who has traveled in the realms of thought brings lessons home with him which make him grave and wise beyond his fellows and, thoughtful with the thoughtfulness of a true man of the world.[3]

The military leader should strive to instill this sense of attainment in every individual. Through education, self-realization and fulfillment can be achieved.

Wright-Patterson AFB, Ohio

Notes

1. Jeremiah Day, "The Yale Report of 1828, Part I," in *American Higher Education: A Documentary History*, Volume I, edited by

Richard Hofstadter and Wilson Smith (Chicago: University of Chicago, 1961), p. 282.

2. Woodrow Wilson, "Princeton in the Nation's Service," in *American Higher Education: A Documentary History*, Volume II (Chicago: University of Chicago, 1961), p. 689.

3. Ibid.

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ON THE AMERICAN CATHOLIC BISHOPS AND NUCLEAR WAR

Colonel Raymond A. Shulstad

MAJOR Bruce Johnston's article is an excellent summary and critique of the American Catholic Bishops' Pastoral Letter on War and Peace.* However, it contains certain inaccuracies that can lead to a misunderstanding of the Pastoral. For example, the bishops did *not* proscribe all uses of nuclear weapons, nor did they condemn the collateral casualties from attacks against military targets as being deliberately indiscriminate. Instead, the bishops stated their "profound skepticism" that any limited use of nuclear weapons could be controlled and prevented from escalating into an all-out, total nuclear war, which would be immoral. Also, *they judged* the collateral casualties arising from large-scale military attacks to be morally disproportionate but not intentionally indiscriminate.

Of greatest concern, Major Johnston fails to distinguish between morally binding principles and the prudential judgments in the Pastoral. This failure, in my view, significantly distorts the nature of the potential moral dilemma facing military professionals. It is a crucial error that the bishops warned against repeatedly in the Pastoral. The fact is that the Pastoral contains only two morally binding principles: proscription against directly and deliberately taking an innocent human life; and proscription against uses of force disproportionate to the value of the gain realized. All of the Pastoral conclusions and recommendations on specific aspects of U.S. nuclear policy and strategy are, in fact, prudential judgments, not binding principles.

The importance of this distinction cannot be overstated. It is essential to a proper interpretation of the Pastoral. In making moral judgments of complex matters, such as deterrence or the use of nuclear weapons, one is required to apply principles, evaluate alternatives, and weigh consequences. Such judgments are extremely sensitive to one's hierarchy of values and moral perspectives. Thus, it is possible for moral men to apply the same principles and reach different conclusions regarding the morality of a complex issue. In the Pastoral, the bishops explicitly recognized this point and stressed that after consideration of the bishops' judgments, people are free to form their own views and to disagree.

Therefore, the Pastoral constitutes but one view of the moral dimension of U.S. nuclear policy. Other views are possible and are equally as valid. In my own case, I believe that there is a sound moral basis for deterrence and our nuclear strategy. To be more specific, I believe that U.S. nuclear policy is the only practical approach and is morally preferable to other alternatives. As Major Johnston points out, to

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*Major Bruce B. Johnston, "The American Catholic Bishops and Nuclear War: A Modern Dilemma," *Air University Review*, January-February 1985, pp. 107-13.

reach such a conclusion requires a broader view of what constitutes a discriminate and proportionate use of force. It also requires a consideration of the real geopolitical situation in the world and the Soviet threat in particular. With this broader view, it is possible to justify enormous sacrifices of human life as a "lesser of evils" choice over capitulation of the entire free world to Soviet tyranny and repression. In summary, U.S. nuclear policy has been effective in preventing nuclear war while preserving freedom with justice. There is no reason to believe that a failure of deterrence is either imminent or inevitable so long as we maintain the balance of forces and our resolve.

Military professionals should form their own consciences on individual and personal bases. They must reconcile their professional responsibilities with the dictates of their consciences and morality. If they are unable to resolve the moral dilemma, they must take appropriate action, including resignation, if necessary. If they are able to make this reconciliation, then there is no moral dilemma.

Washington, D.C.

Colonel Shulstad is a Senior Fellow at the National Defense University.

Right from the start, young officers learn that promotion goes to the polite, well-rounded man who can keep a tidy desk and avoid any eccentricity in taste or conduct. An overintense interest in the military arts is rated as an eccentricity and is thus to be avoided (except in the Army, the one service where self-reform is under way).

Edward N. Luttwak
The Pentagon and the Art of War, p. 198

But there is certainly no danger of militarism in America, at any rate not among the career officers. The very real danger is the opposite: that the officers are so "civilianized" by their entire career experience that they are ill prepared for the brutal urgencies of combat.

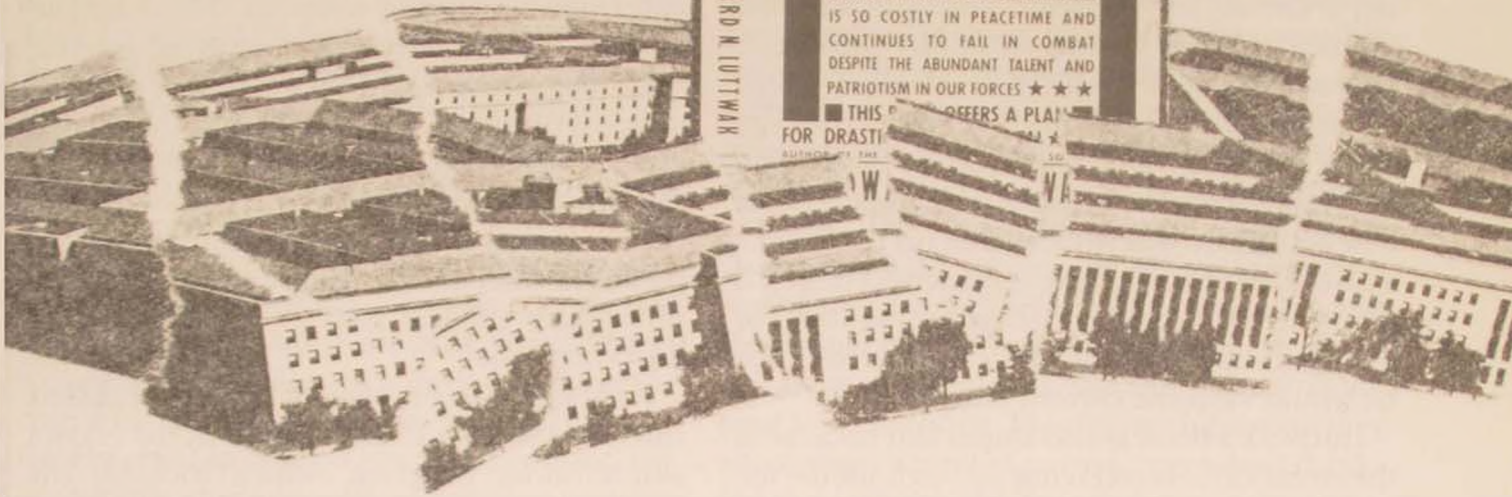Edward N. Luttwak
The Pentagon and the Art of War, p. 201

The most senior officers of each service are therefore administrators, inspectors, and moral leaders—not war planners or commanders.

Edward N. Luttwak
The Pentagon and the Art of War, p. 274

COMPREHENDING THE ENORMITY OF THE DEFENSE ESTABLISHMENT

Lieutenant Colonel Donald R. Baucom

The first barrier to understanding and reform is the sheer size of the defense establishment: there is simply nothing in American society that begins to compare with its awesome dimensions.

Edward N. Luttwak
The Pentagon and the Art of War, p. 68

How can anyone comprehend an organization as large as the Department of Defense (DOD)? How can one tell whether this massive organization is operating effectively? In our society, we like to count things, and to reassure ourselves where defense is concerned we also count things: high school diplomas among recruits, Article 15 rates, the cost of a weapon system, etc. But much of what is important in human affairs is intangible; it can be discovered and understood only through intuition and is missed by those who only count. That America's approach to defense is dominated by counters who overlook the intangibles that are of paramount importance in war is one of the main themes of an important new book, *The Pentagon and the Art of War*, by Edward N. Luttwak.†

The book is important for several reasons. To begin with, it is the most comprehensive

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critique of the U.S. approach to defense since the appearance of James Fallow's *National Defense* in 1981. It is also important because of who wrote it; Edward Luttwak is not an anti-military liberal attacking the military to justify slashing the defense budget. He is a conservative military analyst at Georgetown University's Center for Strategic and International Studies who has written two other important military-oriented works: *The Grand Strategy of the Roman Empire* and *The Grand Strategy of the Soviet Union*. When queried on a television talk show about the possible impact of his new book, Luttwak insisted that his book is not a justification for cutting the defense budget. If given the options of either reforming DOD or maintaining DOD's budget at its current level, he would keep the current budget level.

Luttwak's book is also important because of the attention it is receiving throughout the nation. For a brief moment, at least, its publication and its major ideas received as much attention as the worst horror stories about $435 hammers and a $9600 allen wrench. Reviews have appeared in the *New Republic, Wall Street Journal, New York Times*, and the *Los Angeles Times*. The 8 April edition of *U.S. News and World Report* carried an interview with Luttwak under the title "U.S. Military 'Strangling on a Bloated Officer Corps.' " Luttwak has appeared on at least one talk show, CNN's *Crossfire*, where the entire discussion centered on his book. With this amount of attention, it is not surprising that the book is already in its second printing.

All of this is to say that Luttwak's ideas have found their way into the mainstream of thinking among America's educated elite, and we are likely to hear reverberations from this book for some time. What are the main points that Luttwak makes in *The Pentagon and the Art of War?*

The organization of this book makes synthesis of the work's main ideas difficult. Essentially, Luttwak interweaves three major causative problems in our defense establishment with a host of minor and three major resultant difficulties. He concludes by recommending one major solution for the difficulties.

The problem of overlooking the important intangibles of war, Luttwak contends, begins in Congress, where defense issues are debated primarily in terms of inputs, such as the costs and characteristics of weapons. These are the kinds of things that can be quantified; specific questions can be asked, answers can be given in terms of numbers, and the answers themselves can be "objectively" judged. Consideration of such quantifiable tangibles, the author tells us, is more genial to the "lawyerly minds" of congressmen than are the complexities of defense intangibles such as strategy, leadership, and unit cohesion.

A superb example of what kinds of decisions this process leads to can be seen in the Navy's shipbuilding program, which includes the building of two very expensive nuclear carriers and the ships that must support and protect these carriers from air and submarine attacks. In spite of its huge cost, a carrier task force can throw only thirty-four attack aircraft at an enemy. In phrases reminiscent of Sir Halford Mackinder's heartland theory, Luttwak argues that these large and expensive carrier task forces will be of little use in influencing Soviet moves on the Eurasian mainland. To support amphibious operations, they must come close to the coast, where they are vulnerable to attacks by Soviet land-based aviation. Since this latter force includes Backfire bombers that can operate from the deep interior of Eurasia, these aircraft carrier task forces could not even oppose Soviet moves in peripheral areas such as Iran without considerable risk. Implicit, at least, in Luttwak's discussion of the carrier task force is the idea that a sound consideration of strategy within the defense decision-making process would have precluded heavy expenditures of money and resources on the nuclear carriers.

Another fundamental problem, according to Luttwak, is that today's officer corps is overly

large and bureaucratic. He discusses this problem in chapters 6 and 7. (Read these chapters if you don't read any other parts of the book. Chapter seven is especially good.) To make his point about the size of the officer corps in the 1980s, Luttwak compares it with the size of our officer corps at the end of World War II. He notes, for example, that there were 5.3 middle ranking officers for every 100 enlisted men as of May 1983, a ratio that is four times the ratio that existed in 1945. Where flag officers are concerned, there were 5.7 per 10,000 enlisted in 1983 compared to 1.9 per 10,000 in 1945 (based on table, p. 302).

