



*The Professional Journal of the United States Air Force*



AIR  
UNIVERSITY

# review

MAY-JUNE 1979





The logo features a stylized, light blue letter 'R' on the left. Inside the upper curve of the 'R', there is a graphic of a propeller or a wing with motion lines, suggesting speed and aviation. To the right of the 'R', the words 'AIR UNIVERSITY' are written in a clean, blue, sans-serif font. Below 'AIR UNIVERSITY', the word 'review' is written in a larger, bold, blue, sans-serif font.

# AIR UNIVERSITY review

---

## *from the editor's aerie*

---

The waning of another decade provokes a nostalgic looking back to the table of contents of the *Air University Quarterly Review* of the summer of forty-nine. As with this, the May-June issue of seventy-nine, the lead article then contained the words "Air Power," but beyond that there is not much resemblance. The years between have been full and exciting, there can be no doubt, yet one is struck with sadness at the rapidity with which they have sped by—especially when he notes an article entitled "The Need for an Air Academy" in the "forty-niner." Then the Air Force Academy was only a dream; now it is celebrating its first quarter-century and is no longer a novelty.

The summer of fifty-nine was not quite so long ago, but nonetheless, from the present perspective, that issue has a quaint look. Still, in those peaceful days before Vietnam and John Kennedy, the *Quarterly Review* article "The Military Potential of the Moon" must have seemed pretty far-out to officers of the day—it certainly did to this one who was then pushing B-25s about the west Texas skies. Even now, we receive few articles on space doctrine, though we are always on the lookout for new ones.

By the summer of sixty-nine, the May-June issue had nothing at all on space; however, the book seems closer to this present age. The lead article, for example, was "Air Power in Limited War," by the present Secretary of Defense, Dr. Harold Brown. Yet the passage of time is apparent when one compares its content to that of the current issue. In sixty-nine, the front of the issue was heavy with material related to war in the Third World; Europe figures prominently among the book reviews. In the present edition, NATO and the European scenario are featured among the three lead articles, and the People's Republic of China and the Third World dominate the book reviews. Now, Steven Canby examines the role of tactical air power in armored warfare, and Bill Lind is concerned with our present preoccupation with the NATO scenario in his "Military Doctrine, Force Structure, and the Defense Decision-Making Process." Bill is a frequent and provocative speaker at the colleges of Air University, and we trust that you will find his piece stimulating. Like Steve Canby, Dr. G. K. Burke is making a return visit to our pages with "The MX and Strategic Deterrence in the 1980s"—another view of the relationship between the superpowers.

Even the covers of these latter two issues illustrate the shift. On the May-June 1969 cover, an F-105 "Thud" is depicted in the act of firing its AA suppression missile in Vietnam; our current cover symbolizes air power poised for battle on the European plains. Of course, this shift is not a deliberate editorial act; it simply reflects the current interests of the profession.

We welcome your comments on any of these articles and, especially, your manuscripts on NATO, war in the Third World, or other national security topics.



May-June 1979/Vol. XXX No. 4

---

## *articles*

---

- |    |   |                     |
|----|---|---------------------|
| 2  | Tactical Air Power in Armored Warfare: The Divergence within NATO           | Dr. Steven L. Canby |
| 21 | Military Doctrine, Force Structure, and the Defense Decision-Making Process | William S. Lind     |
| 28 | The MX and Strategic Deterrence in the 1980s                                | Dr. G. K. Burke     |
| 39 | What Happened to Leadership in America?                                     | Dr. Curtis W. Tarr  |
| 47 | Who Are Those Guys?   | Donald L. Clark     |
- 

## *departments*

---

### IN MY OPINION

- |    |                                |                                 |
|----|--------------------------------|---------------------------------|
| 66 | Smoking: A Hazard for Aircrews | Maj. Thomas E. Bronson,<br>USAF |
|----|--------------------------------|---------------------------------|

### BOOKS AND IDEAS

- |    |   |                                       |
|----|---|---------------------------------------|
| 74 | The People's Republic of China in World Affairs: Recent Writings, Contemporary Topics | Dr. Thomas H. Etzold                  |
| 85 | The Intelligence Bookshelf  | Col. Wendell E. Little, USAR<br>(Ret) |
| 91 | The Third World: New Dimensions to Old Problems                                       | Col. James B. Agnew, USA<br>(Ret)     |
| 98 | Ideas and War at Sea  | Dr. Paolo E. Coletta                  |

103 Potpourri

107 THE CONTRIBUTORS

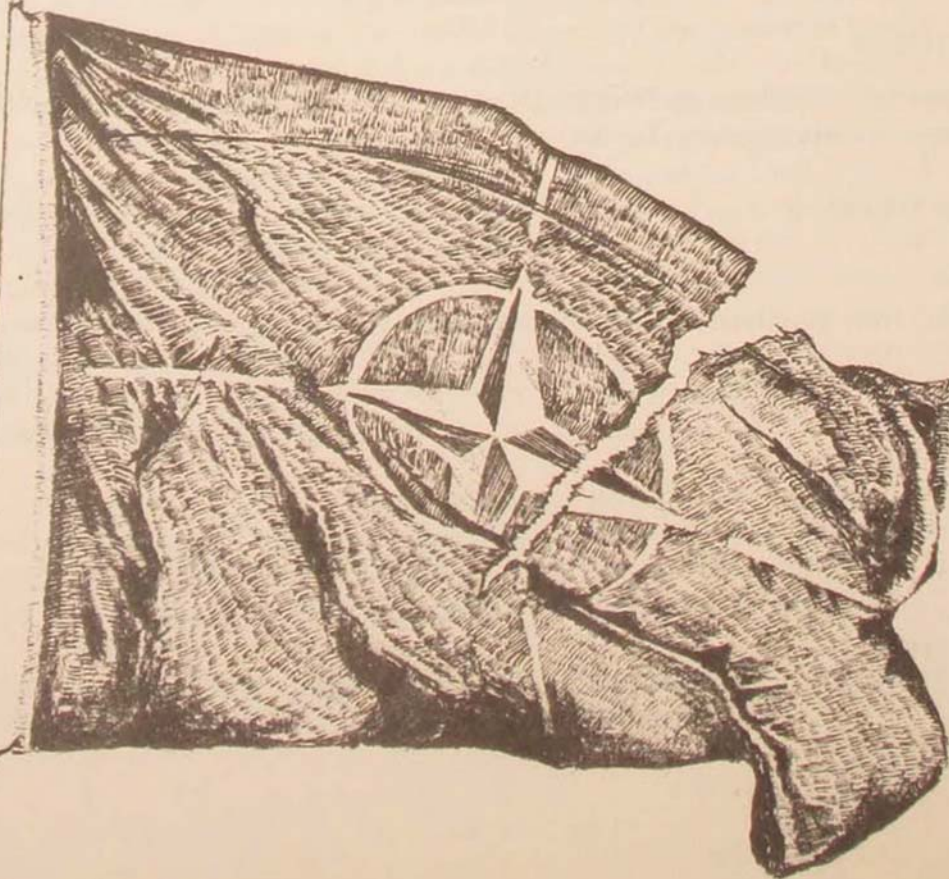


*"... the process of modernizing U.S. and European air forces for conventional warfare actually leads to even greater operational divergences as the NATO air forces switch their equipment inventory from one designed primarily for nuclear strike to one designed primarily for ground support."*

# TACTICAL AIR POWER IN ARMORED WARFARE

*the divergence within NATO*

DR. STEVEN L. CANBY



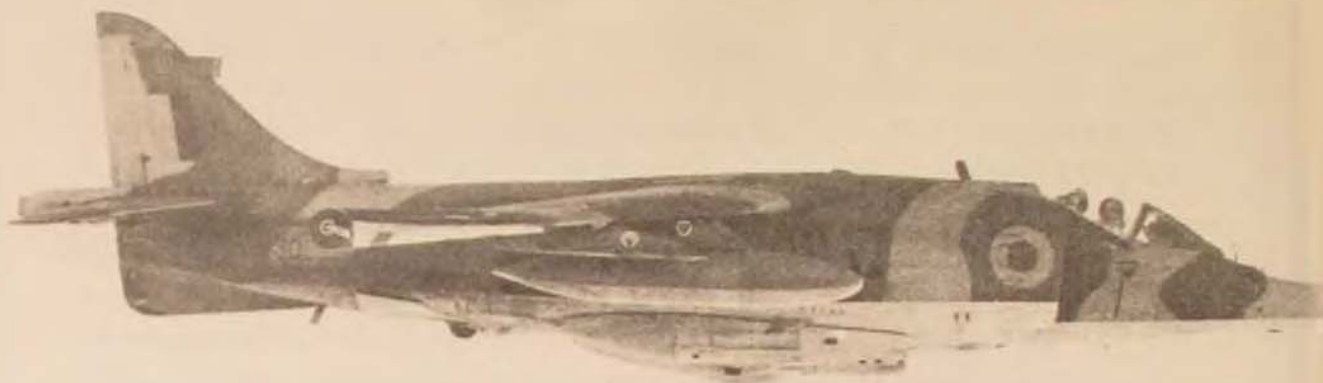
## FOREWORD

*The operational mode of the Royal Air Force (RAF), and for that matter of the Luftwaffe and British-dominated 2ATAF, differs significantly from that practiced by the USAF and 4ATAF. The RAF relies on low-level (and ultrarapid turnaround) operations. It lacks the tactical air control system (TACS), air defense suppression assets, and guided munitions of the USAF. These distinctions, plus the limited availability of forward air controllers/air liaison officers with ground units, restrict the RAF's ability to mount U.S.-style close air support. On the other hand, as compared to the USAF, RAF operations are less susceptible to disruption, the RAF can generate higher sortie rates, and RAF operations are more closely meshed with ground forces. It should be noted, however, that the doctrinal divergence between the air forces shows some signs of closing. The U.S. experience in the Nellis AFB Red Flag exercises and the debate within the Air Staff indicate that the USAF has begun to appreciate the RAF mode of autonomous operations. The question for the USAF is whether the Red Flag experiences are to be generalized to the force as a whole or limited to the younger participating officers and those with the A-10, as the USAF continues to pursue elusive state-of-the-art technology that, some argue, negates the effectiveness of the single aircraft (e.g., oversize visually and electronically) as well as the force as a whole.*

---

**T**ACTICAL air power has become the single most expensive component of the United States defense budget. Its share of defense outlays is larger than that of the strategic, ground, or naval surface forces. While tactical air power has played a crucial role in the past, its *raison d'être* has changed over time. In World War I, its salient military function was reconnaissance and artillery-spotting, a role soon overshadowed by the more glamorous but derivative mission of escort protection. Douhet-type theories of strategic bombardment that have had a dominant influence on British and American air forces (and on some theories of modern war) gained their attraction from the possibility of avoiding the horrors and strains of attrition warfare on land<sup>1</sup>—a problem that the Germans solved quite differently in World War II by restoring mobility and the concept of maneuver to their ground forces.

In today's world, the Soviets deploy a combined-arms, tank-heavy force with large numbers of relatively small maneuver units, echeloned in depth. Given the scarcity of Western combatant strength (as opposed to active duty peacetime and mobilizable personnel strengths), some argue that the Soviets could overrun Western Europe in a matter of weeks or even days.<sup>2</sup> Such scenarios, almost by definition, invalidate the classic tactical air missions of air superiority and deep interdiction. While air forces have come to recognize the importance of ground support, the requisite changes have been difficult to make. The existing inventories—ordnance, aircraft, and avionics—have been largely designed for deep penetration using conventional and nuclear weapons in a quasi-strategic mode. Most tactics and the organization to support them have also been designed for independent air operations.



*RAF Harrier*

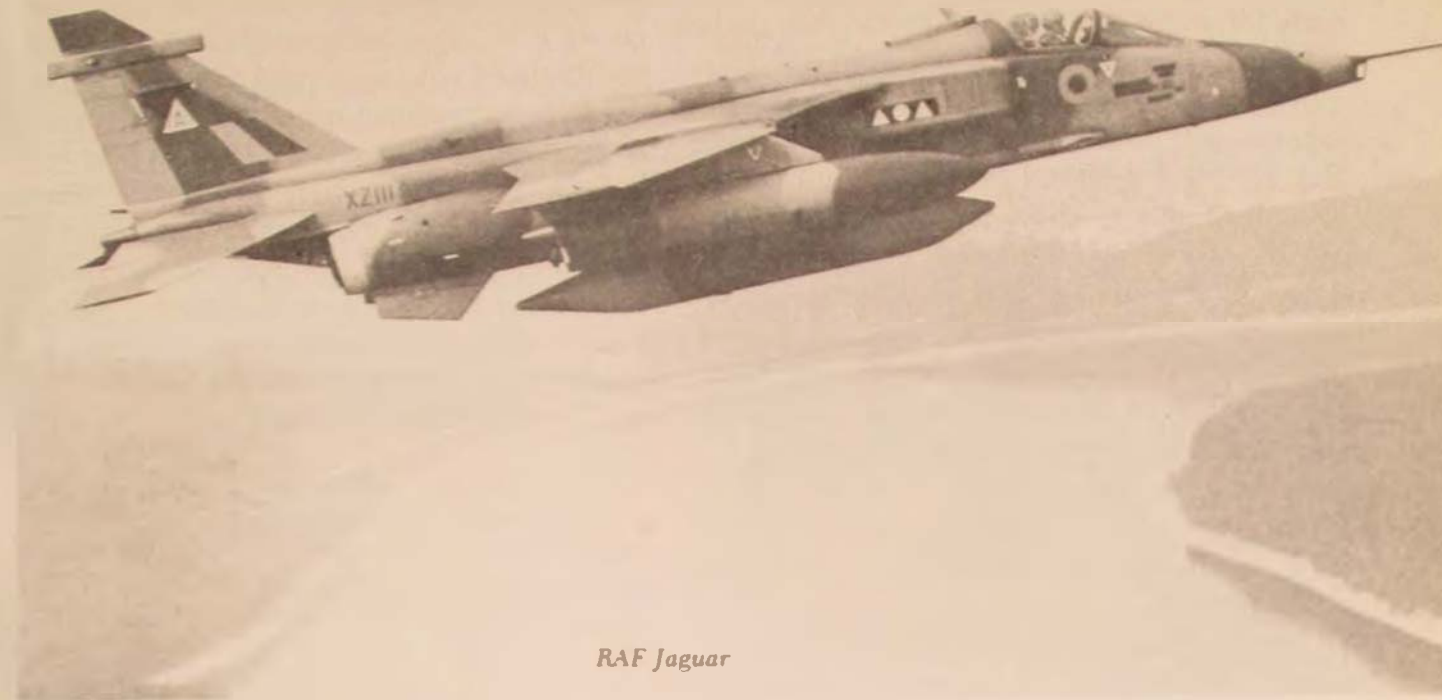
In Europe the ongoing shift from a nuclear-oriented strategy to a conventional mission has raised two fundamental questions: which targets and what tactics? In answering these two questions, the United States and its European allies have evolved toward opposing viewpoints. For the U.S. Air Force, this disagreement has come at a paradoxical moment. The legacy of Southeast Asia is a strong emphasis on precision weaponry and electronic defense-suppression techniques, both of which have seemingly resolved the problem of target destruction while reducing over-target requirements and losses. Indeed, tactical air forces can now be extremely destructive, provided that targets can be acquired for the newly developed family of air weapons (precision-guided and area munitions, as well as armor-piercing cannon) and provided also that the air-defense environment is permissive (e.g., that it lacks up-to-date electronic countermeasures and an opposing air force).

Critical questions remain unanswered. First, destructive capacity is not necessarily synonymous with military value. These terms would only be interchangeable if firepower were the

essence of conventional warfare. This condition may exist in strategic bombardment, but it is not the case in armored warfare and certainly not in insurgency and other amorphous forms of conflict. Second, the operational mode developed in Southeast Asia has failed to come to grips with the problem of target acquisition. Targeting a high-contrast bridge in relatively clear weather is considerably different from targeting low-contrast mobile tanks in the European haze or light infantry in the African bush. There is, finally, a paradox: air forces designed for a sophisticated electronic environment in an Asian "infantry" context may be unnecessarily costly in a high-intensity armored conflict.

In short, of the more-probable conflicts that the U.S. may face—(1) armored warfare in Europe, (2) slow-paced infantry warfare in a Korean-like context, (3) intervention against a small power with some modern weapons, and (4) intervention in an Angolan-like situation—the USAF may be appropriately organized and equipped only for (2) and (3), not for the most dangerous (European) or most likely (Third World) scenarios. For the European it is likely





*RAF Jaguar*

to be ineffective; for the "Angolan," overexpensive.