Luttwak says that the impetus that led to the development of this top-heavy structure came from a policy decision following World War II to maintain an officer-rich force structure that could be expanded quickly with recruits in time of crisis to create a much larger force. On the surface, this idea seemed wise; but over the years the force was never expanded to anywhere near the World War II level, and there were never enough traditional command and staff jobs for all the officers. The excess officers became the justification and means by which the military establishment was bureaucratized. To give the additional officers something to do, responsibilities were divided into smaller and smaller chunks and assigned to offices headed up by officers who might themselves have other officers working for them—a phenomenon that led to specialization and the development of bureaucratic territories where each bureau is expected to look after its own business and stay out of that of other bureaus. Any initiative that might impinge on the responsibility of another office or offices had to be approved by the other offices before taking effect. In such a bureaucratic organization, turf battles tend to develop as bureaucratic officers strive to protect their territory and expand it if possible. Working in such an environment saps an officer's energy and undermines his willingness to initiate actions.

Luttwak sees several results of the bureau-

cratization of the American officer corps. For one, bureaucratization is a key factor in civilianizing the American officer, as it has led to the creation of numerous civilian-like jobs that are handled on a nine-to-five basis much like investment banking or insurance selling. It also tends to distort the R&D process, since R&D organizations such as Systems Command are composed of many small offices responsible for a host of narrow areas of development, and each office pushes to see that each new system incorporates the latest technical advances for which that office is responsible. According to Luttwak, this arrangement makes for a very inefficient R&D process, as offices constantly intervene in the development process to add this or that new gadget, with the result that very few weapons are developed and those that are tend to be baroque. Finally, such bureaucracy encourages a kind of narrow, parochial thinking that is inimical to broad, strategic thinking.

A final fundamental problem, according to Luttwak, is our unified approach to command, which has become a rationalization for giving every service a piece of every military operation even if one service could, perhaps, best do the job. This pie-dividing approach to military operations, Luttwak argues, is one of the basic reasons for our failures in Vietnam and Desert One and for the difficulties we encountered in the *Mayaguez* operation and in Grenada. In short, America's unified approach to command has produced an overly complex, bureaucratic command structure that does not function well.

Taken together, these difficulties, in Luttwak's view, result in a military establishment that is very effective when it comes to recruiting, training, and equipping forces. However, since its officer corps is bureaucratic and civilianized and has few members who have mastered the art and science of war (those who attempt to do so are considered eccentric in today's military, according to Luttwak), the American military has become incompetent in war. By this, Luttwak means that we have not

carried off a fully successful military operation since the invasion at Inchon.

And what does Luttwak propose to correct the situation he so vividly describes? Noting that there are four well-staffed military-related committees in each house of Congress, he recommends devoting one committee in each chamber to "the strategy that should guide the budget, and another to the actual military *content* of all those separate line items." (p. 155) In this way, he would hope to redirect at least some of our energy and effort toward the intangibles of war.

But Luttwak's major proposal is the creation of a "new cadre of national defense officers" capable of doing three things: planning large and small multiservice combat operations, executing the "higher command" of multiservice forces that would replace the current unified and specified commands, and supplying professional military advice to the Secretary of Defense and the President. These officers would form the "National Defense Staff."

For identifying and training the new cadre, Luttwak advocates a system pioneered by the Prussians in creating their General Staff. Officers would be selected from among the full colonels in the services, based on a competitive examination. Once selected, these officers would be permanently assigned to the National Defense Staff and would be given periodic assignments to services other than the one from which they came, thereby expanding their knowledge of all types of military operations.

Only in the National Defense Staff would officers have the opportunity to achieve the highest possible ranks and have access to the full range of command and policymaking responsibilities. The Director of the National Defense Staff would be a five-star general, the only one in service. Command of multiservice forces would be exercised by national service officers. While Luttwak is not clear on this point, he seems to indicate that lieutenant general would be the top rank available to those who remained in one service through their entire careers.

FROM what I have said here, it should be apparent that *The Pentagon and the Art of War* is a book of sweeping indictments. Reading it will cause some to nod approvingly; other heads will shake incredulously. Serving officers who would dismiss the book out of hand would do well to open their minds and recognize that they are inside the organization criticized by Luttwak and have grown accustomed over the years to accept the organization's own criteria to judge its success or failure. Nestled comfortably in a bureaucratic officer corps, protected from the outside by our own comfortable cocoon of statistics, we can be too quick to reject criticism such as Luttwak's.

We may never be able to comprehend fully the enormity of national defense. However, by opening our minds and considering some of the issues Luttwak raises, we might find and correct peacetime problems that, untended, could put the nation at grave risk in some future war.

Air University Review

THE LONG-RANGE PLANNING IMPERATIVE

COLONEL ALAN L. GROPMAN

READERS will find Barbara Tuchman's *The March of Folly* an articulate, useful, and immensely entertaining argument for long-range planning.† It is a synthesis that explores the unhappy proclivity of governments to march blindly into folly (which Tuchman defines as acting contrary to one's best interests when there are feasible alternatives available) because, unfortunately, governments tend to work day-to-day with no long view in mind. Without knowing where one is going, one can take any road to get there.

Tuchman investigates four cases in depth: Troy's destruction by Greeks bearing gifts, the division of Christianity brought on by amoral Renaissance popes, the provocation of the American colonies by narrow-minded British political leaders, and the trials of the United States during the Vietnam War caused by successive, shortsighted administrations of both political parties. What was wrong in all four cases? None of the examined leaders of these doomed administrations thought strategically.

Tuchman warns us, time and again, that government leaders must pay attention to their state's long-term interests and further them without regard to the whims of daily popularity or short-term political gains. Finding such leaders, she argues, is never easy, but that fact should not make one tire in the search. She warns, too, of the folly of declaring every interest in the world a vital one. This too-common bastardization of the strategic language leads to policy paralysis. Prioritizing objectives in a meaningful way is the first step in long-range planning and the first duty of the statesman, for without such efforts, coherent policy can-

not emerge. Each case study demonstrates the difficulties that states endure when run by leaders without a strategic orientation.

Tuchman opens with a thirty-page essay, citing a dozen cases of thoughtlessness other than the four that she develops in much greater depth later. Here are among others:

- King Solomon's son, Rehoboam, acting against his long-term interest by antagonizing half of his inherited kingdom and driving it into revolt;
- Montezuma's asinine surrender of his kingdom by capitulating to an underwhelming Spanish force;
- Louis XIV's senseless revocation of the Edict of Nantes, which had profited France enormously by keeping Catholics and Protestants from slaughtering each other;
- Charles X's buffoonish activities (as if the French Revolution had never occurred) to bring back full Bourbon privileges, which drove the family permanently into history's trash bin;
- Germany's foolish renewal of unrestricted submarine warfare during World War I, which brought the United States into the war and doomed Germany; and
- Tojo's tactically wise but strategically stupid attack on the American battleships at Pearl Harbor, which provoked a fearful war and ultimate defeat for the Japanese.

These are a useful preface to the rest of *The March of Folly*.

Because I do not understand why Tuchman, with so much historical folly to write about, chose to examine the Trojan War (it being so

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†Barbara Wertheim Tuchman, *The March of Folly: From Troy to Vietnam* (New York: Knopf, 1984, $18.95), 464 pages.

remote in time that fact is difficult to separate from fiction), I shall omit reviewing it here in order to discuss in detail the American Revolutionary and Vietnam wars. I shall also leave the six Renaissance popes to the reader. (Tuchman's writing about them is most entertaining, but we do not learn useful lessons from these truly depraved men.) Tuchman's thoughts on Britain's strategic mistakes with her American colonies and on our own similar errors in Southeast Asia provide quite enough to think about.

Britain's long-term interest was clearly to maintain her sovereignty over the American colonies by retaining the good will of the Americans. Yet successive "British ministries, in the face of constant warnings . . . repeatedly made rebels where there had been none." The critical issue was the Parliament's taxation of the colonies to demonstrate the fact that the Parliament could do so. Edmund Burke told his colleagues in Parliament that the "retention of America was worth far more to the mother country economically, politically and even morally, than any sum which might be raised by taxation," but he was ignored.

The American attitude is well known: the colonialists bridled at being taxed by a government 3000 miles away that would not permit their representation. American leaders told the king and his advisers continually that they would be proud to raise their own taxes for defense but would refuse to pay taxes levied in Britain. Time and again, however, the Parliament asserted their rights and stubbornly passed revenue bills that infuriated the people of the colonies increasingly and brought about crippling boycotts of British manufacturers that cost the mother country far more than the tax levies could possibly raise. Successive British prime ministers and presidents of the Board of Trade asserted rights that they could not affirm, and a distinct, articulate minority of Parliament advised them so. But the warnings of the minority were unheeded, and out of a combination of self-righteousness in demanding the right to tax the colonies and snobbish contempt for American military prowess, the British provoked an armed rebellion by sending troops to Boston.

Elevating the quarrel to armed conflict was greater folly, since William Pitt had told the Parliament in January 1775 that the British could not subdue a continent militarily with the forces at hand. Taking a city or a key town, he argued, would mean nothing with a countryside in flames. How could one secure the territory in one's rear when moving from town to town? But Pitt too was ignored. The military results from Concord and Lexington to Bunker Hill, Trenton, Saratoga, and Yorktown are well known.

Because they did not recognize their long-term interest, the British lost something they held dear. Burke asserted correctly in 1774, on the virtual eve of the departure of British forces: "Never have the servants of the state looked at the whole of your complicated interests in one connected view." Tuchman argues: "Self-interest lay in retaining the colonies in good will, and if this was considered the hinge of British prosperity and yet incompatible with legislative supremacy, then supremacy should have remained, as so many advised, unexercised." More cogently applicable to the next chapter, on Vietnam, Burke also told the Parliament: "They will tell you that your dignity is tied to it . . . This dignity is a terrible encumbrance to you for it had of late been ever at war with your interest, your equity and every idea of your policy."

Tuchman writes that King George III's "dignity" was Lyndon B. Johnson's "credibility." Tuchman argues that Johnson and other presidents stayed in the war in Southeast Asia to protect their credibility, *both* at home and abroad, and ended by sacrificing it.

By and large, Tuchman's account of America's longest war and worst defeat is objective. She recognizes the cold war atmosphere of the period from late 1945 to 1964 that frightened Americans and presents quotes from such lib-

erals as James Reston, Mike Mansfield, and William O. Douglas, and from such mighty organs of the press as the *New York Times*, all reflecting that America's interests and credibility lay in succeeding in Vietnam. She writes, herself:

> That the Russian danger in the world was . . . real, that the Communist system was hostile to American democracy and American interests, that Soviet Communism was expansionist and directed toward the absorption of neighboring and other vulnerable states was undeniable. That it was joined in aggressive partnership with Communist China was a natural conclusion. . . . That it was right and proper in the national interest for American policy to contain this inimical system and to thwart it where possible goes without question.

Where, then, was the folly? "That the Communist system threatened American security through Indochina, however, was an extrapolation leading to folly." It is difficult to argue with that (at least in hindsight).

American political leaders, Tuchman argues, foolishly had attached their long-term hopes in 1946 to a dying system, French colonialism (an especially exploitive form of imperialism), and were never able to create a government after the French left that could hold more than passive allegiance from the majority of the people of South Vietnam. Americans, she alleges, like the British two centuries earlier in America, held the armed enemy—whether Vietcong or North Vietnamese—in contempt; in so doing, they failed to see the reality of the French military defeat.

Tuchman's blame-brush paints broadly, covering Democrats and Republicans alike. John Foster Dulles, whom she calls a "cold war extremist . . . with the instincts of a bully," comes in for severe criticism. John F. Kennedy she censures for putting his personal interests (reelection in 1964) ahead of the interest of the country. Apparently, he had become a disbeliever in the war but was willing to let Americans die for at least another eighteen months until it was politically safe for him to exit.

Robert McNamara, she writes, "had the ruthlessness of uninterrupted success, and his genius for statistics left little respect for human variables and no room for unpredictables. His confidence in the instrumentality of material was perfect and complete." Her contempt for "the best and the brightest" (who were really the arrogant and the conceited) is unconcealed. Lyndon Johnson was a "man infatuated with himself," and Richard Nixon and Henry Kissinger do not fare better. Tuchman is tough in her assessments.

Tuchman's shortcomings (which do not detract from the book's message) come in her treatment of the military aspects of the war, most significantly air power. She disdains aerial bombing, noting twice in her text that the United States Strategic Bombing Survey concluded that strategic bombing in the European theater "had not been decisive. It had not significantly reduced Germany's physical fighting capacity . . . and there was no diminution of morale; in fact, bombing could raise morale." She is in error here. The survey actually stated:

> Allied air power [by which the authors largely meant strategic bombing] *was decisive* in Western Europe. . . . Its power and superiority made possible the success of the invasion. It brought the economy which sustained the enemy's armed forces to virtual collapse. . . . It brought home to the German people the full impact of modern war with all its horror and suffering. (My emphasis)

The destruction of German synthetic petroleum facilities—which fueled all aircraft and motor vehicles—all but stopped the training of German aviators and forced the Germans to abandon thousands of tanks and trucks in the field. The survey reported, moreover, "The attack on transportation *was the decisive blow* that completely disorganized the German economy." (My emphasis)

Tuchman is also wrong regarding morale. Morale did not rise in Hamburg after it was struck by a thousand heavy bombers; it plummeted and remained shattered for months. Nor

did morale rise in Dresden or Cologne (or Tokyo). Unfortunately, she did not go back to the primary sources in this case and relied on others who have interpreted the reports tendentiously.

I belabor the point because air power was the one weapon the United States refused to exploit throughout the Vietnam War. United States aims in Vietnam were limited—namely, to drive out the northern force so that the South Vietnamese could try to create their own state without having to fight both insurgency and invasion (not unlike Korea after 1953). Had we conventionally bombed North Vietnam, as we had Japan in World War II, the results probably would have been different. Les Gelb and Richard Betts, in their superb *The Irony of Vietnam: The System Worked* lament the restrictions placed on air power (a source quoted from quite freely by Tuchman, but this point is ignored). Douglas Pike, probably the leading expert on the mind, mood, and morale of the North Vietnamese, comes to the same conclusion in his *The Other Side*. One realizes that President Lyndon Johnson feared the reaction of the Soviets and the Chinese if he prosecuted a vigorous bombing campaign, and those anxieties caused him to hamstring the bombing effort against the advice of both the Central Intelligence Agency (which reported that these powers would not react overtly should we attack the North Vietnamese population with an air campaign) and the Joint Chiefs (who chafed at the restrictions). Richard Nixon, however, does not have Johnson's excuse. He prosecuted a stepped-up bombing campaign and got no adverse reaction from either the People's Republic or the Soviets but failed to persist. Sustained bombing, as was begun and ended (too soon) in December 1972, probably would have turned the tide in permitting the United States to secure its limited goals. Tuchman's analysis fails because she has an obvious aversion to bombing and does not know enough about the air campaign in World War II to explore the possibilities.

DESPITE these shortcomings, *The March of Folly* has great worth because it points out the dire consequences to states that have leaders who refuse to think strategically. Every case that Tuchman cites—from Solomon's son to the United States Presidents of the 1960s—highlights the need for installing leaders who are able and willing to take a long-term view, articulate and promulgate strategic goals, and then map out and carry out strategies to achieve these objectives. Having a long-range plan is the best way to avoid marching into folly.

Hq USAF

THE JAPANESE WAY OF WAR, 1941-45

Dr. Lloyd J. Graybar

THE distinguished military historian Russell Weigley has argued that there is an American way of war. Built on the legacy of Ulysses S. Grant, American doctrine by 1945 had come to seek annihilation of the enemy's military power. *Empires in the Balance*† and *The Sacred Warriors*†† show clearly that there is or was also a Japanese way of war, which sought limited objectives, accepted numerical inferiority as a given, and sought to compensate for these handicaps by what was believed to be the one clear Japanese advantage—superior martial spirit. "To overcome material inferiority," argues author H. P. Willmott, in *Empires in the Balance*, the Japanese "relied, with a confidence that bordered on blind faith, on the one facet of their moral and psychological ascendency over their enemies." (p. 454) This spirit would enable the Japanese fighting man to prevail over what seemed to be long odds, as indeed the Japanese had in their wars with the vast if declining empires of China in 1894-95 and Russia in 1904-05. Reinforced by these events in their convictions that Japan had a sense of divine mission which made it honorable to die in service of the emperor, Japanese leaders, when debating whether to go to war in 1941, felt, with some conspicuous exceptions, that their forces would defeat those of the United States and Great Britain and gain for Japan a favorable negotiating position.

Empires in the Balance offers a close look at the Japanese calculations that led to the outbreak of war in the Pacific in 1941 and at both Allied and Japanese strategy and operations in the first five months of war. Much of the ground covered in this study will be familiar to many readers: the Japanese effort in China; the attack on Pearl Harbor; and details of the Japanese campaigns in the Philippines, Malaya, the East Indies, and Burma. Battalion by battalion, Willmott recounts how the Japanese made their string of conquests, not only defeating their adversaries in the field but undermining as well the whole fabric of colonialism in the Far East.

In recounting these oft-told events, the author, a member of the Department of War Studies, Royal Military Academy, Sandhurst, adds freshness and zest to his narrative by his willingness—eagerness, one might say—to make explicit and provocative judgments. He asserts that British policy prior to the outbreak of war was based on three hopes: that war would not come; that if it did, things would not go too badly; and that in any event the Americans would "pull the chestnuts out of the fire." (p. 95) American planning was more realistic but was "nevertheless riddled with ambiguities and inconsistencies" (p. 95) in that the United States wished to deter Japan from taking aggressive action but would not do so by making a firm stand to support the prewar status quo in the Far East, which in American eyes was tainted by imperialism.

Individual leaders come in for numerous barbs. On Luzon, General Douglas MacArthur mishandled his initial troop deployments and

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†H. P. Willmott, *Empires in the Balance: Japanese and Allied Pacific Strategies to April 1942* (Annapolis: Naval Institute Press, 1982, $24.95), 487 pages.

††Denis A. Warner, Peggy Warner, with Commander Sadao Seno, JMSDF (Ret), *The Sacred Warriors: Japan's Suicide Legions* (New York: Van Nostrand Reinhold, 1982, $24.95), 370 pages.

logistics; in Malaya, the British commander, Lieutenant General A. E. Percival, was simply overmatched; worse still were the decisions that Percival's superiors made. "By any standard," Willmott charges, "Churchill, the British Chiefs of Staff, and Wavell were guilty of criminal dereliction, not least to the men whom they allowed to sail [as reinforcements to doomed Singapore in January and February 1942] into the hell of Japanese captivity." (p. 321) Elsewhere—in Burma or Ceylon, for instance—these troops and their equipment could have been used to buttress British defenses before the Japanese onslaught was upon them.

There were some bright spots for the Allies in these early months of the war in the Pacific. One was the performance of Admiral Thomas C. Hart, who commanded American and then American, British, Dutch, and Australian naval forces in the Far East. There was also the planning of Brigadier General Dwight D. Eisenhower, who immediately after the outbreak of war perceived that Australia, which was defensible, rather than the Philippines, should be developed as the main U.S. base in the western Pacific. Finally, there was General William Slim's leadership in the field in the Burma campaign.

Willmott is unsparing in his assessment of the Japanese. Japan's war planning was flawed from the beginning, he asserts, for the Japanese went to war intending to conquer the oil fields of the Indies, yet overlooked or ignored the fact that the accelerated pace of military operations against U.S., British, Dutch, and Australian forces would require them to use more oil than even the Indies could provide. In addition, Japan's military had debilitating weaknesses other than the recognized ones of limited manpower and resources. The army had a weak armor component and, except for engineers, ineffective support services. In the Zero, the navy did have what was the best fighter active in the Pacific in 1941 and early 1942; but they had none planned that would outperform it. In contrast, the United States had several superior

models that would be ready to go into mass production within two years.

Japan's heroic leaders made numerous errors, too. For example, Admiral Yamamoto, the Commander in Chief of the Combined Fleet, did not fully understand air power despite his boldness in employing it at Pearl Harbor. As a result, he devised needlessly complex plans, made the grave error of depleting the strength of his carrier groups in the unnecessary Coral Sea operation, and then compounded this error by dividing his remaining carriers rather than combining them to deliver one overwhelming blow against U.S. forces at Midway.

Yet what good would such an effort have done? Willmott reasons that a U.S. victory such as the one at Midway was bound to happen (if not in June 1942, then later), for the greatest Japanese error of all was to believe that the Americans would conduct the limited war Japanese strategists had counted on in their prewar planning. The Japanese had intended to conquer the resources of East Asia and establish a defensive perimeter against which their adversaries would so wear themselves out that they eventually would seek a compromise peace. However, "Japan had not the means to sustain herself and her war in China during the summer of 1941," according to Willmott. Summarizing his argument, he continues:

> That, in a very real sense, was why she went to war. But by going to war Japan had drastically increased, not lessened, her obligations and commitments. . . . Forward defense, along an extended front, is possible only with superabundant strength because such a concept demands the dispersal of static forces rather than the concentration of mobile ones. . . . Dispersal of force, by its very nature, can guarantee neither the timely nor the economical concentration of force to meet an attack. In the Pacific even the timely and economical movement of forces along interior lines of communication cannot be guaranteed. (pp. 451-52)

Where the Doolittle Raid of April 1942 is concerned, Willmott points out that it accom-

plished little in material terms but was a harbinger of ultimate defeat and a profound psychological blow to Japan because it demonstrated that despite Japan's enormous gains the war was not going to be fought on Japanese terms and that, indeed, the homeland itself was still vulnerable to attack. In place of their flawed strategy, Willmott speculates, the Japanese would have done better to assume a defensive posture in the Pacific in the spring of 1942 in order to concentrate their resources in the Indian Ocean. Such a decision would have let Japan seize Ceylon as a base whose very existence would have undermined the British position in India and, more important, enabled Japan to deny Britain the oil fields of the Persian Gulf at the very moment German forces were advancing on them from the west. Willmott concedes that the Japanese would have had to risk major American countermeasures (a risk the Japanese would have been quite unlikely to take, given their gigantic gamble in attacking Pearl Harbor the previous December and the continued existence of a substantial American carrier force), but Willmott nevertheless hypothesizes that a successful Japanese assault on the Persian Gulf—readers might well ponder the logistics involved—might have driven Great Britain from the war. This British withdrawal, in turn, would have offered Japan its best chance of success by forcing the dispersal of American personnel and resources over too many additional fronts. Japan chose to move in the opposite direction, however, and on to the defeat that was all but preordained.

If Japan's supposed moral and psychological ascendancy over her adversaries at the time she held a margin of superiority in weapons and trained manpower in 1941 and 1942 could not bring the favorable negotiated peace that Japanese leaders had hoped to achieve, what could possibly ward off defeat in 1944 and 1945 when American and other Allied forces were stripping Japan of her conquered resources and closing in on the home islands themselves? Japan's reduced circumstances should have

made it obvious to her leaders that Japanese strategy was bankrupt and that peace on almost any terms should be sought. However, this was not the case, for Japan's leaders increasingly relied on what had been from the start the key element in Nippon's equation for victory—the spiritual dominance of Japanese forces. Eventually, as is shown in *The Sacred Warriors*, this faith in the martial spirit of the Japanese fighting man was translated into the suicide tactics that began to be employed on a large scale in the Philippines in 1944 and with even more deadly effect in the Okinawa campaign the following spring.

Not all Japanese leaders or their followers believed that kamikaze planes and other suicide weapons such as *kaitens* (human torpedoes), *koryus* (midget submarines), and *okas* (piloted bombs) could halt their foes. In fact, some aviators sought to live by returning from missions with the claim that they had not been able to find suitable targets. On the whole, however, the Japanese tradition of *bushido* (the way of the warrior), plus sustained propaganda efforts to glorify those who died in combat, meant that Japan had no shortage of men eager to sacrifice themselves. Still, final defeat could not be stopped.

Not as original in conception as *Empires in the Balance*, *The Sacred Warriors* is nevertheless a gripping narrative. Its primary author is Denis Warner, an Australian war correspondent who covered the operations of the British Pacific Fleet in the closing stages of World War II and experienced Japanese suicide tactics firsthand. Using his own insight into the hellish battles off Okinawa and employing numerous quotations from Japanese and Allied participants in the 1944-45 campaigns, Warner and his collaborators, Peggy Warner and Sadao Seno, commander of a midget submarine in the Imperial Japanese Navy in 1945, make their book come alive and help the reader appreciate what would have been in store for both troops and civilians had an invasion of Japan itself been required.