The requirements of a European war supposedly drive the size and shape of the U.S. air forces. As with the ground forces,<sup>3</sup> the major question is whether the air forces have been properly structured for the mission. The U.S. approach has evolved toward a high technology system, based on real-time command and control, sophisticated defense suppression, and precision-guided munitions. The Europeans, on the other hand, argue that this system is unduly costly, too susceptible to countermeasures (i.e., nonrobust), and that it is based on an incorrect perception of the nature of the ground war.<sup>4</sup> They make the telling point that the medium-altitude window in which the USAF is attempting to fly is in fact closed, and can only be kept open by hyperexpensive and uncertain defense suppression means. European programs, on the other hand, are oriented to the still-open low-

altitude window.<sup>5</sup> They have derived different views on command and control, operational methods, ordnance choice, and aircraft design, relying more on organizational technique than on high-cost technology.

#### *operational style*

As opposed to size, air structure—and relative cost and effectiveness—is set by operational style. The U.S., following its operational experiences in Korea and Vietnam, has opted for an operational style highly dependent on sophisticated technology. The Europeans for their part have opted for a cheaper approach, relying more on tactics and procedure. The result has been a breakdown in common alliance procedures and much controversy.

The USAF—at least until very recently—has argued that the Europeans have failed to understand modern warfare and the requirements

of modern technology; the USAF also believes that the Europeans are awed by the U.S. approach and would opt for a similar approach if costs were not an obstacle. The author's own reading—based mainly on discussions with large numbers of European officers—is that the Europeans are indeed awed by the ability of the U.S. to ride roughshod over strength by virtue of its technology. They, too, would like to be capable of a similar approach, but they balk at its cost and doubt its wisdom. Cost makes the approach infeasible unless the numbers of combat aircraft are reduced—an approach which the Europeans find unacceptable. The Europeans believe (1) that strength should be avoided, not met head on; and (2) that technological approaches based on electronics are too susceptible to countermeasures and are therefore undependable.

The differences in operational style have two diverse sources: the Europeans have only regional responsibilities while those of the U.S. are global. Europeans have faced their situation with philosophical insight—the U.S. has employed its technological virtuosity. The Europeans have sought solutions with only their theater in mind. The U.S. has sought solutions applicable to many theaters, relying on technology to overcome all difficulties. In doing so, the U.S. approach may have the attributes of the lowest common denominator: either effectiveness in specific contexts is lowered or so much capability is built into the forces that costs in any one specific combat context are unnecessarily high. In point of fact, such logically keen solutions can only occur under conditions of optimality (i.e., along the economist's envelope or transformation curve), and the U.S. may in fact be obtaining the worst of both worlds: less than the best performance in all contexts and unnecessary costs in each.

The problem inherent in the U.S. approach is perhaps highlighted by recent exercises (Blue Flag) in which the commander of Tactical Air Command stated,

Special emphasis will be (placed) on standardizing

the operational procedures that the tactical air forces use in the Pacific and European Theater.<sup>6</sup>

Thus, in an attempt to obtain marginal economies (i.e., microefficiency) from nationally standardized equipment and training practices, the U.S. is foregoing major opportunities (i.e., macro or structural efficiency) to optimize the force for local conditions (i.e., weather, terrain, and the nature of the threat). The result is a force unduly constrained by weather in Europe. Worse, the USAF approach neglects contextual distinctions, as for example between slow-paced infantry conflicts in the Pacific and fast-paced armored conflicts in Europe and in the Mideast.<sup>7</sup>

*U.S. and allied viewpoints:  
a juxtaposition*

The controversy generated by reforming centralized control of allied air assets illustrates questions of substance and the ease with which national misunderstandings can occur. While the decision has now been made and facilities provided, the substantive issues of degree of control and the manner of execution remain unsettled, reflecting fundamental divergences between the U.S. and British points of view.

The American preference is for a strong centralized Allied Air Forces Central Europe (AAFCE) with its own command and intelligence arrangements, permitting direct monitoring of the situation and direct control (i.e., tasking) of subordinate units (usually wing but down to individual airborne flights on occasion). According to this view, command, control, and communications systems are now sufficiently pervasive and reliable that intermediate headquarters no longer fill time-honored criteria of reducing span of control. A central command staff can thus monitor the entire central front sector (ground and air) and can task the various national air wings directly, eliminating layering of air headquarters staff.

A succinct, quasi-official statement of the

USAF view of the concept, implementation problem and a solution to the command and control problem are given by the then USAF Director of Doctrine, Concepts, and Objectives, Brigadier General John E. Ralph:

*Concept.* A significant role of U.S. tactical air power will be to supplement allied naval, ground, and air forces. The performance of this role, in conjunction with new capabilities, will demand hitherto unknown levels of speed, precision, and flexibility in our command and control arrangements. Present Tactical Air Control Systems (TACS) provide a fundamental capability on which more advanced command and control capabilities should be developed since it incorporates the basic ingredients required for optimum employment of tactical air systems.

*Implementation Problem.* Past command, control, and communication networks have been unable to meet adequately the information needs of the tactical commander. Vast amounts of data were generated at the execution end of the chain of command, but strategically sensitive details were often buried in a mass of "noise." That fundamental problem is still with us. Advances in selected communications technology have occurred so rapidly that information is assembled at rates beyond the current ability to transmit, process, or use. Software capabilities are inadequate to evaluate the data against criteria of immediate concern to the commander, nor can information be reprocessed and displayed in a manner consistent with battle dynamics.

*Implementation Solution.* In an effort to improve our capacity for processing data, an information system known as SEEK BUS is being developed which will interface all theater operating elements. This digital network will provide the tactical air commander with all relevant data available in the area of operations on a real-time basis. Automated inputs contain details about the locations of friendly and hostile forces, as well as weapons and target data. The system is receiver-controlled—only the data desired are displayed—and preprogrammed thresholds filter out non-essential information. A digital coding scheme permits display by selected area, category, element, or sub-element. The display may be sufficiently general to permit centralized control, or highly detailed for use by field units. In a fluid battle environment, such a capability would better prepare lower echelons for decentralized operations. An important characteristic of SEEK BUS is that all participants exchange data

over a single communication channel at high rates, thereby minimizing problems of capacity and data obsolescence. Furthermore, it will be secure and highly jam-resistant with a low intercept potential.

... SEEK BUS and AWACS will provide local and theater commanders with an increased capability for planning, directing, coordinating, and controlling combat operations. These systems can also be the nucleus for close cooperation and compatibility among all Service and allied control systems.<sup>8</sup>

The British prefer AAFCE to be an overarching, coordinating headquarters with minimum independent intelligence-gathering and command arrangements. In this view real control (i.e., tasking) is retained at Allied Tactical Air Force (ATAF) level. AAFCE's role is that of allocation: to balance demand for and supply of air assets between the two army groups and tactical air forces. In practice, since the American-dominated 4ATAF has the greater air assets and the Northern Army Group (NORTHAG) lies across the more dangerous and likely avenues of approach, AAFCE's role is to reallocate 4ATAF assets to reinforce the British-dominated 2ATAF. AAFCE's implied peacetime role is to work out procedures for facilitating this cross allocation and reinforcement.

Stripped to essentials, the USAF view is that of a central commander making optimum use of total allied air resources through perfect knowledge of friendly and enemy air and ground dispositions and perfect control of one's own forces.<sup>9</sup> In many ways, this is a carry over from strategic nuclear, air defense, and Vietnam offensive air experiences. Its difficulty and past infeasibility for a more complex, two-sided theater war is recognized, but faith is placed in technology to overcome present difficulties in communications, real-time surveillance and reporting, and data processing.

The British and, to a lesser extent, the other Europeans take exception to the fundamental precepts of the USAF view.<sup>10</sup> Rather than build on the Tactical Air Control System (TACS), the Europeans reject its crucial features of flight planning and airborne control. They question



the USAF's faith in technology, finding it overly costly, operationally uncertain, and unnecessarily restrictive. They also dislike the USAF view of *supplement*, which implies the detached, rather than integrated application of firepower.<sup>11</sup>

The British objections center on three points: (1) The U.S. approach implies a wrong view of the air war, that of an air force looking down on the fray rather than thoroughly tying in its operations with the army; (2) Central control is

more appropriate for the U.S. style of operations than for the European style; and (3) Reliance on highly automated procedures means inflexibility rather than flexibility if affairs do not go according to plan (i.e., the logical structure of the procedures).

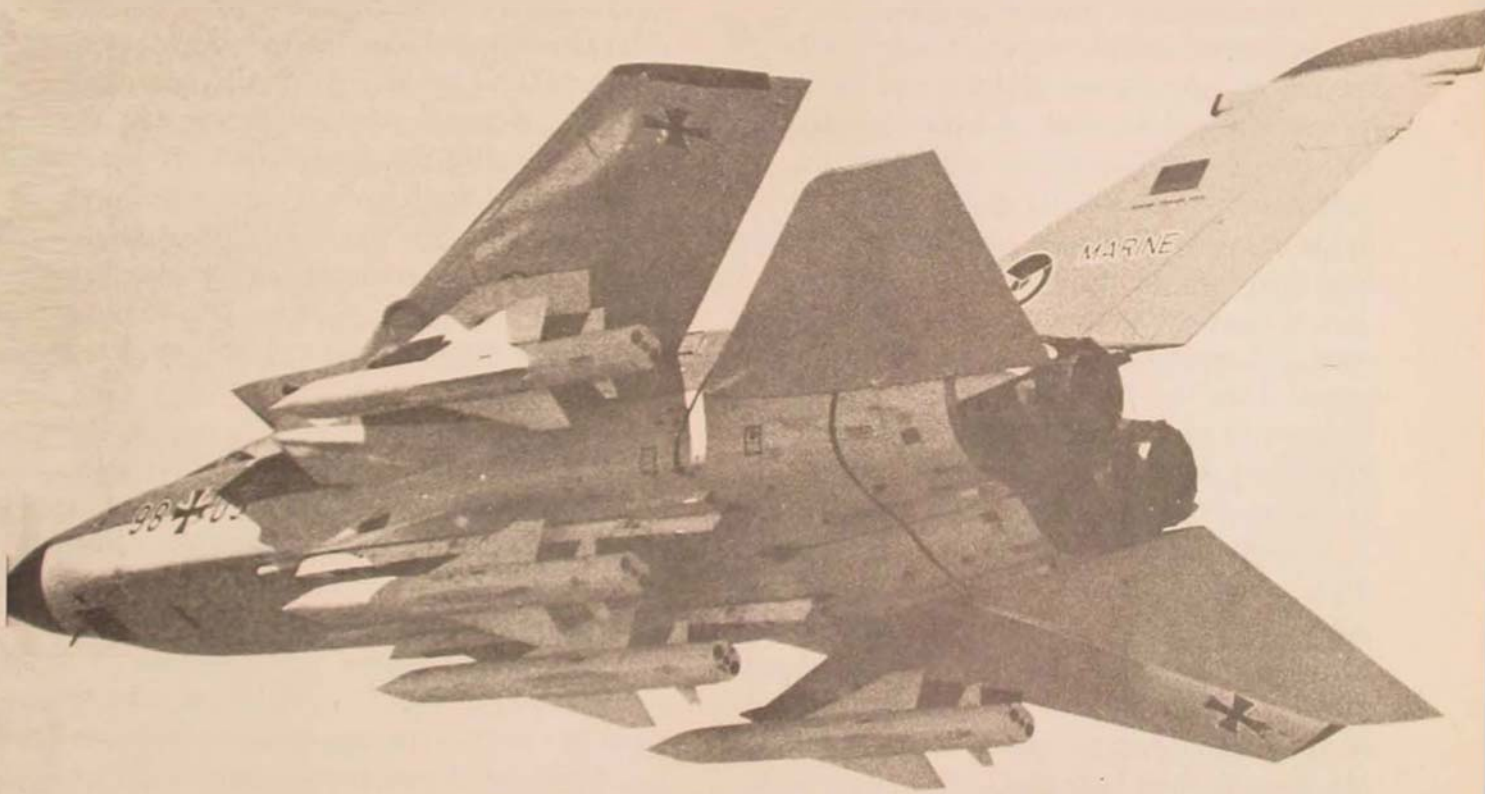
The first British criticism contains philosophical differences in the application of air power, centering on the British view that a strong ATAF collocated with Army Group Headquarters is the keystone in air-ground coordination. Ac-



cordingly, the proper coordination between two services and air force sensing of the ground situation can only come about when commanders and their principal staff are collocated. Corps is too low; AFCENT is too far removed from the fray. A fortiori, AAFCE is too far removed, and its marriage with AFCENT is more a matter of form than of substance.

Both air forces now agree on the importance of support of the army, as opposed to their traditional view of quasi-independent operations. To some extent, it can be argued that USAF is even more concerned with Army support than the RAF: The USAF now places considerable emphasis on close air support (CAS); the RAF does not. European emphasis is on battlefield

*First production models of Panavia's Tornado multirole attack aircraft from Messerschmitt-Bölkow-Blohm's main Tornado facility near Munich are now coming into the German Air Force (GAF) inventory. They will be the common weapon system to the GAF, Italian Air Force, and the Royal Air Force in various roles. More than 800 will enter service in the early eighties.*





interdiction of second echelon operational reserves.<sup>12</sup> On the other hand, the relative U.S. emphasis on immediate support is offset by the diversion of aircraft within a CAS allocation to supporting air tasks and by USAF's greater emphasis on deep interdiction, implicit in aircraft design and the task force style of operation.

Philosophically, the air forces differ on the manner of integrating air with ground power. USAF, with its relatively detached view of shifting air assets from sector to sector, seems to view it as a means of applying raw firepower. Air power, with its great flexibility (i.e., mobility), is seen as the commander's central or strategic reserve. The British, partly because of more modest resources, see tactical air power as an expensive resource whose payoff must, in addition, be leveraged by assisting the ground force commander's scheme of maneuver.

The second British objection involves the difference in operational doctrine and tactics. By preference and because of aircraft design, the Europeans use "in and out" operations (i.e., fast turnaround) with small flights of two aircraft flying at low level (defined as 250 feet or less).<sup>13</sup> For such operations, centralized control is an unnecessary encumbrance, and the U.S. concept of diverting airborne aircraft to targets obtained from real-time intelligence is infeasible because of radar tracking and communication difficulties with low-level aircraft and the need in low-level operations to preplan transit routes.

Accordingly, concepts like the USAF's Quick Strike Reconnaissance Program are not compatible with European low-level operations.<sup>14</sup> Besides aggregating data for automated command, control, and communications (C<sup>3</sup>), this system is a prime means for guiding weapons platforms to their targets. The U.S. requirement for this type of target acquisition represents basic differences with the British and Germans in the role of tactical air power and the nature of the opposing targets.

For them, the primary function of attack aircraft is targeting the Soviet second echelon forces or immediate operational reserves. Dur-

ing a major offensive, these forces are in movement and present themselves like waves in large target arrays. The British and Germans, therefore, tend to hold their tactical aircraft on the ground until major target arrays present themselves and sorties are most needed, as would be the case during an armored breakthrough. At that time, aircraft are deployed to the area in question with pilots generally seeking targets of opportunity. High sortie rates are a mandatory component of this doctrine; command and control elegance is not. The USAF prefers lower but more sustainable sortie rates. This preference requires correspondingly more demanding target acquisition capabilities and inhibits high-surge sortie rates. Thus, to justify its air effort and organization for combat, the USAF has found itself requiring elegant surveillance, acquisition, and command and control systems in order to obtain sufficient targets during periods of reduced enemy activity.<sup>15</sup> Also contributing to the U.S. preference for sustainable sortie rates, at least in the British view, is logistical convenience, which leads to apparent allocative efficiency according to supply (operations research) oriented criteria such as tons of ordnance delivered and total sortie rates. These objective measures of output, however, are unrelated to operational value.<sup>16</sup>

#### *fallacy of the C<sup>3</sup> force multiplier*

The Europeans argue against command, control, and communications automation. In their view, automation is neither robust nor appropriate for their style of air operations. This results from three separate causes: lack of reliability of the equipment, vulnerability of the equipment in a hostile atmosphere, and the ability to spoof systems dependent on automated observation and processing of enemy behavior. The first two problems are technical. While prosaic, they are nevertheless compelling drawbacks to reliance on electronic sophistication. The third questions the logical premises underlying the concept of automated C<sup>3</sup>.

The high failure rates of equipment required



for automated command and control pose a problem in operations and support cost in peacetime, which is only a hint of the sort of problem that can arise in war. In a benign environment, current surveillance, communications, and data processing technologies are just sufficient to allow elaborate systems to work. When that environment changes from benign and static to hostile and adaptively dynamic, the assumption that the technology will work properly becomes questionable. All electronic systems are subject to interference from both natural and manmade phenomena.

The essence of the British view of warfare is that an army must be adept at coping with the unpredictable. Technology has increased, not lessened, the importance of revising tactics and techniques. Hitherto forces have commenced operations in accordance with doctrines that were well designed to make the most of available resources and to meet threats which were, on the whole, well defined in terms of quantity and quality. This has changed. The command must, therefore, be able to cope with unanticipated behavior on the part of the enemy by changing its own behavior. The command and control system must either be able to perform this function outright or provide the command staff with reliable assistance in coping with the enemy's adaptive behavior. In the first case, an automated command control system must be able to draw correct conclusions from unexpected data. In both cases it must be invulnerable to deliberate misinformation by electronic means (i.e., spoofing).

Spoofing affects a battle at two levels. In a microscopic sense, spoofing results in the expenditure of weapons on false targets. In the macroscopic sense, it results (through aggregation) in the misdirection of the command and control system. While the first is important because it influences the rate of weapons exchange in a conflict, the second can be pivotal to the outcome of a conflict. Surprise can be achieved in an attack, for example, and wars have been won through misdirection and consequent pa-

ralysis of the command apparatus, which is the quintessence of blitzkrieg warfare.

The development of automatic processing has led (or soon will) to a situation that appears flexible. The command staff can look at its data in any one of a wide variety of ways. Everything that is known about Soviet operational technique has been captured (we hope) by the models; counters have been thought out in advance, and the computer can draw on them virtually instantaneously. Unfortunately, these attributes provide flexibility only within the set of the predictable.

The use of highly automated command and control systems invites a variety of reactions, of which spoofing is only one. Dependence on a system and its potential importance in battle raises the value of counters to an enemy. For instance, assuming the Soviets have the first move, it is logical for them to time it to capitalize on a temporary ascendancy in the countermeasure game. While countermeasures can usually be developed in peacetime by simple application of more sophisticated technology, this option may be foreclosed in a fast-moving war. The fallacy underlying this potential vulnerability is to allow such reliance on any system in the first place: more diffuse organizational means of data gathering and command and control would be more robust.

The discussion here hinges on a point whose importance goes beyond the question of automated command and control in air warfare. It is pertinent to any attempt to substitute automatic processing for human data collection, analysis, and interpretation. The point is simply stated: Automaticity implies extreme inflexibility whenever the enemy can discover—and operate outside of—the bounds of the predictable. Both sides in a conflict must adapt their behavior to conditions created by the other side. Disallowing overwhelming advantage, the side which adapts most quickly and cleverly will win. If NATO relies on automatic processors, the Soviets could adapt their behavior to the creation of inputs which at least confuse us and, in the

extreme case, defeat us. Alternatively, with our reliance on automaticity, we deny ourselves the ability to behave adaptively outside the set of the predictable.

The two major problems, which lead to these outcomes, appear to be the inappropriate transfer of air experience to ground warfare and the dilemma posed by the human factor. Man must be eliminated from an automatic system (or bypassed) if his sluggishness and subjective judgments are not to undermine the whole purpose of sophisticated automation. Yet it is only man who can ensure robustness and reduce the probability of large-scale deception.

Automated surveillance may not be a problem in a relatively static prestrike nuclear environment or even in a fast-moving air defense environment where systems are limited in number and readily detected by sensors. The problem comes in transferring this experience to monitoring ground forces that are diffuse, mobile, and operating in a cluttered background. As a practical matter, it is also likely to be difficult if not impossible to monitor the line of contact or forward edge of the battle area well enough for operational purposes. Army units get lost; subunits must perform away from the main body; interspersions of friendly and enemy units is inherent in armored warfare; and the enemy may use captured transponders and codes. Moreover, even if monitoring the line-of-contact were technically feasible, its value would be limited. Only the ground commander can *anticipate*, knowing enemy pressures and his own problems, thus gaining the time for second echelon interdiction and for correcting one's own deficiencies on the ground. This conclusion is reinforced if one accepts the European premise that tactical air power's role is to assist the ground commander's scheme of maneuver (versus the USAF's premise of centralized firepower). In this case the army is not only the source of demand, but the ground commander's perspective is a prerequisite for value weighting the various demands for tactical air and firepower support in general.



Dutch F-104s and USAF F-4s

## Operational Doctrine and Tactics

In the past, the USAF pushed common doctrine and tactics among the NATO air forces but has now muted it. The Europeans have sensed this shift; they strongly objected to standardized tactics, and their fear now seems allayed. As opposed to the utility of standardization for procedures, logistics, and interoperability, the Europeans do not regard standardized tactics as desirable for the following reasons:

- For the short run, tactics and delivery techniques are pretty much set by individual aircraft characteristics.



*Dutch F-104s*

- For the long haul, the Europeans do not believe the USAF model is appropriate for the European context.

- While savings are possible in the long-run from standardized equipment, these savings must be matched against the loss of tactical diversity.

- Many of the problems of interoperability can be worked out by small investments and procedural changes.

#### *offensive air operations*

For the short run, the diversity of aircraft design inhibits common tactics and delivery techniques. Among other factors, commonality will not be possible for the next two decades, as the attack aircraft now coming into the inventory—

Jaguar, Harrier, Alpha Jet, and Tornado—operate best at low levels. New U.S. aircraft on the other hand, give greater maneuverability and better performance at the medium and higher altitudes. From the European viewpoint the present diversity in operational tactics and techniques offers them the best possible situation. Without being tested in war, there is no way of knowing which approach is the more valid. However, U.S. reliance on high technology to overcome ground air defenses forces the Soviets to devote disproportionate efforts to counter the U.S. systems. This allows the Europeans an alternative approach, relying more on organization and procedures than on technology, thus permitting them to buy larger numbers of aircraft at the expense of elaborate electronic environment preparation. It also



means that since the U.S. is buying expensive defense-suppression systems, the Europeans could always, if necessary, supplement U.S. forces should their own approach fail. For this reason, the Europeans have adopted an open view as long as they are not forced into the U.S. mold. The Europeans do not argue that the U.S. imitate their style; rather they argue that NATO gains by the two approaches. Thus, while sincerely believing in their own approach, the Europeans retain a hedge against failure by the U.S. As will become apparent, however, the U.S. has no similar hedge and is more constrained in shifting to the European style because of equipment in general and training in particular.

#### *European assessment of their own tactics*

In the European view, the solution to the air problem is to complicate air defense target acquisition by high traverse speeds of at least 450 knots and quick in and out deliveries which penetrate below radar and are too fast for optical response. Since armored warfare targets are clustered (e.g., tanks normally move in formations of at least ten, and single tanks are, in any case, uninteresting), the solution for high-speed aircraft with little pilot reaction time is seen to be retarded cluster weapons for area fire.

On the merits of high- versus low-level attack, USAF argues that target acquisition is too difficult, attrition is too high, and flexibility is lost in the low-level mode. Vietnam experiences are cited to justify these theses. The Europeans, for their part, concede the difficulties but argue that the U.S. alternative is even less attractive. They specifically contend that the U.S. experience in Vietnam is of limited relevance for the European context. In the European view, the nearly one-sided nature of that conflict in the air, the constraints of European weather, and insufficiently varied scheduling of U.S. sorties that unnecessarily exposed U.S. aircraft induced the USAF to prefer a task force mode of operations that

may not be appropriate for Europe.

In low-level operations (under 250 feet), the significant threats are proliferated air defense systems (guns, low-level heat-seeking missiles, and heavy machine guns) organic to ground units. The larger surface-to-air missiles (SAM) systems (the SAM-2, SAM-3, and SAM-6) are not effective against aircraft flying at such low altitudes. Soviet air defense aircraft are dependent on ground-controlled intercept (GCI) and limited by their control system, coordination difficulties with ground air defense, and peacetime training. GCI radars cannot pick up low-flying aircraft even in the best circumstances during static warfare. In mobile warfare, detection problems are even greater. Nor do Soviet interceptors have a look-down, shoot-down capability. Even if they acquire it, however, background clutter at such low altitudes causes detection and tracking difficulties for both the aircraft and missile radars. If the interceptor tries to close in at low level for an attack with guns or heat-seeking missiles, most low-flying aircraft are capable of averting the attack by sharp turns or turning into the attack. In any event, Soviet airspace management control generally precludes such responses against low-flying aircraft. Judging by Egyptian experiences in 1973 and observation of Soviet training exercises, the Soviets have not solved the problem of intermingling interceptors and ground air defense. Soviet practice is for layering the defensive airspace. Interceptors generally operate above 10,000 feet; until very recently they have not been observed operating below 1500 feet. This spatial separation precludes the use of air-to-air guns against on-the-deck aircraft; it also virtually precludes heat-seeking missiles of the Sidewinder variety. Even if spatial separation were not so crucial, the Soviets' lack of low-altitude training and the general difficulty of low-level intercept make success unlikely.

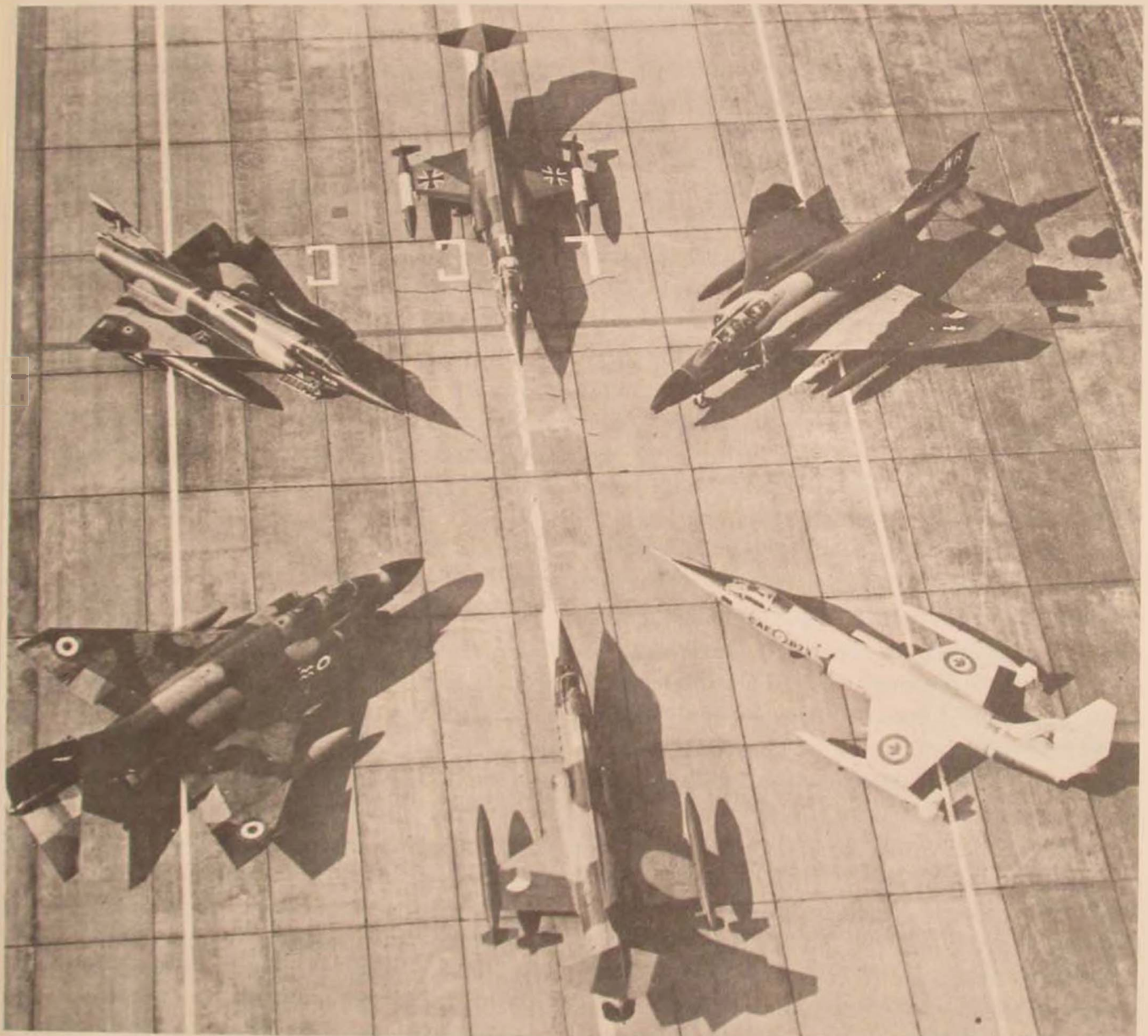
The major threat to on-the-deck aircraft is typified by the ZSU-23-4 radar-guided automatic cannon organic to Soviet divisions. This cannon, though few in number, accounted for about 30

percent of Israel's aircraft losses in the October War. If aircraft are to attack ground forces, this weapon must be overflowed or suppressed (the two U.S. solutions) or its radar envelope underflowed (the European solution). The technical characteristics of this system's antenna mean that lock-on for detection, ranging, and tracking becomes tenuous at a height of about 50 meters.

At such altitudes the breaking of the radar lock-on is virtually assured by relatively simple ECM, obtained from pods on board attack aircraft.

Negating low-level radar guidance still leaves optical control for the ZSU-23-4 and the seemingly infinite number of automatic weapons in Soviet ground units. The Europeans assert that

*Allied aircraft (clockwise from top center): German F-104, American F-4, Canadian F-104, Dutch F-104, British F-4, and Belgian Mirage*





relative security from these weapons can be obtained from varied flight routes, terrain masking, and the angular velocity of high-speed, on-the-deck aircraft. Varied routes, which the Europeans contend that the USAF displayed inadequate concern for in Vietnam, yield relative surprise via the defender's inability to concentrate weapons and the virtual impossibility of nonautomated air defense weapons to maintain instant readiness. Terrain masking, prevalent in Germany (rolling terrain in middle and south Germany and forests and urban sprawl in the plains of north Germany), reduces the defender's reaction time and line of sight. Finally, the angular velocity of high-speed aircraft make tracking difficult for all but the automated air defense guns and heat-seeking missiles that have their own special vulnerabilities.<sup>17</sup> Hence the conclusion is that higher speed and lower altitude mean less reaction time and a greater chance of aircraft survival.

Thus, in a major deviation from normal military thinking, the Europeans are not attempting to destroy enemy air defenses. Instead, they are attempting to circumvent the air defenses by a combination of relatively simple electronic countermeasures pods and low-level tactics, extending the expected life span of the low-altitude window by various optical confusion devices. This approach has the obvious disadvantage of being continuously restrictive on tactical air power's degrees of freedom. However, it has the countervailing advantage of focusing air power immediately on those army components likely to cause the most immediate damage to friendly ground forces. Which consideration is more important, of course, is scenario dependent. The European approach tends to favor fast-breaking scenarios; the U.S., more static conditions where time is less critical and air defenses can be worn down.<sup>18</sup> In particular, the European approach is more advantageous for the often heard Golan Heights scenario, whereby NATO's air forces are to cope with the enemy's advancing ground forces until one's own ground forces can be deployed.

Flexibility means responsiveness to changing situations. In normal USAF usage, flexibility has come to mean real-time control of airborne aircraft. Low-level operations preclude diversion of airborne aircraft, which is valued by the USAF for exploiting real-time intelligence and for last minute shifting of close air support aircraft to more critical targets. The Europeans question these rationales and add that real flexibility is gained by generating more aircraft sorties (i.e., surging) and minimizing the diversion of aircraft to supporting roles. In this view a greater flow of aircraft through the launch point provides the means for responding to changing situations. A capability for aircraft diversion is seen as nice but inessential and unattractive as a result of cost and system vulnerability. They do not subscribe to the USAF view implied by the Quick Strike Reconnaissance Program, and they see more costs than benefits from last minute diversion of CAS aircraft.<sup>19</sup> Such diversions gain only several minutes of flight time (particularly if CAS aircraft are located on forward sites as opposed to the U.S. preference for rearward main operating bases), cause mismatching of ordnance with target requirements, and foul army fire plan coordination, often leading to an army perception of air force irresponsibility and undependability.

#### *European assessment of U.S. tactics*

Generating a task force, the essence of the U.S. approach, requires considerable planning and flight forming, and its operation requires in-flight control. Thus, while the Europeans emphasize decentralized in-and-out flight patterns whereby small flights—usually two aircraft—are constantly launched and recovered, the U.S. is oriented toward discrete operations with large groupings or blocks of aircraft with subgroups performing specialized tasks. An analogous difference is between sending ships out individually and forming convoys by holding ships together until escorts are available and swamped



base facilities can turn them around. The convoy nature of task force operations inherently implies slippage in sortie rates.