Invading Allied forces would have been handicapped in the first days of the planned invasion, according to this book. American land-based fighter planes would have been operating from fields on Okinawa. As a result, they would have had only a few minutes' flying time once they had reached Kyushu, more than 400 miles away, and would have been unable to provide sustained protective cover. By comparison, the kamikazes could have used scores of hastily built airstrips on Kyushu and would have been above American beachheads and invasion fleets almost immediately. Consequently, Allied naval air power would have had to carry a tremendous burden. The authors cite Australian Staff College studies to demonstrate that Japanese suicide tactics, combined with the battle-weariness of American troops and a shortage of American ground personnel, would have meant that the invasion of Kyushu planned for November 1945 would have been bloody indeed and victory slow in coming.

THESE two books will appeal to anyone interested in the Pacific phase of World War II, although both are flawed by a few factual errors. Warner, for instance, places the *Hornet* in the Pacific in December 1941, and Willmott writes that the *Yorktown* participated in an abortive American effort to relieve Wake Island in that same month. Neither carrier was in the stated place. But the inaccuracies are minor or insufficient to detract in any substantial way from the essential worth of the two works. A more serious question about *Empires in the Balance* can be raised about the author's insistence on viewing both the Pacific War and Japan's eventual defeat as inevitable. This assertion will undoubtedly disturb those who see in history the play of the contingent and un-

foreseen. Many readers, as I did, will relish speculating about the myriad contingencies that could have averted war or produced a different outcome. A problem common to both volumes is the absence of footnotes, either an economy measure or because they are thought to impede sales in the popular market. While the authors of *The Sacred Warriors* do document their brief discussion of research in biological warfare and of plans for its use by both Japanese and American leaders, the bulk of their study is without precise documentation— a particular disappointment since the authors rely heavily on direct quotations, including dialogue, to establish the ferocity of suicide warfare.

Considerable research has undoubtedly gone into the two books, however. *The Sacred Warriors* makes use of primary sources, such as action reports and war diaries, and also draws from Japanese-language accounts in addition to well-known secondary works. *Empires in the Balance* confines its research to an extensive array of published sources, both monographic and periodical. Its bibliography does show some surprising omissions, most conspicuously the insightful studies of Akira Iriye and William Roger Louis, which deal with the decline of the old, imperialistic order in the Far East; the late Arthur Marder's *Old Friends, New Enemies;* and other pertinent works by such recognized authorities on international relations as Roger Dingman, James Leutze, and Christopher Thorne. Despite these flaws, *Empires in the Balance* and *The Sacred Warriors* can profitably be read by those who are already well versed in the Pacific War, as well as by those whose primary interests lie elsewhere. The prose in both volumes is crisp, and maps clarify the campaigns discussed.

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GIs AND SAMURAI: PERSPECTIVES OF WORLD WAR II IN THE PACIFIC

Captain George A. Reed

FORTY years after the great Pacific battles of World War II, Americans continue to be fascinated by that struggle and puzzled by the cultural clash it represented. Though by 1945 American arms dominated the Pacific, our statesmen soon faced a growing challenge from our former Soviet and Chinese allies to the Asian *Pax Americana*. In assuming major new responsibilities in Asia, Americans sought to understand the recently concluded war and the character of their Asian allies and adversaries. People on both sides of the Pacific sought particularly to see beyond the racism that seemed to contribute so much to the Pacific conflict's savage character.

After forty years and two major American wars in Asia, the effort to understand continues. In addition to striving for successful political and military cooperation, Americans and Asians struggle to cooperate in an age of technological and industrial upheaval in which jobs, balance of payments, and economic survival are at stake. For Americans especially, the battle to prevent the establishment of the Greater East Asia Co-prosperity Sphere—won at great cost on the battlefield—now seems lost in the corporate boardroom.

The West's effort to understand the enemy and operations of World War II in the Pacific has generated a flood of books and articles. In Japan, treatment of the conflict has moved from postwar repudiation of aggression to a new, more balanced analysis.[1] Implicit on both sides of the Pacific is still the question: "Who *are* these people?"

IN *Allies of a Kind*, Christopher Thorne presents a comprehensive study of the Anglo-American alliance in the Pacific within the context of British and U.S. worldwide strategy and efforts during the war.† Professor Thorne sketches the background of the alliance before Pearl Harbor and then discusses the course of Allied relations to the surrender of Japan. His themes are developed in a series of geographical settings—China, Southeast Asia, India, Australasia, the Pacific, and Japan—and are supported by extensive notes and bibliography.

The title of Thorne's book suggests his thesis. Thorne maintains that the overall level of cooperation and understanding between the United States and Great Britain during the war was remarkable and can be viewed as a "fusion of national identities." (p. 699) Nevertheless, although the war against Germany was marked by relatively close cooperation between England and the United States, the war in the Pacific was characterized by disagreement. In the Pacific, differing political and military perceptions by U.S. and British leaders created enormous friction about goals in the war against Japan and the future of Asia. Thorne writes: "Neither militarily nor politically . . . did there exist as regards the Far East anything like the degree of collaboration between the two states that was achieved elsewhere. Here, if nowhere else, they were only allies of a kind." (p. 725)

Professor Thorne argues that Americans saw Britain as playing power politics in an attempt

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to preserve its colonial empire and restrict U.S. political and commercial interests in Asia. The Americans accused Britain of failing to contribute militarily to the Pacific theater and relying instead on American power to defeat Japan and restore the British Empire. The perceived British attitude of "you provide the troops and we'll provide the generals," which sometimes rankled American commanders in Europe, spilled over into the Pacific. Thorne notes that "Britain, in American eyes, would always remain a rapacious treaty port power, quintessentially imperialist, commercially ruthless and politically devious." (p. 720) Overall, Thorne asserts, the Americans were frequently as suspicious of their British allies as they were of the enemy.

The author believes that the British on the whole were more realistic about the Asian politico-military situation and were more willing to seek a community of views and action than were their American friends. Despite Churchill's insistence that he had not taken charge of the British government to preside over the liquidation of the empire, the British were willing to work in partnership with America to build a new political order in Asia. Thorne speculates that the British emphasized the similarities between the two allies, while the Americans tended to see only the differences."[2]

These general attitudes influenced a number of specific issues. Differences between Washington and London affected perceptions of China's role and potential, operations in the China-Burma-India theater and Southeast Asia command, British contributions to the war in the Pacific, and Anglo-American relations with Australia and New Zealand.

Thorne suggests that Japan's early victories hastened the decline of European domination of Asia and opened the door for a growing American role—a process that, once started, the United States sought to accelerate. The war posed both new responsibilities and opportunities for the United States, as Pearl Buck indicated in 1942: "If the American way of life is to prevail in the world it must prevail in Asia." (p. 715) For Britain, the major result of the war was inevitably a further decline of her power and prestige. She could only acknowledge as gracefully as possible the end of the old order and the creation of a Pacific *Pax Americana*.

Allies of a Kind is a major study of the Pacific War and should be required reading for students of that struggle, coalition diplomacy in World War II, or the larger issue of the relationship of Asia and the West in the modern world. Although some of his conclusions may be unsettling, Thorne's arguments cannot be ignored.

THE extent of the Japanese challenge to the European order was indicated in the opening days of the Pacific War by the sinking of HMS *Prince of Wales* and *Repulse* on 10 December 1941 and the assaults on Malaya and Hong Kong. Ted Ferguson discusses the latter struggle in *Desperate Siege: The Battle of Hong Kong*.† Based on research in the Canadian defense archives and extensive oral interviews, *Desperate Siege* details the reinforcement of the meager British and Indian garrison at Hong Kong with two Canadian battalions in October 1941 and their subsequent destruction by numerically superior Japanese forces in December.

Ferguson considers this defeat a major Canadian disaster in World War II and lays the responsibility for it squarely on the shoulders of the British and Canadian governments. He argues that the British believed that Hong Kong would be attacked by sea and thought

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†Ted Ferguson, *Desperate Siege: The Battle of Hong Kong* (Garden City, New York: Doubleday, 1980, $11.95), 252 pages.

that the colony was expendable; therefore they seriously neglected the land defenses. However, Ferguson reserves the majority of his wrath for the Canadian government. He notes that despite the recommendation of the Canadian Director of Military Training that the two battalions were insufficiently trained and therefore should not be used for operations, Ottawa ordered them to Hong Kong to demonstrate its commitment to Britain's war effort. Further, the troops were dispatched without vehicles and faced shortages of heavy guns, mortars, and ammunition. Asserting that the troops were sacrificed for political considerations, Ferguson concludes that the "Canadian Government mishandled the Hong Kong debacle in the same manner the United States Government botched the Bay of Pigs Invasion." (p. viii) For Ferguson, the sacrifice at Hong Kong invites comparison with that of the other great Golgotha for Canadian forces in World War II, Dieppe.

The majority of the work describes the battle itself, but the author also outlines the experiences of the Canadians taken prisoner by the Japanese and ultimately the postwar struggles they underwent to gain pensions and benefits for disabilities acquired during their time as prisoners of war.

In the introduction, Ferguson points out that most of the works written on the early days of the Pacific War concentrate on U.S. defeats, especially those of Pearl Harbor and the Philippines. Often overlooked are the ordeals of British, Commonwealth, and Dutch forces at Hong Kong, Singapore, and a host of dimly remembered battles in Southeast Asia and the former Dutch East Indies. *Desperate Siege* is a useful contribution to American readers in rectifying this situation but, unfortunately, is hampered by a lack of documentation.

As American forces struggled to regain the initiative in the Pacific, they faced a number of crucial limitations. The competing priorities of the European and Pacific theaters, vulnerable sea lines of communication, conflicting priorities and personalities in the Central and Southwest Pacific, and the lack of combat experience with amphibious assaults combined to create severe difficulties for U.S. military planners. To these were added the problems of attacking a tough, resourceful enemy equipped with excellent weapons and flushed with victory—an enemy whose successes were enhanced because Western military officers grossly underestimated his skill and tenacity. The focal point of these issues was Guadalcanal, which American forces invaded in August 1942, thus beginning America's longest battle.

Robert Edward Lee's *Victory at Guadalcanal* is a breezy account of the battle and is most useful for the light that it sheds on American weaknesses at that point in the war.† Lee points out that the Marine assault forces lacked specialized landing craft and both maps and information about the island's terrain. Similarly, combat logistics concepts had not been properly developed prior to the attack on Guadalcanal; for example, supplies were unloaded in a haphazard fashion and stacked up on the beach. Additionally, American command lines were confused. Worst of all, because of the presence of strong Japanese naval units in the area, the U.S. Navy was very concerned about the possible loss of its few ships, especially its aircraft carriers. When Japanese surface ships damaged or destroyed five Allied cruisers off Savo Island, near Guadalcanal, on 9 August, major American fleet units were withdrawn from the area, and the Marines were left with

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†Robert Edward Lee, *Victory at Guadalcanal* (Novato, California: Presidio Press, 1981, $15.95), 260 pages.

minimal naval and air forces to deal with an expanding Japanese threat.

American command problems were not resolved until the replacement of theater commander Vice Admiral Robert L. Ghormley by Vice Admiral William Halsey in October 1942. Although the United States gradually wrested air and sea control in the Solomon Islands from the Japanese, Guadalcanal was not secured until February 1943.

The majority of *Victory at Guadalcanal* is concerned with the Marines' struggle to gain control of the island from August 1942 until the transfer of command to the Army in December 1942. The work is most interesting for its depiction of the poor state of American amphibious assault capabilities in 1942. Experience gained at Guadalcanal was the basis of amphibious techniques and equipment that were used in the Tarawa and New Guinea assaults of 1943 and refined in the Marinas and the Philippines in 1944. Similarly, Guadalcanal's lessons were reflected half a world away on the beaches of North Africa, Italy, and Normandy.

Lee has a knack for conveying the confusion and fear of night action at sea and in the jungle, but he emphasizes "spinning a good story" at the expense of precise research and documentation. For example, his "you are there" accounts of battlefield conversations are not documented, and he inaccurately states that five Allied cruisers were sunk at the Battle of Savo Island.[3] (pp. 58-59) Moreover, the value of Lee's account as a historical study is severely limited by the absence of notes and an index.