While defending their own approach, the Europeans question the U.S. approach. They assert it is more appropriate for deep interdiction than for direct support of ground forces. The British and Germans specifically contend that U.S. tactics are too costly, vulnerable to technological challenge, and inhibiting to pilot initiative. They also assert that U.S. tactics cause needless physical vulnerability, target acquisition difficulties, and low sortie rates. Most of these liabilities follow from the USAF's task force approach:

The nature of future tactics and delivery parameters will dictate a high degree of aircrew and unit specialization. Weapons complexity, coordination between sensor designators and delivery vehicles, compression of time-over-target, integration of escort, support, and strike elements, and specialized sophistication of the threat are all factors leading to that conclusion. As a result, some units will have to be proficient in interdiction and close air support; other units, in escort and combat air patrol; and, as now, there will be reconnaissance and ECM specialization.<sup>20</sup>

A task force approach is obviously expensive because of the high cost of specialized electronic aircraft and the low ratio of attack to support aircraft. This cost can only be justified if costs were commensurate with results, something not intuitively obvious to European air staffs. They contend that an air force with the U.S.'s price tag would be priced out of existence by their parliaments. More fundamentally they assert that air forces must beware the temptation of focusing excessively on their own internal evolution.

The Europeans have mixed emotions relative to U.S. technological prowess. This prowess is viewed with awe, often giving Europeans a feeling of being unable to compete. But because they are more financially constrained and forced to seek alternative solutions, they see weak links in U.S. reliance on technology. These are navigation, electronic countermeasures (ECM)/de-

fense suppression, and target acquisition.

Whereas they have increasingly relied on self-contained, digital inertial navigation systems, they see the U.S. relying on positive control from ground radar stations. Partly to satisfy rigorous peacetime safety requirements and partly to provide the valued flexibility obtained from being able to control and divert airborne missions, the U.S. does not emphasize autonomous techniques. In the European view, this creates a liability if the system becomes saturated, if its radar emitters are homed in on, or if its communications are jammed.

The second technological vulnerability is the inherent uncertainty of electronic warfare. The task force approach utilizes airspace above small arms and automatic cannon fire. This is the domain of surface-to-air missiles and GCI-controlled fighters. In this domain, ECM and defense suppression are absolutely essential for holding loss rates to acceptable levels and to avoid aircraft jettison of their ordnance in order to protect themselves by maneuvering. Electronic warfare is notoriously adaptive; solutions dependent upon it can hardly be considered robust against an equally sophisticated opponent.<sup>21</sup> If the U.S. has managed to maintain a technical and intelligence advantage, the system will work well. If not and the Soviets have managed to obtain even a transitory advantage, the results could well be disastrous because of a basic asymmetry in military postures: the Soviets depend on their ground forces; it is NATO which depends on its air forces to offset strategic surprise and its deficiencies on the ground.

The third technological vulnerability is reliance on sophisticated target acquisition sensors. In Europe ground targets are difficult to acquire from the air due to haze, smallness and camouflage of individual targets (e.g., a tank), and cloud ceiling. While the Europeans are attempting to solve the targeting problem by area weapons, the U.S. has chosen point accuracy via the A-10's GAU-8 gun and various terminally guided smart weapons. Unfortunately, at the altitudes at which these weapons work well, ground-fired

automatic weapons are highly effective. When attacking combat units, the fire from these weapons cannot be suppressed; most are not electronically guided, and their suppression is tantamount to attacking whole target arrays. Unless high loss rates are acceptable, this forces attack aircraft to avoid antiaircraft fire by overflying it or by relying on long slant ranges. The latter, of course, is possible only if enemy forces are not still below the aircraft as in the case of CAS or rearward point targets (e.g., air bases) where enemy dispositions will be considerably thinner than in forward areas. However, at these altitudes (10,000 feet) and slant ranges, only large targets like bridges and air bases are readily detectable; individual targets in combat units are generally not detectable except for vehicular movement on high contrast roads. However, when detectability is a function of movement, ground units in rear areas can often avoid PGMs by generating thin overhanging smoke or by ceasing movement and blending into the background until the flight passes by.<sup>22</sup> For use against combat units, smart weapons at standoff ranges need close-in designation: a ground designator for close air support and possibly remotely piloted vehicles (RPVs) for armed recce-type interdiction. This is now implicitly recognized by an increasing emphasis on cooperative systems. What has not been recognized is that once the pilot is no longer needed for target acquisition, the manned aircraft becomes redundant. In cooperative systems the problem is simply guiding or tossing a warhead into a designated reflection envelope or cone. With smart artillery, more refined missile systems, and midcourse guidance coming into the inventory, manned aircraft are not required for the tossing function.<sup>23</sup>

Pilot initiative is also seen to be affected by TAC's positive control. In the European air forces (as in the USAF), good pilots are viewed as major determinants of force effectiveness. A good pilot is seen as self-reliant, quick thinking, and aggressive. These characteristics are demanding and require extensive training to de-

velop. Inculcating these pilot attitudes is felt to be incompatible with a flying system binding pilots to rigorous safety requirements and airspace management control. As an example of the problem, Soviet pilots are widely reputed to be poor and lacking in initiative, partly through the inhibiting effect of their encompassing GCI system.

The U.S. tactical style is also criticized for increasing aircraft vulnerability. First, while defense suppression may well hold down losses to ground air defense systems, higher operating altitudes put attack aircraft in the midst of the Soviet fighters. Besides causing losses, this requires the presence of escort fighters and the frequent jettisoning of ordnance. Second, a task force formation (as opposed to the small flights of the European in-and-out style) require a forming up period. These are detectable and extremely vulnerable to interference. Thereafter the need for escort protection is compounded by advance warning to opposing air defense fighters. Third, whereas several ground support aircraft entering the European inventory can operate from forward dispersal sites, the U.S. remains tied to aircraft systems requiring main operating bases and vulnerable runways.

Finally, as the European air forces have shifted from a nuclear orientation to an emphasis on a short conventional war, sortie rate generation has assumed increasing importance. British Harriers have practiced surge rates as high as ten per day during summer maneuvers. The Germans expect equal capability with Alpha Jets. This has required new operational procedures and moving forward and away from main operating bases. The British note that even with F-4s, which require flights of four aircraft (versus the normal two), more elaborate facilities, and are assigned more demanding missions than Harriers and Jaguars, they are obtaining sortie rates considerably greater than the USAF in Europe. The British and Germans argue these higher sortie rates are a direct result of differences in operational style and their interpreta-



tion of operational flexibility and decentralization.

For the European air forces, flexibility and decentralization occur at headquarters, flight launch, and from the flexibility implicit in higher sortie rates. USAF operations have the opposite characteristics: relative rigidity in headquarters planning and flight launch but great flexibility in the control of airborne aircraft. Such characteristics, of course, are necessary for task force-style operations.

If the U.S. approach is geared for deep interdiction, its relevance is open to question. The European transport net is too dense and time too critical for supply interdiction to be a meaningful tactic. Air base attack has become difficult; if air base attack again becomes a viable tactic, it will be through specialized area weapons like the British JP 233 runway cutter (for air base disruption), not zero CEP smart weapons (as, for instance, against aircraft shelters, many of which may be empty). Moreover, deep interdiction targets are fixed coordinate targets, targets more appropriate for missiles with mid-course correction than for manned aircraft.

If offensive air operations are intended to be meshed with the army scheme of maneuver and firepower support, then air forces cannot afford large numbers of aircraft for the purpose of attacking small numbers of individual tanks. If the objective is tanks, air forces cannot afford low sortie rates, the diversion of air resources to support a relatively small number of aircraft actually attacking, or large downtime due to weather. Thus the task force approach is inappropriate.<sup>24</sup>

#### *force modernization*

Force modernization, since it implies expensive outlays, is a salient theme having high political visibility and many facets. For air forces its special poignancy derives from the large number of aircraft now approaching obsolescence. For some, modernization is a vehicle to push standardization. Industry sees it as an opportunity to push sales; technologists, to push technology for

technology's sake; politicians, to push constituent employment; and government, to enhance their balance of trade, political influence, and domestic arms industry. Even the military may push it as an opportunity to buy political support,<sup>25</sup> as well as to lower their own unit costs. Modernization is thus a means for a variety of motivations, none of which is necessarily consonant with the end of force improvement.

The U.S. government has advocated force modernization for the last decade as a way of "providing all the horseshoe nails" needed to realize the full potential of NATO's existing conventional forces.<sup>26</sup> During James R. Schlesinger's tenure as Secretary of Defense, force modernization also became a means to standardize NATO forces for the twin purposes of improving interoperability and of providing plow-back savings.<sup>27</sup>

The fundamental difficulty in force modernization is discerning real requirements, as opposed to marginal improvements of the present system by replacing old weapons with new. The Europeans argue that no one has thought through the interaction of air and armored forces. Large-scale spending on air modernization may not be worthwhile if it subtracts from the funds available for ground forces or causes reductions in air structure.<sup>28</sup> Any program of air modernization will suffer from these uncertainties. U.S. proposals for NATO modernization suffer from still a third deficiency: that of misunderstanding the perspective and thought processes underlying allied behavior. While the U.S. decries the lack of allied standardization, the USAF stakes out policy positions based on its own perspective and operational modes. Thus the process of modernizing U.S. and European air forces for conventional warfare is actually leading to even greater operational divergences as the NATO air forces switch their equipment inventory from one designed primarily for nuclear strike to one designed primarily for ground support.

FROM A military viewpoint, it is probably de-



sirable that the Europeans have resisted U.S. blandishments toward standardized air forces. The U.S. approach is costly and uncertain; if it works, the Europeans retain the option of supplementing U.S. aircraft in the U.S. electronic framework. The real problem is thus reducing the cost of tactical diversity in offensive air op-

erations while retaining its many benefits. As long as fundamental differences exist in operational philosophy, U.S. and allied equipment will reflect these differences, a fact that does not preclude equipment interoperability and common procedures and administrative reporting.

Potomac, Maryland

#### Notes

1. Giulio Douhet, *The Command of the Air* (London: Faber & Faber, 1943).  
2. Maj. Gen. Robert Close, "Feasibility of a Surprise Attack against Western Europe," NATO Defense College, Rome, Italy, 24 February 1975.

3. See, for example, Steven L. Canby, "The Alliance and Europe: Part IV: Military Doctrine and Technology," *Adelphi Paper 109* (London: International Institute for Strategic Studies, 1975).

4. For the best published account of the European position, see Johannes Steinhoff, *Wohin treibt die NATO? Probleme der Verteidigung Westeuropas* (Hamburg: Hoffman und Campe, 1976), pp. 143-78. For the most authoritative open literature accounts of the U.S. approach, see Edgar Ulsamer, "Tac-Air—History's Most Potent Fighting Machine," *Air Force Magazine*, February 1976, pp. 22-26, and Brig. Gen. John E. Ralph, "Tactical Air Systems and the New Technologies," in Geoffrey Kemp et al., *The Other Arms Race* (Lexington, Massachusetts: D. C. Heath, 1975), pp. 15-33.

5. After arguing that this window was closed, the USAF at Nellis AFB, Nevada, and Marine Corps have rediscovered the advantages of on-the-deck flight operations. Much of the U.S. problem has been caused by the semantic confusion of terming the dead man's altitudes of 500-1500 feet as low.

6. "TAC to Test Electronic Warfare Abilities," and "TAC Training Emphasized by Commander," *Newport News Times Herald*, 30 November 1976 and 4 January 1977 (reprinted in *Current News*, Part II, 7 December 1976, p. 14-F and 12 January 1977, p. 11-F).

7. For excellent articulations of the firepower versus maneuver theme, see the debate generated by William Lind, "Some Doctrinal Questions for the United States Army," *Military Review*, March 1977, pp. 54-65, and Col. (Ret) John R. Boyd, "Patterns of Conflict," *Military Review*, January 1977.

8. Ralph, pp. 29-30. Emphasis added.

9. See concept above. This statement, of course, is somewhat oversimplified, but it is the essence of the publicized USAF position. Some elements of the Air Staff contend that approach was perhaps oversold outside the Air Force and that if USAF did believe in the extreme claims, there has been some backing off. Nevertheless, official briefings and discussions (as well as R&D developments) have led the Europeans to the perception of an extreme position.

10. *Ibid.*

11. *Ibid.*

12. The term "second echelon" is ambiguous since all Soviet units employ the concept of first and second echelon. The specific German and British meanings are the reserve divisions of the Soviet Front's first echelon. Second echelon front forces are viewed as too far removed for any immediate impact on the battlefield. However, the German interpretation is somewhat broader than that of the British. The British mean the reserve divisions of the attacking armies, the German interpretation includes first echelon follow-up armies. In time-distance factors, the British emphasize up to 100 kms, impacting the battlefield within 24 hours; the Germans 200-300 kms, impacting within 2 to 3 days.

13. The definition of low and medium level seems to be very much in the eye of the beholder. For those steeped in Vietnam operations, low level was 1000 feet, medium altitude was above the envelope of air defense guns at 10-15,000 feet. As the USAF has become reoriented to Europe, low level has become increasingly defined as below 1000 feet and more like 500 feet.

14. This system is intended to, "... integrate airborne reconnaissance information into ground processing units and a commander's situation display to permit immediate strike decisions. At the same time, the commander will maintain centralized management of strike and reconnaissance assets." Ralph, p. 28.

15. It should also be noted that relatively low activity is characteristic of

nonarmored conflicts. In Korea and Vietnam, conflicts were more prolonged, and the movement and timing of reserves were not so critical. Rearward activity was accordingly less intense, and buildups were more gradual than in armored blitzkriegs.

16. A case in point (which the British cite) is that in Vietnam, interdiction sorties apparently depended more on the numbers of sorties potentially available with the aircraft in the theater than on strategy or considerations of the relative effectiveness of the sorties among the target areas.

17. For instance, in the October War, reports indicate that few if any Israeli aircraft were downed by SAM-7s. New versions of the SAM-7 with greater speed and a larger warhead should be far more effective.

18. A critical uncertainty for the USAF approach is that air defenses cannot be worn down nor ground forces themselves attacked if target contrast forecloses standoff precision-guided munitions (PGM) and organic air defenses are too proliferated or too readily replaceable.

19. See Ralph, p. 27; also note 14.

20. *Ibid.*, p. 32.

21. Cases in point are the potential of bistatic and "quiet" monostatic radars for ground air defense. With the latter, the game of defense suppression will become increasingly difficult and expensive. With bistatic radar, it becomes infeasible.

22. If flights were plentiful, as in World War II, this option might still be desirable from the small unit commander's viewpoint, but not from a senior commander's viewpoint which requires units to meet specified schedules and not adversely affect others. One can argue that more sophisticated sensors could negate the blending option. However, these sensors are even more costly and can be readily spoofed by prepared static units.

23. For a detailed discussion of these issues, see Steven L. Canby, *Terminal Guidance on the Battlefield: Obtaining its Potential Payoff* (Santa Monica, California: Technology Service Corporation, May 1975).

24. This conclusion is scenario dependent. It also assumes that the European research and development program will produce considerably better area munitions than those currently available.

25. This theme seems to be particularly strong in the Netherlands, Belgium, and Italy.

26. Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough?* (New York: Harper and Row, 1971), p. 156.

27. The major objectives of equipment interoperability are fueling, common communications, and compatible ordnance. Avionics and engine maintenance usually require returning to the home base or having replacements brought in. This is true even for an aircraft as ubiquitous as the F-4 because of its many versions and enhancements.