AIR POWER's contribution to the Pacific theater was especially important because of the vast distances involved. American strategies in both the Central and Southwest Pacific were aimed, in part, at seizing areas from which aircraft could operate to secure the next stage of the advance. Late in the war, some operations in the Pacific were undertaken to bring strategic air power within range of Japan in the hope of reducing the Japanese home islands through bombardment, thereby obviating the need for an invasion. The destruction of Hiroshima and Nagasaki in August 1945 both fulfilled this latter objective and indicated the awesome potential of air power in the nuclear age.

World War II in the Air: The Pacific, edited by James F. Sunderman, is a reissue of a 1963 survey of the air war from an American perspective.† A general outline of the air war in the Pacific is provided through a series of articles written during or after the war by observers or key participants, such as Eric Severeid and Generals Henry "Hap" Arnold, George C. Kenney, and Claire L. Chennault. Introductions and historical background are provided for both the major sections and individual articles.

The anthology is heavily slanted to coverage of Army Air Force operations, with articles about the Eleventh Air Force in Alaska and the Aleutians, Fifth Air Force in the Southwest Pacific, Fourteenth Air Force in China, and Twentieth Air Force's bombardment of Japan. Naval air battles, such as the Coral Sea and the Marianas "turkey shoot," are also mentioned. The biggest weakness of the volume is the inclusion of only two articles from the Japanese perspective. On the other hand, the book is well-illustrated and contains a useful glossary of Japanese and American aircraft used in the Pacific.

World War II in the Air provides not only a historical account but also a glimpse of the

thoughts and passions of those who waged the air war. Especially interesting is the concluding article, General Arnold's "Our Power to Destroy War," originally published in *Air Force Magazine* in October 1945. Here General Arnold argued that the Pacific War's outcome was a testament to air power's decisiveness and that the nuclear attacks against Japan were a mute warning of the fate awaiting nations that lose control of the air. Thus, not only did the article reflect and reinforce the belief of American air leaders that their prewar theories of strategic bombardment were vindicated, but it also served as a call for air power enthusiasts to continue their effort to create an independent air force.

If anything, the lessons of the Pacific War point to the need for understanding one's enemies and friends. The European theater's belligerents shared the same basic cultural traditions, but both cultures and military forces clashed in the Pacific. The military history of the Pacific War should illuminate such military and cultural-political battles, but all too often we are poorly informed on the latter. Unfortunately, the books by Ferguson, Lee, and Sunderman tend more toward "slam-bang" campaign narrative, and their value suffers accordingly. Strong in vivid description, they are weak in the thoughtful analysis that Professor Thorne offers.

Such analysis, with a view toward cultural understanding of the Pacific War, is vital in light of the internal and external threats that the United States and her Asian allies face in the Pacific today. Perhaps it is just a reflection of Asia's concept of karma—the "turning wheel"—that forty years after the Pacific War we again face great political, military, and economic challenges in Asia. As the U.S. military studies these challenges, we would do well to remember the advice of the ancient Chinese military strategist Sun Tzu, "Know the enemy and know yourself; in a hundred battles you will never be in peril."[4]

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Notes

1. For an introduction in English to Japanese views of the war, see Saburo Ienaga, *The Pacific War* (New York: Pantheon Books, 1978).

2. Christopher Thorne is Professor of International Relations at the University of Sussex. For an American writer's view of these issues, see Robert Dallek, *Franklin D. Roosevelt and American Foreign Policy* (New York: Oxford University Press, 1979).

3. Four Allied cruisers were sunk at the Battle of Savo Island. For another account of this battle, see Samuel Eliot Morison, *The Two-Ocean War* (Boston: Little, Brown and Company, 1963), pp. 167-77.

4. Sun Tzu, *The Art of War*, translated by Samuel B. Griffith (New York: Oxford University Press, 1963), p. 84.

NATO AND THE NUKES: ARMAMENT, ARMS CONTROL, AND THE ATLANTIC ALLIANCE

Dr. David R. Mets

THE North Atlantic Treaty Organization has had a long history of involvement in arms control and disarmament. For most of that history, though, these have not been burning issues with our NATO allies. Lately, arms control *has* been becoming a more crucial item for our European brethren; and that concern, in turn, has led to a virtual explosion of literature on the subject. It is all too easy for Americans, and especially those in the military services, to look at this phenomenon with a skeptical eye and dismiss it as the ideological meanderings of impractical souls. But the literature and the issues have become too prominent and too voluminous for the professional officer to disregard them lightly.

ONE recent book of interest is Guido Vigeveno's *The Bomb and European Security*, which argues that arms control is a worthy goal but that limitations can come only in a context of security for both of the European alliances.† This short, well-written book gives a handy summary of the arms control problems facing the West.

Vigeveno's view of SALT history and that of mutual and balanced force reductions (MBFR) is conservative. He seems to have little uneasiness with President Reagan's decision to go ahead with the production of the neutron bomb and with the French development of a similar weapon. He sees the NATO council's decision to modernize theater nuclear forces as a reasonable response to the Soviet buildup in this area, and he believes that once the Russians are convinced that they cannot make the Western alliance back down through propaganda, then meaningful arms control negotiations will begin.

WHILE Vigeveno treats the neutron bomb controversy in a general historical way, Sherri L. Wasserman presents a detailed review of it in *The Neutron Bomb Controversy*.†† Wasserman is an excellent writer and appears to be a competent scholar. Her work is based heavily on newspaper reports and interviews, of course, as most primary source documents are still classified.

President Carter's perceptions are a key to the whole affair. Therefore, it is not surprising that Wasserman appears to have interviewed only a few members of the Carter White House, some of whom insisted on anonymity. What is disappointing is that the views of President Carter are reconstructed from hearsay evidence only. Thus, a part of her analysis is necessarily speculative.

The Neutron Bomb Controversy is written in dispassionate terms. Wasserman considers the impact of both internal and external factors affecting decisions of leaders on both sides of the Atlantic. She weighs both the role of personality and the effect of institutional structures and processes, explaining how they caused the decision on the enhanced radiation weapon

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†Guido Vigeveno, *The Bomb and European Security* (London: C. Hurst and Company, 1983, $12.95 cloth, $6.95 paper), 131 pages.

††Sherri L. Wasserman, *The Neutron Bomb Controversy* (New York: Praeger, 1983, $21.95), 151 pages.

(EHR-neutron bomb) to be deflected from the pathways of pure strategic logic.

Wasserman concludes that the neutron bomb controversy was badly handled, especially by the United States and President Carter. She thinks that it would have been better had the United States exerted more positive leadership in spite of traditional European complaints of being denied a role in decision making. Some of Europe's leaders would have found it easier had President Carter demonstrated an earlier and more determined commitment to the production and deployment of EHR weapons, notwithstanding what they said for public consumption. She also believes that the early decisions for the weapon were made by people qualified in technical and military affairs, but the issue was not brought to the political level soon enough—and when it was, the debate went on in public. Wasserman says that it would be better if such sensitive issues were negotiated privately among Western leaders and a consensus reached before they are brought to the public arena. Unfortunately, Wasserman has little to say about how to achieve such quiet agreement among the democracies, given their traditions of aggressive journalism. The neutron bomb controversy and other uncontrollable factors ultimately led to the NATO decision for a dual-track approach to nuclear arms decisions—one that ties the production and deployment of the new theater nuclear weapons to the outcomes of arms control negotiations simultaneously pursued. Wasserman thinks that this approach might prove to be a worthy result in the end.

ANOTHER recent book that looks at NATO and nukes is *Alliance Security: NATO and the No-First-Use Question*, a prod-uct of the Brookings Institution that meets the usual high standard of this organization.† The work was stimulated by the famous 1982 *Foreign Affairs* article by McGeorge Bundy, George Kennan, Gerard Smith, and Robert McNamara, in which the authors proposed that NATO declare a no-first-use strategy that would aim to deter war without dependence on nuclear weapons (or, at least, with reduced dependence on such weapons). Brookings analysts, working in conjunction with the International Institute for Strategic Studies in London, assembled the present volume to weigh the pros and cons of such a strategy. The collection includes chapters by leading experts in the field: David Schwartz, William Kaufmann, Jonathan Alford, Gert Krell, Hohan Holst, and the coeditors of the book, John Steinbruner and Leon V. Sigal. Normally, such anthologies have chapters of uneven quality, but here the standard is uniformly high. Moreover, few sweeping generalizations are presented, although in a few areas there seems to be some agreement among the contributors.

One element of consensus is the notion that NATO's present nuclear forces are too short-ranged and too vulnerable. These characteristics may make a preemptive strike so tempting that NATO's nuclear forces may be counterproductive for the intended goal of deterring war. The argument is that only relatively invulnerable theater nuclear forces can really supplement the second-strike policy that controls the U.S. central nuclear systems. Further, the experts seem to agree that the inclusion of nuclear weapons in dual-purpose forces reduces the conventional potential of those forces. The prescription that seems to emerge from these analyses is that the nuclear forces should be withdrawn from these units and reconstituted in single-purpose, nuclear-capable formations

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† John D. Steinbruner and Leon V. Sigal, editors, *Alliance Security: NATO and the No-First-Use Question* (Washington: Brookings Institution, 1982, $28.95 cloth, $9.95 paper), 222 pages.

deployed further to the rear. That change would enhance the conventional capability of their former units and perhaps raise the nuclear threshold as well.

The writers of *Alliance Security* are somewhat more optimistic about the balance in Europe than is Guido Vigeveno. As a group, they generally believe that threat analysis should go beyond simple "bean counting" to consider some of the less tangible factors. When qualitative factors are weighed, the prospects of NATO seem brighter. Although some of the authors are European, the consensus nonetheless holds that a conventional defense is feasible and desirable—especially if some improvements are made. The worst-case scenario for NATO would be a Warsaw Pact offensive launched at the end of a prolonged and deliberate mobilization.

Such ideas are not popular in some European circles. Ever since the days of flexible response (and even before that), some of our allies have feared that anything that makes a war more thinkable, especially anything that makes thinkable a conventional war limited to Europe, could lead to yet another war. Their consistent goal has been to deter war altogether, not simply to *try* to deter war but, failing in that, to win it.

ALL the works reviewed here are competently done. Perhaps *The Neutron Bomb Controversy* is too specialized to appeal to the entire officer corps, while *The Bomb and European Security* is too elementary to serve as more than an introduction or refresher. But *Alliance Security* deserves the attention of all officers.

The impression on arms control that emerges from these works is more pessimistic than optimistic. Among other things, the ancient problem of verification is still with us and perhaps even growing worse. It seems quite clear that our highest leaders should give their close scrutiny to the command and control system, especially in the NATO arena. None of these books does much to build one's confidence that nuclear war can be controlled. Although some of the writers see arms control negotiations as actually pernicious, most of them probably would not go that far in discouraging Western participation. Sweeping new agreements on limitations and reductions are probably not in the offing, but the continuance of the effort may have other positive outcomes in terms of confidence and security, if not economy.

As for the arms policy of the West, ever since the Soviet orbiting of Sputnik, the pressures for less reliance on the nuclear deterrent have been increasing. The strategy of flexible response was one answer, but many of our European allies did not like it: not only was it too expensive, but the conventional war that it seemed to imply appeared almost as bad for them as would a nuclear holocaust. For many years, U.S. officials urged their European partners toward the fulfillment of the conventional arms goals of the alliance, but these goals have never been reached. Lately, some European writers have been arguing that NATO is not really as weak as a mere quantitative comparison would suggest, even while recognizing that qualitative comparisons are a matter of judgment strongly affected by the personal views of the individual. In the end, where NATO's arms and arms control policies are concerned, there seems to be little cause to expect improvement. There seems to be no great alarm expressed in the literature here reviewed and, therefore, little incentive to change policies.

Niceville, Florida

POTPOURRI

Military Strategy in Transition: Defense and Deterrence in the 1980s edited by Keith A. Dunn and William O. Staudenmaier. Boulder, Colorado: Westview, 1984, 225 pages, $26.00.

Changes in the strategic environment have cast doubt on the creditability of current NATO military strategy of flexible response. Believing the flexible response strategy can be restored by giving NATO conventional forces a retaliatory mission, Samuel P. Huntington has advocated this strategy in a variety of forums, including a July 1983 U.S. Army War College Military Policy Symposium. *Military Strategy in Transition* is the product of the papers presented at that symposium.

Huntington's strategy, presented in chapter 2, is aimed at what he perceives as Soviet political and military weaknesses. Politically, he feels, the Soviets have more to lose from Allied armies invading Eastern Europe and stimulating disaffection than NATO has to fear from invading Soviet armies. Further, he agrees with Richard Burt's perception that the Soviets have a force designed to attack, not defend, and that these forces are deployed to seize territory, not hold it. According to Huntington, his strategy requires changes more in mind-set than in forces and will be politically palatable when the alternatives are considered.

The anthology's other papers explore the current strategic environment, addressing directly or indirectly most of the issues raised by Huntington's proposal. The military contributors focus most of their attention on the U.S. Army AirLand Battle doctrine and the Supreme Headquarters Allied Powers Europe concept for follow-on force attack. Their examination, comparing, and contrasting of the two approaches serve a useful purpose by showing the nature of an important ongoing doctrine debate within the U.S. military. AirLand Battle doctrine, which is compared by many to Huntington's proposal, faces opposition because it is perceived by General Rogers and many Europeans as being too offensive-oriented and thus threatening to NATO's image as a purely defensive alliance. Unfortunately, doctrinal issues of special interest to the Air Force, such as the usefulness of emerging technology for deep attack (air interdiction) and centralized control of deep attack assets, are not examined in these papers. Greatly increased European urbanization also is only mentioned in passing, and the growing vulnerability of NATO air bases is totally ignored.

Without in-depth treatment of these vital issues, the discussion of either AirLand Battle or follow-on force attack will remain incomplete.

European public perceptions and opinions regarding greater NATO reliance on conventional capabilities are fundamental to the relevance of Huntington's proposal. These are carefully explored, as is the question of punitive versus denial deterrence. Perhaps of greatest interest are the two chapters that address the Soviet Union. Vernon Aspaturian examines the vulnerability and strengths of the Soviet Empire and sees little correlation between West European and Soviet perceptions regarding the credibility, effectiveness, or deterrent value of various alternative strategies. He concludes that the best deterrent strategy for the West will continue to be a combination of deterrent capabilities and strategies in which nuclear weapons play a key role. Daniel Papp reviews potential Soviet responses to a conventional retaliatory offensive strategy and concludes that it is far from certain whether such a strategy would contribute meaningfully to deterrence. He cautions that while continued study of strategies is necessary, NATO must be certain that mere discussion of possible changes does not become a disruptive force within the alliance.

The editors have done a commendable job in identifying the principal themes and summarizing the strategic and force structure implications of an offensive land strategy that, in fact, proposes horizontal escalation. Despite shortcomings in some areas, particularly a failure to examine rigorously the perception of Soviet forces shared by Huntington and Burt, *Military Strategy in Transition* makes an important contribution to understanding the issues involved in this important debate.

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Those Gallant Men: On Trial in Vietnam by John Stevens Berry. Novato, California: Presidio, 1984, 173 pages, $14.95.

Just when it appeared that we had heard from every genre of Vietnam veteran, John Berry offers the first reminiscences of a military trial lawyer. As a young captain, Berry served as chief defense counsel for II Field Force during 1968-69. His slim volume

provides sketches of some of his memorable cases and affords insight into the process, difficulties, strengths, and weaknesses of military justice in a war zone. The bulk of the cases that he discusses deal with soldiers who deserted or committed acts of violence against fellow soldiers or Vietnamese civilians. As he relates the background and progress of the trials, Berry includes generous segments of the court martial official transcripts, which adds useful dimension.

Approximately half of the book concentrates on the famous 1969 Green Beret Case in which Colonel Robert Rheault and his subordinate officers were charged with murdering a Vietnamese double agent. Berry served as defense counsel for one of the officers, and the successful defense was the high point of his tour. Berry's admiration for the Green Beret officers and his strong convictions about the case are evident not only from his narrative but from the very title of the book. The depiction of this case and its aftermath are particularly enlightening.

Those Gallant Men is quite interesting, demonstrating the large number of unique legal problems and unusual circumstances for the justice system in an alien climate during a war. For those with little knowledge of the military justice system, this account provides basic insight. If Berry is correct, mitigating circumstances and one's combat record played an unusually heavy role in the dispensing of justice in the war zone.

The author does not suffer from excessive modesty. The volume brims with his ego and his self-congratulatory evaluations of his contributions and his courtroom performance. I found Berry a bit pompous and conceited, but I recommend his book. In the large Vietnam bibliography, this is not a highly significant work, but it fills a nice niche.

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In Love and War: The Story of a Family's Ordeal and Sacrifice during the Vietnam War by Admiral James B. Stockdale. New York: Harper and Row, 1984, 472 pages, $18.95.

The highest ranking naval officer held in North Vietnam, Admiral James B. Stockdale, was shot down on 9 September 1965. While a prisoner of war, he endured torture made all the worse by his knowledge that he knew, and might divulge, the truth about the Gulf of Tonkin incident, which had occurred a year earlier.

Stockdale survived his captivity, in part, by draw-

ing on the example of perseverance and commitment set by his father during the Great Depression. As an only child, he learned well the lessons his father taught on how to stay cool under pressure and how not to let your imagination take control. Stockdale spent weeks bound and blindfolded, left to lie on a filthy floor like a "blind crippled animal who could think of no reason why he should not expect to spend the rest of his prison career in those straits." To persevere in strength and honor, Stockdale drew on his childhood experiences, a successful bout with claustrophobia during his survival school training, and the philosophical teachings of Dostoevski.

Not only did Stockdale survive, but he organized other prisoners so that they could better resist their captors. He found that they shared the mutual respect of military men serving their country under adverse circumstances and with pride in their nation and themselves, which developed comradeship that energized them against the uncertainties and horrors imposed on them by the North Vietnamese. Together, they battled back with tricks that made trouble for their captors. They chose to "stick it in their ear . . . to keep it up, no matter how long [they] stayed."

In a different way, Admiral Stockdale's wife was also a prisoner of the Vietnam War. Sybil Stockdale was tortured by fears for the safety of her husband and children because she worked closely with Navy Intelligence. Additionally, she became a moving force in getting and keeping the POW issue before the American public and took on the national and international media, the White House press apparatus, President Nixon, Henry Kissinger, Alexander Haig, and a host of others in her efforts to get action in the interest of the POWs.

While accepting and meeting these challenges, Mrs. Stockdale successfully reared four sons. In doing so, she heeded two of her husband's most revered axioms: "Always try to turn a disadvantage into an advantage" and "when in doubt, see the manager." Sybil Stockdale established the National League of Families of American Prisoners and Missing in Action in Southeast Asia as a part of her effort to take the battle beyond the confines of waiting and worrying. Admiral Stockdale is convinced that his wife's activities saved his life in 1969, when, rather than be party to a propaganda film, Stockdale battered his face on the wall of his cell and the North Vietnamese seriously threatened him with execution. Only his wife's notoriety and the publication of a photograph of him in captivity, he believes, kept the publicity-conscious North Vietnamese from killing him.

In Love and War is worthy of the attention of all military professionals. Both of the Stockdales battled

heroically, and their efforts made a real difference. The best commentary on this book is by the author: "I probably write better than I do anything else—except fight."

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Portland, Oregon

A Country Such as This by James Webb. Garden City, New York: Doubleday, 1983, 534 pages, $17.95.

A Country Such as This is the third of James Webb's books, and it is a good one. As in his *Fields of Fire* and *A Sense of Honor*, Webb probes skillfully into the beliefs and values of the military man in war and peace. But while the other works focus on a relatively small time frame—namely, a couple of years during the Vietnam War—*A Country Such as This* examines a dramatic quarter-century span of our country's history, making this James Webb's magnum opus.

The novel spans twenty-five years from 1951 to 1976. It begins with the innocence of the fifties, passes through the turbulence of the sixties, and ends with the reconciliation of the midseventies. Paralleling the ebb and flow of America's fortunes are the lives of the work's three main characters: Judd Smith, Red Lesczynski, and Joe Dingenfelder. The three are Annapolis graduates—roommates to boot—who make a sacred vow over wine, women, and song at the local bar and then end the nocturnal ritual by becoming blood brothers. The vow: to return to Mario's in twenty-five years to see "who had done good." You might be saying to yourself, "I've read reunion stories before." But while the idea is an old one, the story is fresh and convincingly told. In this tightly woven novel, the reader not only follows the three graduates through the major historical events of those years but also experiences the personal milestones of their lives. The Korean War, Vietnam, antiwar protests, the civil rights movement, the space program, and the nation's bicentennial festivities are intertwined with love, marriage, children, fatherhood, divorce, delusion, and reconciliation. The remarkable resiliency shown by America during that period is embodied in the characters as well.

I found the characterization to be another strong point of the book. The three protagonists represent a cross section of America: Judd is part American Indian, Red is of Polish descent, and Joe is Jewish. Judd is particularly well done. This backwoods, devil-may-care former Marine, former FBI agent, and part-time priest personifies American values. I found myself engrossed in his story and cheering

him on. Complementing the men are their three female counterparts: Julie Smith, Sophie Lesczynski, and Dorothy Dingenfelder. They are an added bonus to the novel. Dorothy, in particular, is an extremely powerful figure—tough, defiant, intelligent—who, at times, steals the show. In addition to some memorable characters, *A Country Such as This* abounds with some of the best descriptions that Webb has produced in his writing. Whether describing the serene beauty of the U.S. Naval Academy or the lush greenery of western Virginia or the ghastly prison cells of Vietnam, Webb simply excels. I found this work to be thoroughly enjoyable and personally applicable. It concerns a time in our history that most of us have lived through and, as seen in the hopes and dreams of Webb's characters, is a minibiography of us all.

Captain Franklin J. Hillson, USAF
Mehlingen, West Germany

My War Diary: Lebanon June 5-July 1, 1982 by Dov Yermiya, and translated by Hillel Schenker, with introduction by Daniel Amit. Boston, Massachusetts: South End Press, 159 pages, $7.00.

This slender volume serves as a grim reminder that our so-called civilization, humanity, and morality are only a thin, surface veneer: underneath that veneer, we are still given to displays of hatred and cruelty unknown even in the animal world.

Dov Yermiya, a former colonel in the Israeli Defense Forces, participated in a voluntary capacity in Israel's 1982 invasion of Lebanon, serving as Security Coordinator in the civilian aid unit. His forthright diary is an account of the callousness and brutality of Israel's army in dealing with the civilian population in occupied areas of Lebanon. *My War Diaries* compares the beatings, torture, and death that Israeli soldiers inflicted on defenseless civilians with the Nazi treatment of Jews during World War II. When Yermiya, tormented by his conscience, remonstrated with the Israeli military commanders about what he was witnessing, he was abruptly retired from service.

There is no reason to assume that present-day warriors (American troops) will act differently in a future conflict: incidents such as the My Lai massacre during the Vietnam War attest to the truth of that observation. For a sad commentary on what can happen in any war, read Dov Yermiya's *My War Diary*.

Major Steven E. Cady, USAF
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El Salvador, America's Next Vietnam? by Steffen W. Schmidt. Salisbury, North Carolina: Documentary Publications, 1983, 271 pages, $19.95.

Liberals in the United States see El Salvador as a place where generations of repression and poverty have forced desperate people to righteous revolution. Conservative North Americans see a classic case of international Communist subversion, with the terrorist agents of Moscow and Havana attacking a small American nation. Both groups reduce a complicated conflict to a simple struggle between good and evil. This reduction serves as a useless analytical base for those seeking to understand El Salvador and the rest of Central America.

Steffen W. Schmidt in *El Salvador, America's Next Vietnam?* presents what may be the key to understanding the Central American disaster. Cutting through the polemical smokescreen, Schmidt shows us the three-way struggle that is the essence of contemporary Latin politics: democratic reformers under fire from both ultra-right-wing extremists and Communist left-wing revolutionaries.