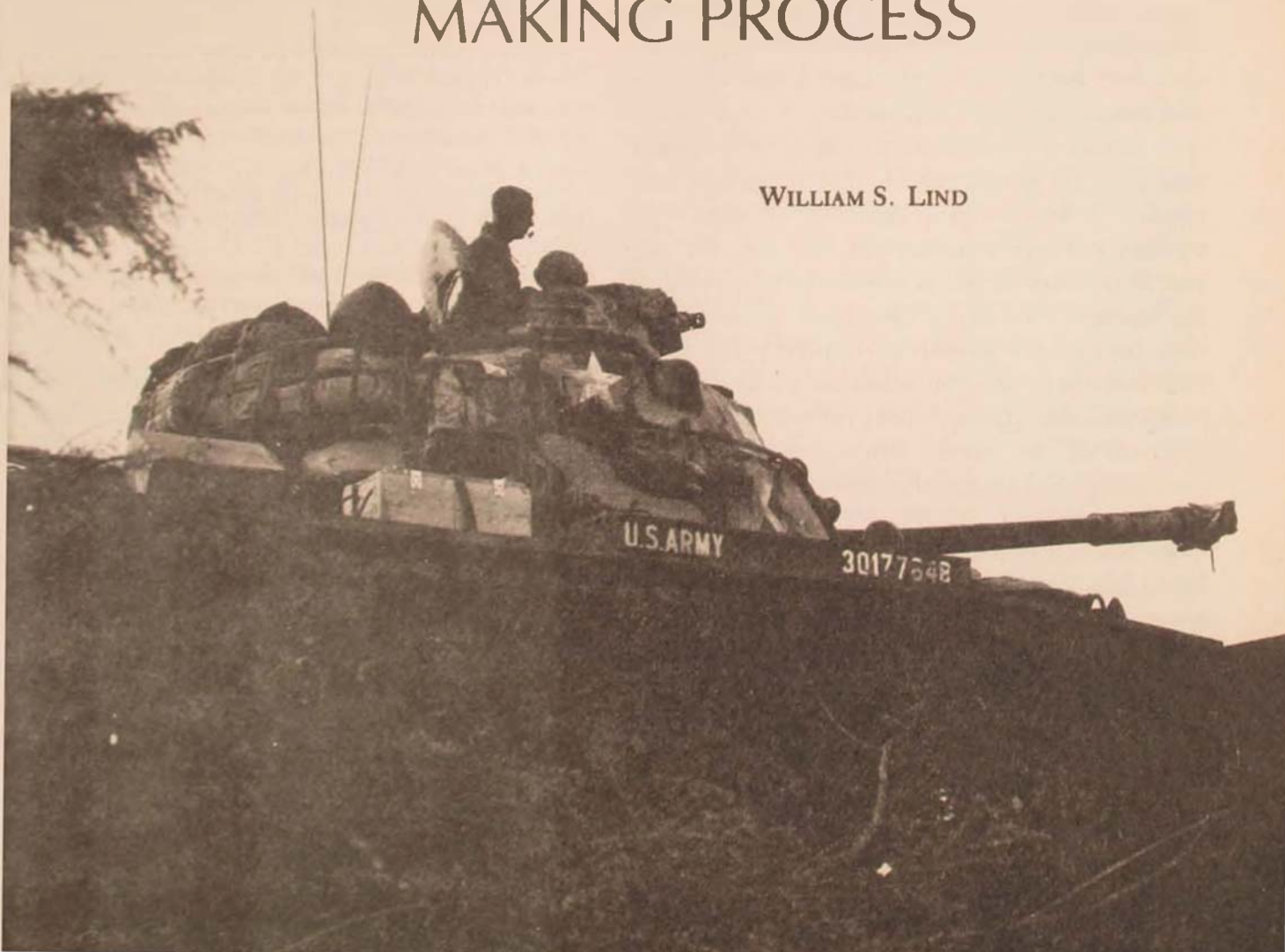
28. Among the budgetarily constrained European air forces, there has been a conscious attempt to maintain a credible bean count, even if it has meant less than the best aircraft and environmental preparation. The Swedish Air Force has probably been the exception. The Saab Viggen has consciously been bought at the expense of numbers. In Britain, one sees more of a compromise whereby overt structure is maintained at the cost of aircraft per squadron and squadrons per wing. The German and Italian air forces are going the hi-lo route in the sense some very expensive aircraft like multirole combat aircraft (MRCA) will be bought while numbers are maintained by cheap light attack aircraft. The Belgians and Dutch will probably follow a similar route, their "hi" aircraft being the F-16. The European rationales for their hi-lo approach is the flexibility obtained from overlapping capabilities by having some aircraft capable of more than one mission.

**Q**UESTIONS of military doctrine and force structure may seem somewhat esoteric to many Air Force officers absorbed in their day-to-day concerns. But doctrine and force structure are nothing more than our method of fighting and the number and type of forces that method requires. Doctrine and force structure ultimately define the job of every officer in the Air Force, and the correctness of that definition determines whether each officer's effort will lead to success or failure.

Spending money on defense will not give us security if our doctrine is wrong, or if our force structure does not suit our doctrine. There is an anecdote, probably apocryphal, concerning a 1930s' meeting between Charles de Gaulle, then a junior colonel, and Léon Blum, the Premier of France. De Gaulle supposedly approached Blum and expressed concern about the state of France's

## MILITARY DOCTRINE, FORCE STRUCTURE, AND THE DEFENSE DECISION- MAKING PROCESS

WILLIAM S. LIND





defenses. Blum replied, "But we are spending more for defense than the previous government!" De Gaulle's rejoinder, "It is for what you are spending the money that concerns me," reflected his awareness of how important doctrine and force structure could be, an awareness too few Frenchmen shared.

The reasons why doctrine and force structure are important are clear. Perhaps less obvious, but equally important, is what the relationship between doctrine and force structure tells us about the way we make defense decisions. Obviously, our force structure should follow logically from our doctrine. The present article will suggest that this may not be the case; a suggestion which may, in turn, pose some interesting questions about the defense decision-making process.

**U.S.** ground force doctrine is a good example of the problem. Theoretically, there are two basic types of ground force doctrine: firepower/attrition doctrine and maneuver doctrine. Both employ the same elements, fire and maneuver, but firepower/attrition doctrine uses maneuver primarily as a way to transport and position firepower so that firepower can physically destroy the enemy by attrition. According to firepower/attrition doctrine, the object of military action is physical destruction of the enemy. This is not the object of maneuver doctrine, where firepower is used only when necessary to create opportunities for maneuver. Maneuver doctrine's object is to break the spirit and will of the enemy command by creating surprising and dangerous operational or strategic situations.

In modern times, World War I provides the best example of the application of firepower/attrition doctrine. At Verdun, the Germans attained the ultimate refinement of firepower/attrition. On the basis of previous calculations of relative casualty rates, they seized a few square miles of land specifically to create a hu-

man "meat grinder." The essence of the firepower concept, as expressed at Verdun, is simple: if you can apply enough firepower to the enemy, you can destroy his equipment and kill his troops until he no longer has equipment or troops.

In contrast, maneuver doctrine in the twentieth century has usually meant armored warfare.<sup>1</sup> The first person to realize the potential of maneuvering tanks as an alternative to the Verdun slaughter was the British military thinker Major General J. F. C. Fuller. Fuller realized that the best way to employ the new tanks invented during World War I was to emphasize their mobility: "During the [First World] war . . . the tank had been used as a self-propelled armored gun . . . had the war lasted another year, it would have become apparent that in themselves tanks . . . were not weapons, but instead vehicles . . . their dominant characteristics were new means of movement. . . ." <sup>2</sup> Fuller noted

the intimate connection between will and action; that action without will loses coordination; that without a directing brain an army is reduced to a mob. Then it became fully apparent . . . that by means of the tank a new tactics could be evolved, which would enable a comparatively small tank army to fight battles like Issus and Arbela over again. What was their tactical secret? It was that, while Alexander's phalanx held the Persian battle-body in a clinch, he and his Companion Cavalry struck at the enemy's will, concentrated as it was in the person of Darius. Once this will was paralysed, the body became inarticulate.<sup>3</sup>

The Germans picked up this theory from Fuller via General Heinz Guderian and embodied it in the panzer concept. But even before Guderian, General Hans von Seeckt had given the German army "a gospel of mobility . . . In the exaltation of manoeuvre, these post-war [WWI] German manuals offered a striking contrast with those of the French Army. . . ." <sup>4</sup> Guderian notes that the French

doctrine was the result of the lessons that the French had learned from the First World War, their experience of positional warfare, of the high



value they attached to fire power, and of their underestimation of movement. These French strategic and tactical principles . . . [were] the exact contrary of my own theories . . .<sup>5</sup>

The clash in 1940 between the German maneuver doctrine and the French firepower doctrine resulted in a striking victory for the German army.

The Germans adopted a maneuver doctrine for two reasons particularly relevant to the U.S. situation today. The first was that the Germans, like the Americans today, could not match their opponents in numbers. The Polish, French, and British armies combined were a much larger force than the German army. Soviet and other Allied forces were still numerically superior in 1941. The Germans—or at least Germans such as Guderian who understood and pressed for a maneuver doctrine—realized maneuver could give a psychological multiplier to the forces of the party employing it. A relatively small force could break the spirit and will of the enemy high command by a series of rapid and unexpected moves.

Guderian's campaign in France was a brilliant example. His force, which shattered the plan and nerve of the Allied high command by its daring advance through the Ardennes to the English Channel, consisted essentially of only three divisions. At no time in the decisive fighting in the French campaign did the Germans have more than ten panzer divisions, yet these did the bulk of the fighting. Their success demonstrated that maneuver doctrine is the military equivalent of judo, substituting balance for brute force. Like judo, it is the best technique for the belligerent with less brute strength.

The Germans also discovered at the outset of World War II that maneuver doctrine reduces casualties. Because its object is to destroy the enemy's mental cohesion, not to destroy his men and equipment by slow, costly attrition, maneuver doctrine lets the offensive forces avoid tactical engagements rather than seek them. German casualties were light in the Polish campaign; both German *and* Allied casualties were

relatively light in the subsequent French campaign of 1940. Even in the 1941 Russian campaign (before Hitler had abandoned a maneuver doctrine), German casualties were still acceptable for a country which had to conserve its manpower. The large number of Russian prisoners captured by the Germans in 1941 further attests to the ability of maneuver to destroy an enemy's will without destroying him physically.

Some defense analysts have argued that modern defensive firepower has now become so overwhelming that maneuver is no longer possible, and a firepower/attrition doctrine is the only option. This may be a dangerous assumption. The battle of Kursk demonstrated that World War II firepower, like its more sophisticated modern counterpart, could also defeat an armored force attacking a defended position head-on. What happened at Kursk was not the defeat of maneuver doctrine, but a failure to use it. Kursk is a classic example of the high price paid by those who abandon the principle of maneuver.

By contrast, the Israeli counteroffensive across the Suez Canal in 1973 showed that maneuver doctrine could bring decisive results against modern firepower. Analysis of the 1973 war has tended to stress the increased effectiveness of firepower on the defense, but it has overlooked another, perhaps more important lesson: that blitzkrieg remains viable. *Properly understood*, blitzkrieg is the use of mobility to create situations that the opponent does not expect. The Israeli armored thrust across the canal, the decisive military action of the Sinai campaign, was a classic example of maneuver doctrine in that it surprised the Egyptians and upset their strategic plan. Had the superpowers not intervened, this maneuver might well have enabled the Israelis to achieve their war aim of restoring the Suez Canal as the cease-fire line.

Despite the apparent desirability of maneuver doctrine on the modern battlefield, the U.S. Army seems to prefer the firepower/attrition doctrine of World War I. A study of Army doctrinal publications shows little concern for ma-

neuver, except as a way of transporting and positioning firepower. The new Army FM 100-5, *Operations*, is a prime example. The second section, entitled "Modern Weapons on the Modern Battlefield," describes the battlefield as an almost mathematical diagram of overlapping ranges, rates of fire and kill probabilities. It discusses the firepower capability of the tank before mentioning its far more important mobility.

This chapter sets the tone for the rest of the field manual. For example, the section entitled "Battlefield Dynamics" (chap. 3, p. 3-4) addresses the strength of the defender in terms of his ability to apply or avoid firepower. The attacker, on the other hand, appears to be at a disadvantage, because "the weapons of the attacker are not as effective as the weapons of the defender, and his forces are more vulnerable." The section does not mention the attackers' advantages of bypassing the defender or striking his flank or rear. When mobility is finally addressed (p. 3-4), it is as a means of concentrating firepower. When 100-5 discusses the offensive (p. 4-1), it gives destruction of enemy forces as the first purpose of offensive action. "Destroy his [the enemy's] will to continue the battle" is tacked on the end of purpose #3, just slightly above deception and diversion as a main objective.

Only a few, isolated sections of Field Manual 100-5 approach a useful understanding of maneuver. In general, the doctrine expressed in 100-5 (and thus by the Army) is the same as that stated in the French manuals of 1940, " 'of the two elements, fire and movement, fire is preponderant.' " <sup>6</sup>

The doctrinal issue of firepower versus maneuver is of importance to the Air Force, which must provide most of the tactical air support for American ground forces. Thanks to NATO plans for a firepower/attrition defense, the utility of tactical air has become increasingly doubtful in a European scenario. Because of the NATO forward defense strategy, which is based on the firepower/attrition concept, the first days of the

central front war will be decisive. However, in order to avoid unacceptable losses to Warsaw Pact air defenses, NATO's tac air units will have to spend much of their effort during the first days of a war attempting to suppress air defense systems. In doing so, they will be fighting a private war with little relevance to the main ground conflict during the ground war's decisive phase.

THE question we are exploring here, however, is not doctrine per se, as important as that is. We are examining the relationship between doctrine and force structure. If, for purpose of illustration, we turn again to the Army, what do we see in its force structure? Does Army force structure also reflect a belief that war is predominantly a matter of firepower rather than maneuver?

Not surprisingly, the structure of the Army does not reflect a maneuver concept of war. The clearest evidence is the prevalence of foot infantry. Maneuver warfare (at least in Europe and the Middle East) generally requires mechanized forces, especially tanks, rather than foot-mobile infantry. Of the 16 active Army divisions, 6 are foot infantry. <sup>7</sup> In contrast, the Soviet army, which has in general a maneuver concept of war, has no regular foot infantry: only its 7 airborne divisions are not mechanized.

Another indication that the Army's force structure does not reflect a maneuver doctrine is its logistics system. If war is conceived in terms of maneuver, a quick decision is generally anticipated; there is less expected need for massive resupply and repair efforts. The primary requirement is for initial combat power: for divisions and for combat battalions. The Soviet army, with its high ratio of divisions to total manpower, and of equipment to men within a division, reflects the requirement for high initial combat power. Applying both of these indices to the U.S. Army, we see that if the present Army of 790,000 men were organized on the



Soviet model, it would field approximately 50 divisions, not 16. The differential goes largely into a massive logistics system. Similarly, while a Soviet armored division of about 9500 men has 325 tanks, a U.S. armored division of approximately 16,500 men has 324. In the U.S. Army, neither the ratio of divisions to total manpower nor that of equipment to manpower within a division reflects the usual force structure priorities associated with a maneuver doctrine.

A comparison of U.S. and Soviet armored vehicle design shows consistency with U.S. rejection of maneuver doctrine. Soviet tank design gives top priority to characteristics desirable in meeting engagements, the type of engagement anticipated to be most frequent in a war of maneuver. These include low silhouette (at the expense of main gun depression capability); high accuracy of the main gun at short and medium, rather than long, ranges; and high automotive reliability for a specified number of operating hours (instead of easy maintainability). In contrast, U.S. tank design emphasizes characteristics more desirable when fighting a set-piece action from a prepared position: good main gun depression for defilade or hilltop defense firing—at the expense of an M-60 silhouette almost one meter higher than a T-62; an emphasis on complex fire control and main weapon systems intended to give accuracy at long ranges (e.g., the M-60, A2); and an emphasis on battlefield maintainability in anticipation of a stable battlefield and a slow tempo of operations. Comparisons of the Soviet BMP and the proposed U.S. infantry fighting vehicle (IFV) show parallel differences.

Thus, the U.S. Army does not have a maneuver doctrine, and, not surprisingly, Army force structure does not reflect a maneuver doctrine. This seems quite reasonable. Since we have also seen that the U.S. has a firepower/attrition concept of war, we would naturally assume the force structure reflects that doctrine.

But does it? Some questions can be raised about the degree to which Army force structure reflects a firepower/attrition concept of war. In

some respects force structure does reflect such a concept; for example, the large logistics system is intended to provide the support required in an attrition-oriented firepower conflict. But other elements in the force structure seem as inconsistent with firepower as with maneuver doctrine.

The prime example, once again, is foot infantry. Just as foot infantry has too little mobility to be effective in a war of maneuver, so it is also a poor investment if the requirement is firepower.

The firepower per man of foot infantry is inferior to that of any other type of combat force. For example, a foot infantry squad of 11 men normally has an organic firepower of 11 M-16 rifles and 2 light antitank weapons. A mechanized infantry squad of 9 men, with its organic IFV, has one 25 mm cannon, 9 antitank weapons, 1 machine gun, and M-16 rifles. A tank crew of only 4 men has a 105 mm cannon with 55 rounds of ammunition, plus 2 machine guns.

Another interesting indication that Army force structure does not optimally reflect a firepower doctrine is provided by comparing U.S. and Soviet ratios of manpower to firepower. As previously noted, the Soviets conceive of war largely in terms of maneuver. Yet their army has a higher ratio of firepower systems to men than does the U.S. For example, a Soviet motorized rifle division of 12,000 men has up to 90 artillery pieces plus 18 multiple rocket launchers, for a man to major-firepower system ratio of as low as 111:1. A U.S. mechanized division of 16,300 men has 66 artillery pieces, for a ratio of men to guns of 247:1.

If the structure of the Army does not reflect a maneuver doctrine, yet also does not consistently reflect a firepower doctrine, what doctrine does it reflect? It would seem that it does not systematically reflect *any* doctrine.

Why does force structure not seem to be a logical reflection of doctrine? It may be because Army force structure and the structure of the Air Force and Navy as well to large degree reflect a defense decision-making process strongly



influenced by intrainstitutional factors. Intrainstitutional factors are those influences that reflect not the objective purposes of and obstacles facing the service—such as mission and threat—but rather the parochial interests and outlooks of groups or individuals within the organization.

It should not surprise anyone who has studied organizations that a service's decision-making process over time becomes strongly influenced by intrainstitutional factors. It is not a phenomenon peculiar to the U.S. Army or Air Force. It could be seen in the French army in the 1930s, the Russian army in the early part of this century, and in the Prussian army before Jena. It is visible in almost all of our government bureaucracies. It can be found in many elements of the private economy, particularly the more established industries such as steel and railroads.

To say that intrainstitutional factors strongly influence our defense decision-making process is not to say that the current crop of generals, admirals, and civilian defense decision-makers are singularly inept. To be sure, such a situation does indicate a leadership failure, but primarily it reflects normal human behavior. Unless an institution is periodically called to account, with its continued existence as an institution in question, in terms of its objective purpose and the environment in which it must compete, the individuals within the institution tend unconsciously to lose sight of both the purpose and the environment. People tend over time to equate their most important concerns with those which require most of their time. Most of a general officer's time is dedicated to ensuring the well-being of the element of the service that he commands in its day-to-day administrative life within the service, not to worrying about a potential enemy. That same general officer's time went into similar concerns when he was a captain, a major, or a colonel, i.e., when he formulated his basic assessment of what is important.

It seems possible to identify a link between intrainstitutional factors and at least some of the discontinuities between doctrine and force structure to which this article has alluded. If we examine the continued prevalence of foot infantry in the Army in light of possible intrainstitutional explanations, we see something interesting. The Army high command levels, which play the most significant role within the Army in setting force structure, have been dominated by generals with an infantry background. Of our 13 Army chiefs of staff since World War II, 9 have been from the infantry and only 1 from armor.

In his book *On Watch*, Admiral Elmo Zumwalt, the former Chief of Naval Operations, stated:

Internal forces in the Navy had contributed to unbalancing it in the 1960s. . . . for the last quarter-century or more there have been three powerful "unions," as we call them, in the Navy—the aviators, the submariners, and the surface sailors—and their rivalry has played a large part in the way the Navy has been directed. . . . Whichever union such a commander comes from, it is hard for him not to favor fellow members, the men he has worked with most closely, when he constructs a staff or passes out choice assignments. It is hard for him not to think first of the needs of his branch, the needs he feels most deeply, when he works up a budget. It is hard for him not to stress the capability of his arm, for he has tested it himself, when he plans an action.<sup>8</sup>

There is no reason to believe that the unions Admiral Zumwalt described are restricted to the Navy. Does the Army continue to have a substantial amount of foot infantry because the infantry "union" has dominated the Army high command? Does the Air Force continue to plan expensive new generations of fighter and attack aircraft because they are more cost-effective than ground-to-air and ground-to-ground missiles, or because the tactical air "union" strongly influences the Air Force high command?

Unfortunately, the studies required to establish the degree of intrainstitutional influence in the defense decision-making process do not ex-

ist, at least in forms useful to national decision-makers. Few tasks have greater potential significance, and few could contribute more to the efficiency and effectiveness of our defense forces, than undertaking thorough, usable studies of the role intrainstitutional factors play. If such studies were to establish that these factors play a large or even controlling role in determining force structure, they could open the way for objective reanalysis of current force structures. This in turn could create an atmosphere in which beneficial restructuring might take place. The defense decision-making process itself might be redesigned to ensure that a reform of force structure would not be merely a one-time event, after which old habits would reassert themselves.

WE must begin to examine all our organizations in terms of the structure and resultant internal dynamics of the institution itself. It is unlikely that the armed services, or other governmental organizations, will be reduced in size or complexity. However, the internal structure of these organizations can, and must, be modified so that

intrainstitutional factors do not work at cross purposes to the organization's objective reason for being. Merely calling an organization an air force or an urban mass transit administration does not in itself mean that the organization will effectively defend the nation or improve public transportation.

The officers of the United States Air Force could play a key role in this process by examining the influence of intrainstitutional factors in the decision-making process in the Air Force. Do these factors play a role in determining the structure of the Air Force? If so, how great a role? Have they created discontinuities between doctrine and force structure? Do they inhibit realistic analysis of current and potential doctrines, or even of the threat? Air Force officers are better qualified than any outsider to give these questions the knowledgeable study they require. Such study could give the leaders of the Air Force and the nation the insights they need to avoid the fate which has befallen most militaries dominated by intrainstitutional concerns—defeat.

Washington, D.C.

#### Notes

1. The "infiltration tactics" of the German infantry in the latter part of World War I, however, and of the Chinese, Korean, and Vietnamese communists since, are a form of maneuver doctrine.

2. J. F. C. Fuller, *Armament and History* (New York: Charles Scribner's Sons, 1945), p. 143.

3. J. F. C. Fuller, *The Conduct of War 1789-1961* (London: Eyre and Spottiswoode, 1961), pp. 242-43.

4. B. H. Liddell Hart, *The German Generals Talk* (New York: William Morrow & Co., Inc., 1949), p. 14.

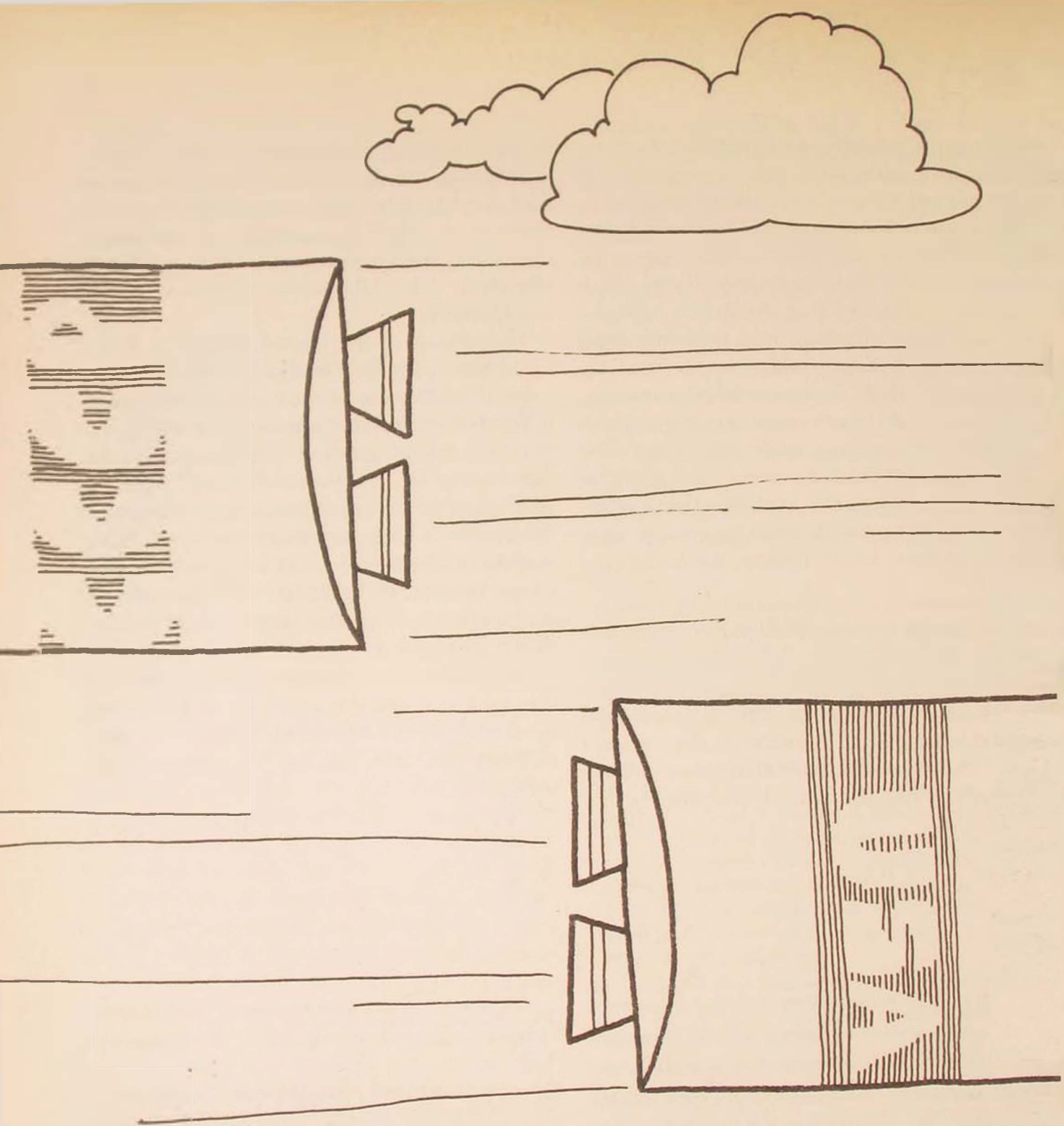
5. Heinz Guderian, *Panzer Leader* (New York: Ballentine Books, 1967), p. 73.

6. B. H. Liddell Hart, p. 14.

7. Two of these are now being converted to mechanized infantry. In addition, all three Marine Corps divisions are foot infantry.

8. Elmo R. Zumwalt, Jr., *On Watch: A Memoir* (New York: Quadrangle, 1976), pp. 63-64.

The opinions expressed in this article are the sole responsibility of the author and should not be assumed to reflect the views of Senator Hart, the Armed Services Committee, or any member of Congress.



# THE MX AND STRATEGIC DETERRENCE IN THE 1980s

DR. G. K. BURKE



**T**HE experimental missile, generally referred to as the MX, has been proposed by the Department of Defense (DOD) as the follow on to the Minuteman intercontinental ballistic missile (ICBM). In the decade of the 1980s, this system will have to compete with other programs for increasingly scarce defense dollars. Therefore, the importance of the MX to the nation's security must be carefully assessed. It must be compared and contrasted to the Air Force's cruise missile program, to the Navy's Trident submarine program, and to possible improvements in the existing Minuteman/Titan land-based missile force.

Its relationship to Soviet capabilities must be carefully analyzed. It is necessary to discover if it will be able to survive in the increasingly hostile strategic environment of the 1980s and to determine what its relationship will be to the immense civil defense efforts the Soviet Union is known to be undertaking. The purpose of this article, then, will be to examine these and other forces and attempt to evaluate the MX.

If the MX is procured, it will be in the approximately 190,000-pound class, which will make it roughly twice the size of the current Minuteman ICBM and endow it with over four times the Minuteman's 2000 pounds of throw-weight.<sup>1</sup> In terms of payload, various estimates have been prepared for the MX. One early analysis suggested the MX might be armed with as many as fourteen Mark 12A reentry vehicles (RVs) of 350 kilotons (KT), but subsequent analyses have indicated that its complement is more likely to consist of either fourteen 150 KT warheads or ten 300 KT explosives. Naturally, a smaller number of larger reentry vehicles could be deployed, or, if it is felt to be strategically advantageous, a very large (10-megaton range) single warhead could be fitted on the booster.<sup>2</sup>

DOD would like to purchase between 200 to 250 of these missiles and guarantee their safety against improved Soviet accuracies by abandoning the traditional hardened silo and adopting new and radical approaches to basing. Fundamentally, DOD proposes to move the MX

among a large enough number of points (possibly 600 psi in hardness) to absorb the Soviet ICBM inventory. The theory employed in this basing mode is that it is less costly for the United States to "heap up dirt" than it is for the Soviet Union to purchase additional warheads.<sup>3</sup>

Alternatively, the weapon might be placed in a covered trench 42 feet wide by 21 feet deep by 10-20 miles in length. In this basing mode the missile would move inside the trench, and the Soviets could never be certain of its location. As in the case of the aim-points, they would have to destroy the whole of the system to be certain they silenced the missile. As in the case of the aim-points, which could be increased in number, the trench could be lengthened to whatever size was necessary to absorb additional Soviet RVs.

The novelty of the covered trench concept would lie in the fact that while the trench would be comparatively hard (possibly 600 psi) in terms of resisting pressure applied from above by Soviet explosives, it would lift off easily from underneath, allowing the missile to launch itself from anywhere along the many miles of the tunnel.<sup>4</sup>

As might be expected the MX has critics. One group has predicted that the MX will destroy efforts aimed at curbing the arms race. Their principal point is that the national means of intelligence gathering (mainly observation satellites) will possess limited utility if the missiles are concealed in trenches or aim-points instead of the current easily counted silos.

This view has some validity except that on-site inspection is becoming increasingly acceptable. In view of this, it should not be too difficult to devise ways of guaranteeing that there is only one missile to a trench or a given number of missiles in relation to a certain number of aim-points without compromising the integrity and safety of the system. It would seem fair to say in relation to this school of criticism that there is nothing organic in the MX system that will affect arms control measures. If policy-makers wish to find ways to overcome the difficulties

posed by the unique properties of this system, they will do so.

A second and more vocal school insists that the MX will provide the United States with a first-strike capability due to the extreme accuracy, reported to be in the .07 nautical miles (NM) range, of the missile's warheads. This view is simply inaccurate and reflects a poor knowledge of the thrust of Soviet capability.<sup>5</sup>

First, if 90 percent of the Soviet land-based missile force were to be destroyed, the remaining 10 percent would be adequate to destroy the United States because of the immense size of the Soviet weapons. Consider: 200 SS-18 ICBMs (2 MT  $\times$  8) would possess 160 warheads if 90 percent were destroyed. These 160 RVs would be equal to 256 one-megaton equivalents (OME) or would possess sufficient explosive force to destroy 30 percent of the civilian population and approximately 75 percent of the industry of the United States.<sup>6</sup> And this does not even take into consideration the hundreds of other land-based missiles the Soviets are certain to possess, the land-mobile missiles that are already being stockpiled, the anticipated 950 or so sea-launched ballistic missiles expected in the early 1980s, or the vastly improved intercontinental bomber force outfitted with some 275 Tu-V-G Backfire bombers. How these are to be destroyed has never been explained.<sup>7</sup>

A third group, seeking to cut costs, has suggested using another missile, possibly a land-mobile version of the Minuteman. Regrettably, this missile is unable to fulfill the task. First, it has nothing resembling the payload of the MX, which is all-important given the small number currently under consideration for purchase. Second, the Minuteman is not stressed for the horizontal deployment essential for a land-mobile missile, and to develop it into such a configuration would require thorough testing, which is among the most expensive phases of missile development.<sup>8</sup>

Finally, but unquestionably foremost, are those who point to the potential cost of the weapon. They accurately observe that including

research, development, testing, evaluation, procurement, and ten years of operation and support, the cost comes to approximately \$100 million per copy. And there are variables. The cost of the tunnel for the trench-based version could fluctuate by a factor of ten (between \$500,000 and \$5,000,000 per mile), depending on whose estimates one accepts. Perspective may also be gleaned by observing the weight of some of the machinery involved—the MX transporter, when loaded, is apt to be in the 700,000-pound category.<sup>9</sup>

However, two caveats deserve consideration, and the first relates to the cost of strategic weapons. In terms of the overall defense budget, the direct cost for strategic weapons is only 10 percent of the total. If indirect expenses are added, this percentage rises to between 15 and 20 percent, depending on what is included. By any reasonable standard that is not an insuperable sum.<sup>10</sup>

Beyond this, it should also be remembered that in terms of the ability to pay for defense, the Soviet Union possesses a gross national product (GNP) that is no more than two-thirds that of the United States. Yet the Soviets are reputed to be spending a minimum of 13 percent of this smaller GNP on defense, as contrasted to the approximately 4.9 percent consumed by the United States. Most amazing is the fact that little more than a decade ago, in 1964, the United States was able to afford 8.2 percent of its then GNP for the purpose of defense.<sup>11</sup>

From this it would be safe to conclude that the United States is easily able to increase that limited portion of its defense budget that is devoted to strategic armaments. If it does not, then it will be because it *will not*, not because it cannot.

But this is a minor consideration, the salient caveat is the second: Is the system necessary for the nation's defense? At this juncture the answer would appear to be yes, based on the realization that the nation's strategic needs have increased by a whole order of magnitude as a result of decisions taken by the Soviet leadership several



months after the 1972 Strategic Arms Limitation Talks (SALT I).<sup>12</sup>

These decisions radically altered the Soviet approach to civil defense measures (CDM), and it is greatly feared they have given or will give the Soviet Union the capability to survive a nuclear war. Some experts maintain this is impossible, but these critics have rarely bothered to evaluate the effects of hardening, dispersal, evacuation, and sheltering on industry and population damage estimates.