While the threat from the Communist left is familiar to most U.S. observers, the right-wing danger is frequently overlooked. Schmidt describes the right-wing strategy of "erasing the center." Employing "death squads" that are often linked to the security forces, the Salvadoran far right has sought to eliminate those reformist groups that pose the greatest political threat to the status quo. Hoping to leave the Salvadoran people with the far right as the only alternative to Communist rule, right-wing death squads have slaughtered tens of thousands of their countrymen. A U.S. Embassy spokesman recently described the death squads as "fascists serving the Communist cause." These groups, said the spokesman "were doing more to destroy El Salvador than the Communist guerrillas could ever hope to accomplish."

Schmidt provides a rare look at the thought process of the Salvadoran right wing. Citing the Chilean elections of 1970 as a pivotal event in the genesis of the death squads, Schmidt says that conservative Latins concluded that Chilean Christian Democrats had laid the groundwork for Marxist Allende's electoral victory. In the eyes of the right wing, reformers were now "watermelons"—green on the outside but red on the inside. The center became the target.

As a native of Latin America, Schmidt is well able to describe cultural factors that tend to exacerbate the political difficulties. However, Professor Schmidt fails to give adequate attention to the Salvadoran military. While he describes the impact of the security forces, he fails to explore the factions within the services that have exerted such a powerful influence in recent years.

His chapter on the Church in El Salvador seems biased and inaccurate. Schmidt exaggerates the links between the Church and the guerrillas, and he rationalizes the murders of nonpolitical priests and nuns. He presents the Catholic religious community as a group of suicidal zealots seeking martyrdom in the Moslem style, which is simply not the case.

Overall, however, Schmidt presents a very compassionate view of the tragedy that is El Salvador. "Given different circumstances, an accident of birth, we all could be caught in the violent time warp of El Salvador. . . ."

Schmidt is less than sanguine about the prospects for U.S. success in Central America, concluding that "the current administration is casting a political and military scenario for the region which must lead to but two alternatives: the United States will gradually involve itself in a Vietnam-type war or, failing to gain popular American support for such a war, the United States will pull out, abandoning that sad land to a long and bloody conflict between left and right."

If we in the United States are to prevent the situation from deteriorating to the point where these are the only options, we must move from the simple fantasy of good guys and bad guys to a realistic analysis of Central America's problems. *El Salvador* could be a valuable aid to any such analysis.

First Lieutenant William R. Meara, USA
Congers, New York

On Wings of Eagles by Ken Follett. New York: William Morrow and Company, 1983, 444 pages, $16.95.

Ken Follett has produced a thrilling account of a true-life adventure and provided the interested reader with some penetrating insights into two cultures and two governments at a very difficult time for both the United States and Iran. The author also skillfully portrays an interesting cast of characters to include Ross Perot, Chairman of the Board of Electronic Data Systems Corporation (EDS); Colonel Arthur D. "Bull" Simons; and numerous other American and Iranian citizens who played key roles in what turned out to be one of the most daring and highly successful rescue operations in recent history.

Tehran was an uneasy and potentially risky city for Americans during the troubled months of 1978. The Shah's aggressive program of modernizing Iran had brought many Americans to the country to manage contracts and programs for the Iranian

government, and these Americans and their wives and children were in a situation of rapidly increasing danger by December 1978. The Shah was being challenged openly, and violent demonstrations and riots were occurring on a regular basis. Anti-American feeling was rampant, and the Iranian government was unable to control the hysteria and violence.

The sudden arrest of two EDS executives during an interview at the Ministry of Health building on 28 December was followed by their immediate imprisonment in an Iranian jail, with a bail set at $13 million. Although no charges were filed against them, the Iranian government offered neither explanation for the action of their petty official in the Ministry of Health nor any prospects for release of the two Americans. The Iranian government had apparently lost control of itself as well as the country. Unfortunately for the two prisoners, the U.S. government and its embassy in Iran provided little information and no prospects for action.

Ross Perot is not the kind of man to stand idly by when his people are in trouble, and he immediately set about to do what governments seemed unable to do. He contacted "Bull" Simons of Son Tay fame and asked him to help get his people back. Simons had retired as a U.S. Army colonel in 1971 after a long and distinguished career in Special Forces. His enthusiastic "Hell yes, when do we start?" response launched one of the most unusual and exciting rescue operations in modern history.

Simons was placed in command of a group of seven EDS executives, and he commenced a fierce training program to get them ready for their formidable task. Time was critical, for Khomeini supporters were running wild in the streets of Tehran. Prospects for a successful rescue dimmed with each passing day, but those prospects distracted neither Perot nor Simons as they proceeded with the urgent task at hand. They were determined to succeed.

The team went to Iran and made contact with sympathetic Iranian employees of EDS who placed themselves in great personal danger by even associating with Americans in a country that was disintegrating rapidly into total revolutionary chaos. The loyal Iranians actively participated in the rescue operation, and the two captive Americans were snatched from jail in the confusion of a mob assault. After a harrowing overland journey in Range Rovers, captives and rescuers crossed the Turkish border and escaped the fearful chaos and terror engulfing Iran.

Ken Follett has created a literary masterpiece that may rank among the best-sellers of all time. He has combined his glittering talent for writing exciting fiction with the real human emotions and danger-

ous events of a modern crisis to produce a book that entertains the senses as it educates the mind. *On Wings of Eagles* is as striking a social and political portrait as it is an electrifying adventure story. It is a book that should be read by all and carefully recalled in future times of crisis and danger.

Colonel J. L. Cole, USAF
McGuire AFB, New Jersey

The Time of the Assassins: Anatomy of an Investigation by Claire Sterling. New York: Holt, Rinehart, and Winston, 1983, 235 pages, $14.95.

Claire Sterling doesn't write dull books; *The Time of the Assassins* is no exception. It is a fitting sequel to her earlier work, *The Terror Network*, because it delves further into the murky world of terrorist groups, assassins, drug runners, arms smugglers, and state intelligence services. In this book, however, Sterling concentrates on explaining the attempt to kill Pope John Paul II, the spiritual leader of approximately 750 million Catholics. Sterling calls this act the crime of the century and one of such enormity that few in the West have wanted to accept that there could have been a formal conspiracy behind it.

If the assassination of John Paul had been successful, it is doubtful that we would have learned much about Mehmet Ali Agca or why he wanted to kill the Pope. However, although Agca erred when he failed to kill his victim, his sponsors committed a greater error when they allowed him to be captured alive. His incarceration by the Italian authorities provided the loose thread that permitted Claire Sterling and the Italian judiciary to unravel much of the deceptive cloak placed around Agca to shield his ties with the plot's organizers and to project a false impression that he acted alone.

Time of the Assassins is three stories in one. The first story is autobiographical, as the author describes her travels through Europe and the Middle East to collect the fragmentary evidence about Agca and the plot to shoot the pope. The second story is about those responsible for Agca's attack on the pope and why they wanted this leader dead. The third discusses the strong reluctance of Western governments to get involved in the investigation of the crime or to believe the evidence of Bulgarian involvement. These three stories are woven together in a fast-moving narrative in which the author includes the reader in the analysis of each piece of evidence she uncovers.

Claire Sterling pulls no punches in this work. Her prose is argumentative and direct. Although the ma-

jority of her evidence is circumstantial, she strongly believes her conclusions that the Turkish mafia, operating under the control of the Bulgarian secret service, picked Agca as the "hit man" and provided him an identity as a right-wing terrorist killer. Then, she asserts, the Bulgarians, through intermediaries, directed Agca to kill the pope and promised to pay him three million deutsche marks. In his subsequent testimony to the Italian authorities, Agca has collaborated much of the author's account of the events leading up to the attempted assassination.

Sterling stumbles across some soggy ground when she speculates on why the pope was targeted, why some Western governments seemed reluctant to cooperate with the Italians, and why many in the West refused to accept the prospect of Bulgarian and Soviet complicity. Although she provides some plausible and interesting projections to these questions, the real evidence to support many of her assertions must come from the Bulgarians and the Soviets, who are unlikely to ever release it.

The Time of the Assassins raises as many questions as it seeks to answer—a feature that does not detract from Sterling's product but makes it more interesting. Ultimately, readers will have to judge the evidence and arguments for themselves. Whether readers choose to believe the author's account or formulate their own, they will have a difficult time putting this book down.

Lieutenant Colonel Richard A. Porter, USAF
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Washington, D.C.

Intelligence and Espionage: An Analytical Bibliography by George C. Constantinides. Boulder, Colorado: Westview, 1983, 599 pages, $60.00.

Given the spate of intelligence-related books that have appeared in recent years and the intense interest that the subject has received, a complete bibliography of intelligence literature has become a necessity. George Constantinides has fulfilled this requirement in a most outstanding manner. His work has been preceded by the much shorter but noteworthy work of Walter Pforzheimer, *Bibliography of Intelligence Literature*, published by the Defense Intelligence College in Washington, D.C. In addition to consulting with Dr. Pforzheimer, with Raymond Rocca, an Adjunct Professor at the Defense Intelligence College and an expert on Soviet security services, and with other noted authorities, Constantinides has thoroughly investigated CIA historical archives, the Russell Bowen Collection at George-

town University, and other major sources and collections to produce his work. The result is a truly valuable addition to the literature.

The organization, scope, and content of *Intelligence and Espionage* are all noteworthy. Constantinides begins with an index of fifty-four intelligence subjects, including air intelligence, the American Revolution, covert action, double agents, espionage, naval intelligence, psychological warfare, Soviet intelligence and espionage, and many other topics. He then presents an annotated list of entries by author, noting the accuracy and reliability of each book cited, the significance of the book's material, and the thoroughness of the author's investigation of his subject matter. Simultaneously, Constantinides emphasizes both errors and myths and historically significant exploits, while addressing subjects needing further research. Among the events and subjects Constantinides covers are the American Revolution and Civil War, World Wars I and II, the Bolshevik Revolution, the Soviet Union, and the post-World War II era. Throughout the work, he stresses the principal aspects, processes, and means of intelligence function—from collection to dissemination and from espionage and counterespionage to modern technical collection and unconventional warfare. Constantinides concludes with a glossary of abbreviations and terms, a title index (which will be indispensable to those of us who cannot remember authors' names), and a very detailed index of subjects and authors.

One cannot overstress the importance of this comprehensive yet detailed review of intelligence-related literature. It should be a mandatory addition to the libraries of all intelligence officers, a valuable reference at all war colleges and service schools, and a welcome aid in civilian academic courses on intelligence. Westview Press is to be commended for publishing *Intelligence and Espionage*. One hopes that the publisher not only will make available a paperback edition at a lower price to promote a wide distribution of the volume but also will encourage the author to produce subsequent editions so that this valuable aid to intelligence research remains current.

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Defense Intelligence College
Washington, D.C.

Kahn on Codes: Secrets of the New Cryptology by David Kahn. New York: Macmillan, 1983, 343 pages, $19.95.

Readers and bookstore patrons always must be

careful to avoid being trapped by a deceptive book. Lurid pictures on the cover, flamboyant titles, or cleverly disguised reprints can ensnare the unwary. While *Kahn on Codes* is not guilty of these gross practices, it does illustrate some other signals that at least should flash an amber light to the potential reader. A reader should be on guard when he reads comments on the dust jacket, not about the book within, but about the author's previous books. He should be alerted when the front cover carries not only the title but also a subtitle with such key words as *secrets* and *new*, as in this case. And certainly the reader should be cautious when dealing with an anthology.

Kahn on Codes is a collection of twenty-eight pieces written by the foremost writer on codes, David Kahn. All but four of these pieces were published as articles between 1960 and 1982. The exceptions include one new article, a statement by Kahn to a congressional committee, and two unpublished papers. While some information in the earlier pieces is updated or corrected and some articles are published unabridged, unlike their original publication, there is little new here. Therefore the reader will soon suspect that the author and publisher are trading on the author's reputation to squeeze new mileage out of old material. The contents of the collection reinforces this view. First, Kahn's two best-sellers—*The Codebreakers* and *Hitler's Spies*—cover most of the important material presented here. Second, much of the rest is too esoteric (e.g., interviews with cryptologists and material on the formation of ciphers), too trivial (e.g., coverage of cryptological terms in Webster's unabridged dictionary and four book reviews), or both (e.g., Che Guevara's and Rudolf Abel's ciphers) to merit a new book. And third, the absence of any new information or interpretation on Ultra (the Allied ability to read German codes during World War II) seems to confirm these suspicions. Only three of the twenty-eight articles focus directly on Ultra and, with the exception of the one new but very narrow piece, give no insights.