Briefly, what the Soviets plan to do in a period of impending crisis is evacuate their civilian populace to the agricultural regions surrounding the major urban centers. Here they will dig by hand simple shelters to protect themselves not from nuclear bursts, which will detonate as much as 67 miles away, but from whatever danger fallout may pose.<sup>13</sup>

At the risk of oversimplification, the Soviets intend to reduce the urban density of their nation. They intend to reduce it from the approximately 21,000 persons per square mile to be found in the Moscow area, to roughly 190 persons per square mile. Instead of 50 percent of the Soviet population being exposed in a small fraction of 1 percent of the territory of the U.S.S.R., it will be dispersed in perhaps 27 percent of the territory of the nation. This would spread the populace over 2,000,000 square miles of target area, contrasted to the current figure of approximately 7500 square miles of urban concentration (the Soviet Union is a little more than 8,500,000 square miles in total area). Studies indicate that the results of this evacuation and sheltering process should reduce Soviet fatalities from over 100 million in an unrestricted attack to around 5 to 10 million.<sup>14</sup>

While the evacuation is proceeding, the Soviets intend taking additional steps to protect vital industry. Today, unhardened industrial structures, in typical circumstances, suffer significant damage at 2-5 psi and are completely destroyed at 10 psi. However, if the simple expedient of covering the machinery with a plastic sheet and heaping soil on it is adopted, the hard-

ness for many classes of industrial machines can be increased to at least 40 psi. If the additional step of covering the machine with crushable material (for example, foamed plastic or metal chips) is taken prior to the heaping on of soil and if the machine is mounted on more of the crushable substance, then the hardness of many types of industrial machines may be increased to as much as 300 psi. That would make them as hard as many contemporary missile silos.<sup>15</sup>

The impact of this process may be best appreciated by observing that today's Poseidon fleet is capable of placing some 2500 RVs on target at the rate of 40-50 KT per RV. Confronted by unhardened industry, this force should be able to destroy nearly 75 percent of the total industrial capacity of the Soviet Union. But when confronted by hardened industry, if these same 2500 RVs were concentrated on only the leading eleven urban areas, instead of the top 310 or so, the result would be a mere 50 percent rate of destruction to the approximately 20 percent of all Soviet industry contained therein, or 10 percent damage overall to Soviet industry. And this estimate further assumes that the industries in question were only hardened to withstand 40 psi.<sup>16</sup>

Of course, one must be cautious in dealing with such figures. If the same 2500 RVs were spread over all 310 major population centers with populations of over 50,000, approximately 35 percent of the overall industry would be destroyed because it would represent that portion of the aggregate that defied efforts to harden it.<sup>17</sup>

In contrast, the United States has no CDM programs worthy of the name. In their absence a Soviet force equal to about one-half of those 2500 RVs should prove adequate to destroy 30 percent of the population (over 65 million people) and approximately 75 percent of the industry. However, the total Soviet strategic inventory is so vast, that after any plausible American first strike, there would be adequate capability remaining to destroy not just 65 million but well over 100 million. This has been testified to be-



fore the Senate Armed Services Committee as recently as the 95th Congress first session. (See Part 10, page 6941.)

It is plain (or should be) that this imbalance must be overcome. The question is how? One very poor solution, that has been put forward in some quarters, is that the United States should adopt a policy of launch on evacuation. Under this dispensation, the moment American planners detect the mass evacuation of the Soviet urban masses and the accompanying industrial hardening measures, a full-scale unrestricted nuclear strike would be launched. These experts assume rightly that under such circumstances Soviet fatalities would run above 100 million, three-quarters of all industry would be destroyed, and the Soviet Union would cease to be a modern civilization.

The difficulty lies in the inescapable reality that in the wake of such a strike a similar fate would befall the United States. The option in question is really little more than a suicide option. In addition, when it is remembered that nuclear confrontation is only able to occur in a framework of political and diplomatic objectives, then these experts must ask themselves what political or diplomatic objective is worth committing collective suicide over. Is such a threat credible?

I feel that it is not. On analysis it would appear that a far more plausible outcome in a confrontation occurring under such circumstances would be a frenzy of negotiations culminating in a solution highly favorable to Soviet interests.

This looms as particularly plausible because it is to be doubted that anyone, the Soviets included, really wants to experience an unrestricted nuclear attack. It should always be borne in mind that whatever the fate of the land-based missile force or the manned bombers happens to be (more on this presently), those 2500 or so Poseidon-class warheads are capable of destroying up to 35 percent of the industrial

capacity of the Soviet Union, burning down utterly the 310 largest urban centers, or, alternatively, slaying more than one million inhabitants. Naturally, this general damage cannot be compared to the historic extinction that the United States would be confronted by, but, nevertheless, it is serious enough to imbue any group of rational leaders with a pause for reflection and a desire to negotiate rather than strike.<sup>18</sup>

Another measure that has been offered to solve the imbalance is that the United States should improve its CDM posture. This has much to recommend it because so much could be done to improve the current void. For example, studies indicate that the current Soviet fatality advantage of 10-1 (100 million American fatalities versus 10 million Soviet) could be reduced to 4-1 over a period of years. But there is another side to the equation. In order for the United States to equal the Soviet Union's CDM effort, the United States would have to become the Soviet Union.<sup>19</sup>

This means that the average citizen would have to undergo the same intense CDM indoctrination that the Soviet citizen undergoes from childhood, that the extreme regimentation of Soviet society would have to be imposed, and that industrial facilities would have to be constructed (or modified) to suit the imperatives of CDM and not the needs of economics. These suggestions are politically impossible to implement and philosophically abhorrent.

Consequently, a third solution might be attempted to offset the growing CDM imbalance. This solution could incorporate the belief set forward by Paul Nitze that 1500-2000 hard-target-capable weapons and 3000 megatons will overcome any CDM program the Soviets are capable of mounting. In short, the United States could improve the quality of the offense.<sup>20</sup>

Unfortunately, this will be neither easy nor inexpensive due to the type of weapon required to execute the mission. For example, consider the ballistic missile submarine (SSBN), whose capabilities were noted earlier in some detail.

What was not stated is the unpleasant reality that submarine-based missiles are inherently inaccurate, have virtually no hard-target capability, and are in the main small weapons possessing little megatonnage.

In the early 1980s an SSBN fleet consisting of 19 Lafayette-class boats armed with Poseidon, 12 Benjamin Franklin-class SSBNs armed with Trident, 10 Washington/Allen-class boats armed with Polaris, and 5 Ohio-class ships armed with Trident should be able to place an aggregate of 267 megatons on target if the older boats are: .75 available  $\times$  .9 survivable  $\times$  .815 missile reliable, and the Ohio-class boats are .9 available  $\times$  .9 survivable  $\times$  .815 missile reliable. Not only is this hopelessly inadequate but with the Trident-class SSBN up to \$1.4 billion per copy, there is simply no way anything resembling an adequate number can be purchased in a cost-effective manner. This is not to criticize the Trident program. Trident is an excellent general damage weapon. With its presumed high level of survivability, it should and will be the last line of defense if all other options fail.<sup>21</sup>

The manned bomber is the second component of the Strategic Triad. With the B-1 program canceled, this leg of the Triad's foreseeable future will lie in the hands of the aged B-52. This has led to considerable doubt being cast on bomber performance over the next decade, but, in spite of many justifiable complaints, the B-52 fleet would still appear to possess considerable capability.

Point in question: Many years ago Albert Wohlstetter estimated that on a given mission a bomber had between a 50 and 90 percent chance to survive, depending on how the offense and defense interreacted.<sup>22</sup> Today, it is assumed that the penetration capability of the manned bomber is high; .85 has been suggested in some of the open literature while .9 has been implied by certain select and authoritative sources. Certainly, that is destined to fall, but by the early 1980s there should still be a penetration rate of above 50 percent.<sup>23</sup>

But variables do cast doubt on the long-term

viability of the B-52 fleet. These include the number to be retained (today there are approximately 300 in the active inventory), the number that will be capable of answering an alert, the on-the-ground survivability of the system against dedicated SLBMs (possibly with depressed trajectory), the morale of the men who will be only too clear on the nature of the weapon they will be flying into battle, and, above all, the highly questionable nature of the cruise missile (ALCM).

The cruise missile deserves to be considered separately, not only because of the notoriety surrounding it but also because analyzing its effectiveness as a weapon typifies the problems encountered in assessing the manned bomber program. The cruise missile is a small pilotless drone, possessing extraordinary accuracy and, hence, hard-target capability. But it is also subsonic in speed, utterly devoid of all-important electronic countermeasures, and thus incapable of penetrating to high-value targets defended by sophisticated surface-to-air (SAM) weapons. Nothing could draw emphasis more clearly to the limitations of this system than to observe that the landmark Brookings manned bomber study and its chief detractors, the authors of the Joint Strategic Bomber Study (JSBS), both agreed that the cruise missile could not penetrate to the aforementioned terminally defended targets.<sup>24</sup>

More recently the specter of the barrier defense reared its head. It is possible that these defenses, consisting of modern interceptors and in-flight refuel aircraft, may be able to force the cruise-missile-carrying B-52s to stand off the coast of the Soviet Union so far (possibly 1200 NM) that their cruise missiles will not have sufficient range to reach more than 10 percent of all targets in the Soviet Union. It goes without saying that in this contingency the missile would be a virtually worthless weapon.<sup>25</sup>

Nevertheless, some estimate, however inexact, must be attempted, to allow the reader a look at the future of the manned bomber force. Therefore, if the entire active B-52 force of 316 units is retained, the basic equation might be:



1) 120 B-52G/H 200-KT ALCM  $\times$  20  $\times$  .67 crisis availability  $\times$  .95 ground survivability  $\times$  .815 missile reliability  $\times$  .2 missile penetrability. (This assumes that all B-52s armed with cruise missiles launch from beyond defenses and, thereby, suffer no attrition. It further assumes a very low cruise missile penetration rate based on the belief that a combination of barrier and terminal defenses should prove highly effective against a subsonic weapon. The .2 is derived from an earlier study done to evaluate the effectiveness of cruise missiles against warships.)<sup>26</sup>

2) 121 B-52G/H 200-KT SRAM  $\times$  6 + 1-MT bomb  $\times$  4  $\times$  .67 crisis availability  $\times$  .95 ground survivability  $\times$  .6 penetrability  $\times$  .95 weapon reliability.<sup>27</sup>

3) 75 B-52D 1-MT bomb  $\times$  4  $\times$  .67 crisis availability  $\times$  .95 ground survivability  $\times$  .6 penetrability  $\times$  .95 weapon reliability.

In terms of current force projections, that equals 797 hard-target-capable weapons and 388 megatons. Of course, improvements are possible, even if they are not currently planned. The least costly of these would raise the megatonnage carried by the B-52 force by replacing the current four one-megaton bombs with a single huge explosive, possibly in the twenty-megaton range. Such a device would weigh less than the current standard payload, which consists of about 21,380 pounds, or the SRAM (2230 pounds)  $\times$  6 and the one-megaton gravity bomb (approximately 2000 pounds)  $\times$  4 (space for penetration weapons would still be available). Under these circumstances, with all other variables held constant, the B-52 force would be able to develop 1472 megatons but only 320 hard-target-capable weapons.<sup>28</sup>

The final arm of the current Strategic Triad is the land-based missile force. Earlier it was noted that there is great fear that the existing force of 1000 Minuteman and 54 Titan II missiles will not possess much survivability in the decade of the 1980s. In fact it is feared that the current level of survivability (about 75 percent) will plummet to around 25 percent.<sup>29</sup>

Interestingly, even this dreary prospect is based on disputes over fractions. Will the new Soviet missiles have a .15 or a .1 NM CEP? How reliable will they be? Will they have 8 or 10 RVs?

Should these fractions turn against the United States, then there will not be 25 percent survivability in the ICBM force; it should be nearer 10 percent. Worse yet, in recent years estimates have tended to err on the side of optimism. A few years ago the huge Soviet SS-18 ICBM was expected to mount between 5 and 8 one-megaton RVs with a CEP of between .3 and .25 NM. Today, it seems the SS-18 will mount between 8 and 10 two-megaton RVs, with a CEP of possibly .1 NM.<sup>30</sup>

This would not appear to augur well for the future, and in fact by the early 1980s the United States should have a maximum of 540 hard-target-capable RVs remaining in the ICBM force with 294 megatons surviving a preemptive strike. On the pessimistic side, there would be about 215 surviving RVs with 115 megatons. Finally, in terms of striking at targets, that number would have to be further diminished to allow for degradation as some of the in-flight missiles malfunctioned.

Viewed differently, suppose that the Soviets decided to commit only their 300 SS-18 class ICBMs to the counterforce mission. Suppose also that they feared that one warhead detonating would destroy any other warhead aimed at the same silo (the "fratricide effect"). In such circumstances they would aim two RVs at as many silos as possible to ensure one successful burst (it is important to note that many experts believe that the "fratricide effect" can be overcome; hence, this is a very primitive mode of attack). Under these conditions the attack pattern is seen at the top of page 35.<sup>31</sup>

Several caveats need observing. First, while this equation represents a sound probability, many factors can vary either to increase the effectiveness of the attack or subtract from it. For example, if virtually everything that could go wrong for the Soviets did, then about .623 of



Classification	Number/ Warhead Package	Reliability	SSKP	CEP
Basic Force	200 SS-18 (2 MT x 8)	.8	.98	.1 NM
Variables	Reliability Variable:	.8 = .65 - .9		
	Burst Variable:	2 MT = 1.7 - 2.5 MT		
	SSKP Variable:	.98 = .77 - 1.00		
	CEP Variable:	.1 NM = .15 - .08 NM		

Classification	Number/Warhead Package	Reliability	SSKP	CEP
Basic Force	100 SS-18 (20 MT x 1)	.8	1.00	.1 NM
Variables	Reliability Variable:	.8 = .65 - .9		
	Burst Variable:	20 MT = 15 - 25 MT		
	SSKP Variable:	1.00 = .995 - 1.00		
	CEP Variable:	.1 NM = .15 - .08 NM		

Classification	Number	Hardness (psi)
Basic Force	1054 U.S. Silos	2000
Variables	Hardness Variable:	2000 psi = 1000 - 2500 psi

**Standard Equation:**

100 20 MT x 1 = 1.00 x .80 = Kills = 80

646 2 MT x 2 = .98 x .96 = Kills = 608

308 2 MT x 1 = .98 x .80 = Kills = 241

1054 Kills = 929 Percent Killed = .88  
Survive = 125 Percent Survived = .12

he American silos would be destroyed, leaving 376 intact. If a median is struck between that and the standard equation, it would roughly equate to a .75 rate of destruction. Second, if additional favorable factors are added in, the rate of destruction could rise to the .955 range. Third, if everything went right that possibly

could, then even .955 would be inadequate to record the impact of the strike. Therefore, it seems reasonable to conclude that the rate of destruction for American silos in the early 1980s may be cautiously estimated at between .75-.9.

In summary, the United States should be able to depend on the following in the early 1980s:

Number	Type	Warhead Package	Hard Target	Megatonnage
300	Minuteman III	350 KT x 3	90 - 225	32 - 79
250	Minuteman III	170 KT x 3	75 - 188	13 - 32
450	Minuteman II	1 MT x 1	45 - 113	45 - 113
54	Titan II	5 MT x 1	5 - 14	25 - 70
304	Poseidon	40 KT x 10	-----	67
160	Polaris	200 KT x 3	-----	53
312	Trident	100 KT x 8	-----	147
			215 - 540	382 - 561

Number	Type	Warhead Package	Hard Target	MT
121	B-52G/H	200- KT SRAM x 6 + 1- MT bomb x 4	439	229
120	B-52G/H	200- KT ALCM x 20	249	50
75	B-52D	1-MT bomb x 4	109	109
			797	388

Grand Total = 1012 - 1337 770 - 949

In light of the foregoing chart, it would seem reasonable to assume that the strategic forces of the United States will be in serious need of upgrading in the early 1980s unless the strategic balance is to be allowed to deteriorate utterly. In view of that, with the B-1 bomber canceled and the Trident submarine a general damage weapon, there is no realistic time-sensitive choice except the MX.

Should the White House approve this program, the MX could begin to enter the inventory in the early 1980s. Admittedly this would require a commitment to increase the speed of the program because the initial operating capability (IOC) has reportedly slipped from 1983 to 1987. But once the MX began to enter the inventory, it could make its presence felt immediately.

Even the small purchase of 250 missiles adds a very considerable capability because Soviet force levels are finite, and though, by the early 1980s, the Soviet ICBM force will be large, its capabilities will have limitations. For the sake of discussion, consider the following to be the Soviet land-based missile force in the 1980s.<sup>32</sup>

Number	Type	Warhead Package	Hard Target	Megatonnage
100	SS-18	20 MT × 1	100	2000
200	SS-18	2 MT × 8	1600	3200
340	SS-19	1 MT × 6	2040	2040
180	SS-17	900 KT × 4	720	648
100	SS-16	1 MT × 1	100	100
280	SS-X (?)	10 MT × 1	280	2800
1200			4840	10,788

**Note:** the SS-16 is a land-mobile missile. Whether it will be counted under SALT II ceilings is not clear since it has not been deployed, but only stockpiled. It is also not clear if the current stockpile figure of 100 represents the final number to be purchased. Therefore, this estimate could vary.