Kahn is able to convince me of his competence on the subject of cryptology but not his command of history. For example, he implies in a 1975 article that the caution shown by Allied forces at the Anzio invasion was prompted by intercepted messages. Lacking footnotes, this explanation is impossible to weigh against the standard (and older) account in Kent R. Greenfield's *Command Decisions*. Similarly, his paper on U.S. views of Germany and Japan in 1941 demonstrates a lack of perspective regarding the context of the times.

Therefore the potential reader and buyer are cautioned. While this book is authored by David Kahn

and claims (at least in the subtitle) to be *The Secrets of the New Cryptology*, it is a disappointment. The one new article, the few corrected, and unabridged pieces do not justify the time to read this book or the $20 to buy it.

Dr. Kenneth P. Werrell
Radford University, Virginia

The Chinese Black Chamber by Herbert O. Yardley. Boston: Houghton Mifflin, 1983, 219 pages, $13.95.

With his background as one of the fathers of cryptography and as an award-winning novelist, one would expect that Herbert Yardley would produce a book that would read like a great spy fiction novel, an expert technical treatise, or a combination of both. Unfortunately, *The Chinese Black Chamber*, Yardley's diary of his activities in helping to establish the Chinese Intelligence Service's cryptography section, does none of these.

Although the book lacks the adventure of the spy novel and the technical aspects of a good reference work, it does have some value. Since Yardley portrays himself as the typical Westerner, we can see how his near lack of success was directly related to his unwillingness to accept the Chinese culture and to work within it, a situation not uncommon even today. Rather than work within the culture, Yardley tried to change it to fit his Western ways, and, if he couldn't, he found a way to reject it. A prime example is seen in his refusal to serve soup with any meal at his house because he couldn't tolerate the noisy slurping, which was (and still is) the Chinese way of drinking soup. We can surmise that Yardley's inability to get appointed as the head of China's neophyte cryptographic service could have been based on his reticence to use the Chinese culture to his advantage.

As to the technical aspects of the book, there are only two good examples of the art and science of code-breaking. One is seen in Yardley's description of the efforts to break coded weather messages that were being sent to the Japanese Imperial bomber forces. The other is a description of the successful breaking of the code of the One-Armed Bandit, a Chinese traitor working for the Japanese. In both cases, Yardley's description reveals that the major characteristics of successful cryptography are drudgery, persistence, and a dash of luck.

To the serious student of either cryptography or the development of the Chinese Intelligence Service, *The Chinese Black Chamber* provides some insight

into both areas. For most military readers, there are better works available on both subjects.

Chief Master Sergeant Melvin F. Hagan, Jr., USAF
San Francisco, California

Eichmann Interrogated: Transcripts from the Archives of the Israeli Police edited by Jochen von Lang in collaboration with Claus Sibyll, translated by Ralph Manheim, with introduction by Avner Less. New York: Farrar, Straus and Giroux, 1983, 293 pages, $16.95 cloth, $6.95 paper.

Political trials have one major desideratum: a suitable central figure. Ideally, this paragon will symbolize the evil to be exorcised, will acknowledge his guilt openly, and perhaps will even repent in public. Totalitarian, ideologically based regimes are often able to produce such defendants, whether by the process of self-incrimination described in Arthur Koestler's *Darkness at Noon* or by Stalin's simpler formula of beat and beat, then beat again. Open societies are correspondingly handicapped. An Orsini or a Chicago Seven can turn the courtroom into a political forum. Or the alleged sinner may disrupt proceedings by stubbornly insisting on his rectitude—a fear underlying much of the collective reluctance to impeach Richard Nixon. It was clear from the beginning, to Israeli authorities, that Adolf Eichmann was likely to prove unobliging. Yet his trial, they hoped, could function as a catharsis for a society still groping with one of the major elements of its foundation: the deliberate murder of approximately six million Jews. The most suitable approach, therefore, seemed to be to use the proceedings to set the record straight, to fill its gaps, and—not least—to confront one of the Holocaust's leading architects systematically with the full evidence of what he had done and helped to do.

The results were at best mixed. Avner Less, the police official responsible for Eichmann's interrogation, emerges from these pages as solidly competent, more *Beamter* than sabra in his approach to a disagreeable task. Yet for all his skill, Less was unable to overcome Eichmann's insistence that he had been merely a little cog in a big machine. He may not have followed orders blindly—Eichmann's vanity over his occasional bureaucratic initiatives was almost pathetic—but he had had at best a marginal ability to influence the course of events. It had not been Adolf Eichmann personally and directly who participated in mass murder. It had been the Nazi system and a preexisting social order that discouraged any systematic questioning of authority or its representatives.

The line of argument was drearily familiar. Per-haps unfortunately, Eichmann's interrogators and prosecutors attempted to refute it directly by offering chapter and verse in proof of Eichmann's key and self-conscious role in the Final Solution. Less cites document after document in refutation of Eichmann's attempts to limit his involvement, and time after time he meets with denial or evasion. Hannah Arendt's controversial evaluation of Eichmann as an essentially normal man, as opposed to a pathological monster, reflects in large part Eichmann's ability to sustain this position until his execution. Truth, however, might well be somewhere between Arendt's two poles. Eichmann had fifteen years to evaluate his role and to rehearse events so as to put himself in the best possible light in his own mind. This pattern in recall is familiar to every reader of military memoirs, which, too, are usually composed well after the events they describe, focus on a relatively short time period, and are designed to justify as well as explain. Their authors, moreover, are seldom susceptible to documented refutations of their positions. Less had pieces of paper; Eichmann had his rectitude of certitude—a final ironic triumph of that will so important in Nazi ideology.

But Eichmann possessed something more—a sense, however vague, of being victimized by the conflict between public and private behavior that is perhaps the basic paradox of civil society. Sophocles's *Antigone* asserted the moral rights of the individual over those of the society. Twenty-four hundred years later, the Beatles pitied "Eleanor Rigby, wearing the face that she keeps in the jar by the door." In between, the Nazi era is universally cited as the most obvious example of the horrors that can result when consciences and judgments are suspended in the service of a collective. Yet at the same time, any functioning social order must be willing to accept a fundamental distinction between acts legitimated by the body politic and acts—even the same acts—undertaken from private motives. That acceptance distinguishes the legal process from the blood feud, the policeman from the *ronin*. To abolish it is to reduce mankind to Hobbesian circumstances: a war of all against all.

This point is particularly significant for the military. Modern societies trust their military establishments as the sole domestic repository of effective deadly force; the right of resistance against modern armed forces is essentially theoretical. Vietnam generated a spectrum of demands for a military ethic, a broad-gauged, developed sense of responsibility as opposed to management-oriented careerism. Yet does this public trust not generate a corresponding risk of developing a class of Guardians, ultimately incorporating and responding only to their own

moral parameters? Eichmann, in short, represents only one element in a dialectic defying resolution by cliché.

Dr. Dennis Showalter
Colorado College, Colorado Springs

Winds of History: The German Years of Lucius DuBignon Clay by John H. Backer. New York: Van Nostrand Reinhold, 1983, 323 pages, $25.50.

Since the mid-1950s a strong, democratic West Germany has stood as a bastion against the Warsaw Pact. Germany's rise from the ravages of World War II and its *Wirtschaftswunder*, or economic miracle, have been thoroughly documented. Too few books, however, center on the real American architect of Germany's political recovery, General Lucius D. Clay.

John H. Backer's book, *Winds of History*, fills this void. By focusing on the Georgia-born West Pointer, Backer documents the U.S. role in the transformation of early postwar Germany. At the heart of the recovery stood General Clay. Few military commanders have overcome the barriers he faced. Clay served first as the deputy governor and later as commander of the U.S. Military Government in occupied Germany between 1945 and 1948. Anxious to avoid any hint of American carpetbagging, the southern general worked diligently to enforce U.S. policy. Backer refutes the standard interpretation that Clay was a leading anti-Soviet cold warrior, depicting him instead as a progressive who sought continued Soviet cooperation. No political or military leader in the author's view, stood more consistently or more vigorously for a continuation of the wartime alliance with the Soviet Union. Only when forced by the "winds of history," to use Backer's words, did Clay's policy shift.

Backer makes it clear that Clay held no illusions about his monumental task, even from the beginning. Frustrated by his failure to win a combat command, Clay nevertheless attacked the German occupation problem with workaholic efficiency. In Backer's view, there were four elements to Clay's mission: disarmament, denazification, reparations, and transfer of administration back to the Germans. These elements were tied together by the overall goal of establishing a democratic nation in the heart of Europe. In Backer's analysis, Clay succeeded best in this overall goal. At the same time, he gained only mixed results with his other endeavors. In denazification, for example, Clay only partially eliminated the influence of lesser party members. Despite herculean efforts to dispose of thousands of cases, Clay's administration fell behind in the denazification

trials. Eventually, many cases were reclassified or dropped entirely.

Students of the origins of the cold war will find this book worth serious study. Some may be surprised to learn that Clay was genuinely saddened by the collapse of the wartime quadripartite alliance. On the other hand, none will be shocked to read of Clay's very real achievements, namely, his contributions toward the political and economic unification of the western zones in Germany. These victories, along with the allied triumph in the Berlin blockade, were not lost on the Germans, who more than any other people, recognized that General Clay worked with rather than against them to create the Federal Republic. By blending an impressive collection of primary and secondary sources, the author of *Winds of History* manages a balanced and factual account of the achievements of one of America's lesser known but extremely capable soldiers. This work admirably closes a gap that has too long stood in the volumes concerned with military biography.

Captain Mark K. Wells, USAF
U.S. Air Force Academy, Colorado

Space History by Tony Osman. New York: St. Martin's Press, 1983, 216 pages, $16.95.

Tony Osman, one-time science teacher and currently Science Editor of the *Sunday Times Magazine* has tried in a single volume to capture the full fabric of man's romance and experience with space. The result, unfortunately, is marred with unbalanced reporting and, surprisingly, factual error. While superficially it appears comprehensive in scope, even including a full chapter survey of the literature of man's dreams of space, Osman's treatment of more current factual experience is less than complete. His chapter on the Apollo program, for example, deals at length with the dramatic experience of Apollo 13 but skims the more "nominal" flights that preceded and followed it.

Osman also includes factual errors that mar an otherwise highly readable account. He reports that the first Shuttle flight was delayed when computers disagreed on "Friday, 12 April." As history notes, 12 April 1981 was actually the date of the first launch. Osman has the credentials to be author of a far more satisfactory work than this volume. As it is, *Space History* reads more like the quickie news books following events such as the Nixon resignation and the Jonestown massacre than a serious effort to acquaint a largely uninformed but interested public about the latest human efforts on the frontiers of space.

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R the contributors

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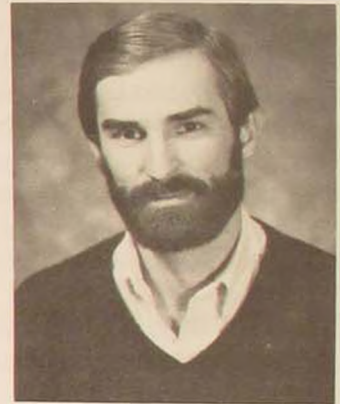
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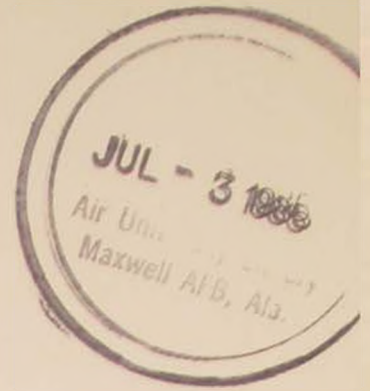
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AWARD

The *Air University Review* Awards Committee has selected "A Dubious Heritage: Military Legacy of the Russo-German War " by Dr. Dennis E. Showalter as the outstanding article in the March-April 1985 issue of the *Review*.

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