If we assume that the MX was purchased with sufficient survivability to enable it to withstand the full force of a notional Soviet ICBM attack (with sufficiently long trenches or a sufficient number of aim-points) to the degree of 70 percent, the Soviets would find themselves in an awkward position. They could attack the MX force with all of their available ICBMs and destroy 30 percent of it, but in so doing they would

be compelled to leave the older 1054 missiles untouched.<sup>33</sup>

In contraposition, they could destroy between 75 and 90 percent of the older force, but, in this instance, they would find it necessary to consume, at the minimum, all of their large SS-18 class missiles if they desired to place two RVs on most of the older 1054 silos. Therefore, at the very least, the Soviets would be committing 1700 RVs from their 4840 aggregate, leaving 3140 for the MX attack. Under such circumstances they should be able to destroy 10 to 15 percent of the MX aggregate with the low end of the spectrum held plausible, since some missiles would probably be held in reserve.

At this point the type of warhead package deployed aboard MX assumes special significance. Should a large single (10 MT) RV be incorporated on all 250 MXs, there would be 2500 initial megatons in the force, and 1750 remaining after a maximum Soviet attack. Negatively, there would be only 250 hard target RVs in the initial force and 175 after the aforementioned strike.

Juxtaposed, should DOD choose to maximize hard target RVs (150 KT × 14), then the initial

force would dispose 3500 warheads, with 2450 surviving. Negatively, only 525 megatons would exist in the initial force, with approximately 368 surviving. Of course, DOD could always opt for a mix, since the U.S. strategic force for the early 1980s needs improving in terms of both hard-target-capable weapons and megatonnage.

Should such an overview be adopted, and were it to be combined with the earlier sug-

gested alteration to the manned bomber force, then under the worst plausible circumstances .1 of the Minuteman/Titan and .9 of the MX force surviving) the result might be:

more were purchased (145 if 125 of the first 250 had single warheads and verification proved possible), bringing the U.S. total to 820 ICBMs with MIRVs, then some of the current 550 Min-

Number	Type	Warhead Package	Hard Target	Megatonnage
125	MX	10 MT × 1	113	1130
125	MX	150 KT × 14	1575	236
250			1688	1366
Number	Type		Hard Target	Megatonnage
1054	ICBM		215	115
776	SLBM		- - -	267
1830			215	382
Number	Type	Warhead Package	Hard Target	Megatonnage
120	B-52G/H	200-KT ALCM × 20	249	50
181	B-52D/G/H	20-MT bomb × 1	71	1422
301			320	1472
<b>2381</b>	<b>Grand Total</b>		<b>2223</b>	<b>3220</b>

If SALT II has a ceiling in the 2250 range, some small reduction in the suggested force may be necessary.

Naturally, caution must be displayed. The force envisioned in these pages would have little redundancy. Conventional wisdom in recent years has insisted that any two arms of the Triad be able to execute the entire mission. Palpably, this would not be possible in the envisioned scenario where the synergism among the arms of the Triad would just barely be adequate.

To overcome this, additional MXs could be purchased. They could be deployed in one of two ways: 1) as additional weapons in trenches of their own, or 2) as reloads for the initial 250 launchers (keep in mind that MX is to be a "cold-launched" weapon, hence, a launcher could fire a second round). This last-named mode would certainly save on cost because no additional aimpoints or launchers would have to be purchased, while the exact number of missiles to be deployed could be made contingent on the perceived strategic needs of the day and on SALT considerations.

Regarding SALT, it should be observed that reloads do not count against proposed ceilings. On the other hand, additional launchers would have to be counted, and if more than twenty

uteman IIIs would have to be retired or converted to single headed Minuteman IIs. In any event, there is no problem.

Three minor, though important, points should be considered. First, though some may not be fond of this system, the truth is that when ICBMs are survivable they are the most cost-effective of strategic systems because extremely high alert rates (in excess of 90 percent) can be maintained indefinitely. Second, and of still greater importance, they are able to make an immediate response to any threat and destroy any target because of their high accuracy. Third, they are constantly under the control of the national command authorities, unlike, for example, the SSBN, which is difficult to communicate with while submerged.<sup>34</sup>

IN CONCLUSION, it might be observed that the Soviets are on the verge of destroying the balance of power through massive acquisition of new weapons and CDM capability. Oldish American strategic forces, in some instances purchased as much as two decades ago, simply



must be upgraded to prevent this from occurring.

The B-1 is gone; the SSBN is a fine general damage weapon but no more than that. The answer, then, would seem to lie in the MX, which is the only option available in real-time to redress this growing imbalance. It is an expensive weapon, of that there is no doubt. However, if

America is to continue her role as a first-class power, some capability must be purchased. Weapons from the Eisenhower and Kennedy eras simply cannot be expected to perform ad infinitum. The choice for America is plain—purchase the MX or adopt the status of a second-class power.

New Rochelle, New York

#### Notes

1. *The Military Balance 1977-1978* (London: International Institute for Strategic Studies, 1977), p. 77; Clarence A. Robinson, Jr., "Minuteman Production Defended," *Aviation Week & Space Technology*, January 19, 1976, pp. 12-15.
2. Clarence A. Robinson, Jr., "MX Deployment Urged for Parity," *Aviation Week & Space Technology*, December 5, 1977, pp. 12-15; Edgar Ulsamer, "U.S. Strategic Deterrence at the Crossroads," *Air Force Magazine*, December 1977, pp. 42-49.
3. U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 1, Authorizations*, 95th Cong., 1st sess., 1977, p. 549. Hereafter referred to as *Senate Armed Services, Part 1*.
4. U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 11, Research and Development*, 94th Cong., 2d sess., 1976, pp. 6341, 6353. Hereafter referred to as *Senate Armed Services, Part 11*.
5. Robinson, "MX Deployment Urged for Parity," *Aviation Week & Space Technology*, December 5, 1977; *Strategic Survey 1976* (London: International Institute for Strategic Studies, 1977), p. 107; "Treaty on Peaceful Nuclear Explosions," *Survival*, July/August 1976, pp. 179-81.
6. OME is the abbreviation for one-megaton equivalents. It is a unit of measurement favored by many physicists because it reduces the value of the nuclear blast to a value nearer reality. When the blast occurs, much of the energy is released in close proximity to ground zero. Accordingly, a 27 MT burst does not equal 27 one-megaton bursts but rather 9. This is derived by reducing the value to its two-thirds power. Therefore,  $3 \times 3 \times 3 = 27$ ,  $3 \times 3 = 9$ . For KT values move the decimal point two places to the left (64 KT = .16 OME,  $4 \times 4 \times 4 = 64$ ,  $4 \times 4 = 16$ ). Note, this formula does not hold true for fallout, which is directly proportional to the size of the burst at the rate of 100 pounds per megaton.
7. Bernard Weinraub, "Pentagon Aides Say Moscow Has Mobile Missiles Able to Reach U.S.," *New York Times*, November 3, 1977.
8. *Senate Armed Services, Part 11*, pp. 6427, 6433-34; Colin S. Gray, "The Future of Land-Based Missile Forces," *Adelphi Papers*, Winter 1977, p. 32.
9. *Senate Armed Services, Part 11*, pp. 6346-49, 6430; *Senate Armed Services, Part 1*, p. 549.
10. U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 2, Authorizations*, 95th Cong., 1st sess., 1977, p. 1523. Hereafter referred to as *Senate Armed Services, Part 2*.
11. *Senate Armed Services, Part 1*, p. 38; U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 1, Authorizations*, 94th Cong., 2d sess., 1976, p. 446; "Soviet Defense Cost Higher, CIA Says," *New York Times*, May 23, 1976, p. 1; U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 1, Authorizations*, 95th Cong., 2d sess., 1978, p. 510.
12. George Kolt, "The Soviet Civil Defense Program," *Strategic Review*, Spring 1977, pp. 52-62.
13. U.S., Congress, *Hearings before the Joint Committee on Defense Production, Defense Industrial Base: Industrial Preparedness and Nuclear War Survival*, 94th Cong., 2d sess., 1976, p. 182. Hereafter referred to as *Defense Industrial Base*.
14. *Ibid.*, pp. 182, 204, 209; *Senate Armed Services, Part 2*, pp. 834-36; Geoffrey Kemp, "Nuclear Forces for Medium Powers, Parts 2 and 3. Strategic Requirements and Options," *Adelphi Papers*, Autumn 1974, pp. 23-26.
15. *Defense Industrial Base*, pp. 89-93.
16. *Ibid.*, pp. 182-83.
17. *Ibid.*, p. 212.
18. *Senate Armed Services, Part 2*, p. 867.
19. *Ibid.*, p. 893.
20. Paul H. Nitze, "Deterring Our Deterrent," *Foreign Policy*, Winter 1977, pp. 195-210.
21. Kemp, pp. 6-7; Ian Bellamy, "The Essential Arithmetic of Deterrence," *The Royal United Services Institute for Defence Studies*, March 1973, pp. 28-34; U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 10, Research and Development*, 95th Cong., 1st sess., 1977, p. 6624; U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 5, General Procurement*, 95th Cong., 2d sess., 1978, p. 4264.
22. A. J. Wohlstetter, T. S. Hoffman, R. J. Lutz, and H. S. Rowen, *Selection and Use of Strategic Air Bases* (Santa Monica: The Rand Corporation, 1954), p. 20.
23. Alton H. Quanbeck and Archie L. Wood, *Modernizing the Strategic Bomber Force, Why and How* (Washington: Brookings Institution, 1976), p. 65; Clarence A. Robinson, Jr., "Congress Presses Strategic Changes," *Aviation Week & Space Technology*, October 10, 1977, pp. 16-20.
24. Quanbeck and Wood, pp. 75-80; U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 5, Authorizations*, 94th Cong., 2d sess., 1976, p. 2933, hereafter referred to as *Senate Armed Services, Part 5*; Norman Polmar and D. A. Paolucci, "Sea-Based 'Strategic' Weapons for the 1980s and Beyond," *United States Naval Institute Proceedings*, May 1978, pp. 98-113. In the future this lack of ECM may be overcome by improvements in the system, it might even be possible to develop a two-stage ALCM that would have the first stage act as a decoy after releasing the second stage, which would carry the warhead to the target.
25. Clarence A. Robinson, Jr., "Carter Warned on Soviet Nuclear Advantage," *Aviation Week & Space Technology*, November 7, 1977, pp. 18-21.
26. Arnold M. Kuzmack, "Where Does the Navy Go from Here?" *Military Review*, February 1972, pp. 37-51; Polmar and Paolucci, pp. 98-113; *Senate Armed Services, Part 5*, p. 2933; U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 9, Research and Development*, 95th Cong., 2d sess., 1978, pp. 6815-22.
27. "Weapon Advances Raise B-52 Capability," *Aviation Week & Space Technology*, May 10, 1976, pp. 132-35.
28. Ted Greenwood, George W. Rathjens, and Jack Ruina, "Nuclear Power and Weapons Proliferation," *Adelphi Papers*, Winter 1976, p. 5; U.S., Congress, Senate, *Hearings before the Committee on Armed Services, Part 9, Research and Development*, 95th Cong., 1st sess., 1977, p. 6077; Nitze, loc. cit.
29. Drew Middleton, "Pentagon Wants to Buy over 200 Mobile Missiles," *New York Times*, May 9, 1977, p. 16.
30. U.S., Senate, *Congressional Record*, August 5, 1977, p. S14072; Herbert Scoville, Jr., "MIRV Control Is Still Possible," *Survival*, March/April 1974, pp. 54-59; Clarence A. Robinson, Jr., "Soviets Boost ICBM Accuracy," *Aviation Week & Space Technology*, April 13, 1978, pp. 14-16; *Senate Armed Services, Part 5*, p. 3940.
31. U.S., Congress, Congressional Budget Office, *Counterforce Issues for the U.S. Strategic Nuclear Forces*, January 1978; SSKP = single shot kill probability; CEP = the circle drawn around a target within which 50 percent of a given number of RVs will fall; Variables reflect three values: the most plausible level apt to be achieved in a large number of launches, a lower confidence level of 90 percent, and the upper limit apt to be achieved in a large number of launches. Therefore, a missile with .8 reliability for its most plausible level of performance in a large number of launches has a .65 lower 90 percent level of confidence, and an upper limit reliability of .9.
32. Robinson, "MX Deployment Urged for Parity," *Aviation Week & Space Technology*, December 5, 1977, loc. cit.; "Subs Raise SALT Observation Question," *Aviation Week & Space Technology*, April 3, 1978, p. 17.
33. *Senate Armed Services, Part 11*, p. 6430.
34. Daniel J. Fink, "Strategic Warfare," *Science and Technology*, October 1968, pp. 54-68; *Senate Armed Services, Part 10*, p. 6682.

*"While the challenge of the presidency has grown more complex and difficult, the authority of the President as a leader has diminished..."*



## WHAT HAPPENED TO LEADERSHIP IN AMERICA?

DR. CURTIS W. TARR

**D**URING the turmoil of the 1960s, balladeer Pete Seeger sang a haunting melody, "Where Have All the Flowers Gone?" I recall once having heard him add a verse, "Where have all the heroes gone?" Although much of the turbulence of that day has passed from the American scene, many Americans would still join the folk singer and ask, "Where have all the heroes gone?"

In order to explore that question in a slightly altered context, leadership in America, I will review some of the qualities of leadership, the changing role of political leadership in America,

and the nature of authority. This discussion applies primarily to political leadership, but much of it will also apply to leadership elsewhere in American life.

### Qualities of Leaders

First let us consider some qualities of leaders. On the accompanying chart, I have listed leadership qualities for a few historic figures. I hope that this small cross section of notable people is representative. Each person considered was so much his own character that it is difficult to speak about them in comparative terms. Their

### Leadership Qualities



Pericles



Alexander



Julius Caesar



Charlemagne

	Pericles	Alexander	Julius Caesar	Charlemagne
<b>life span</b>	ca. 495-429 B.C.	356-323 B.C.	100-44 B.C.	742-814
<b>age at first major responsibility</b>	34—leader of Athens democratic party	16—left in charge of Macedonia	32—chosen quaestor	28—king of Neustria
<b>appearance</b>	odd-shaped head	handsome, athletic	tall, keen eyes	tall, strong, stately
<b>communicator</b>	orator	brilliant speaker	orator and writer	fluent
<b>military</b>	general who understood sea power	conquered most of known world	extended and consolidated empire	extended Frankish Empire to Elbe
<b>marriage</b>	divorced; lived with Aspasia	many wives	many wives and lovers	several wives
<b>intellect</b>	student of Damon, Reno, Anaxagoras	student of Aristotle	taught by tutors	unlettered; founded palace school



lives remind us of Emerson's summation in "Self-Reliance," "every true man is a cause, a country and an age; requires infinite spaces and numbers and time fully to accomplish his design; and posterity seems to follow his steps as a train of clients." Each person on our list was Emerson's "true man."

Nevertheless, we do find similarities in their lives. Each one had a unique appearance. Although most of them were tall, Napoleon was quite short, and Pericles had an unusual head. We cannot overlook the influence of appearance on charisma, but we must admit that charisma

is a most complex human characteristic. More than the others, Alexander and Caesar led by personal force, attacking the enemy with boundless energy and courage. Yet each of these leaders practiced leadership through personal presence. Elizabeth exerted great dominance over her subjects, as did Caesar, Napoleon, and Washington.

None of them had what Americans traditionally have considered an ideal marriage. Elizabeth never married, but instead she took England for her "husband." Pericles divorced his wife when he thought her unfaithful, and then he



Elizabeth I



Washington



Napoleon I



Lincoln

1533-1603	1732-1799	1769-1821	1809-1865
25—queen of England	21—carried ultimatum to French in Ohio	24—commander artillery at Toulon	25—elected to Illinois legislature
tall, comely, with beautiful hands	tall, stocky	short	tall, strong, awkward
fluent	writer	forceful writer and speaker	debater and writer
avoided wars in Europe; defeated Armada	Commander, American Forces	greatest European commander	captain in Indian Wars
none	married a widow	two wives	stormy
brilliant student of Roger Ascham	educated by half brother	average student, avid reader	self-taught lawyer

could not marry the courtesan Aspasia because of a law he earlier had proposed; but Aspasia, an intelligent woman, became Pericles's teacher as well as his companion, causing some to suspect that she wrote the Funeral Oration, that we remember from Thucydides. Alexander chose wives for political purposes, once marrying the daughter of King Darius in a mass-ceremony where fourscore of his officers took Persian wives in the hope that these arrangements could unite Greeks and Persians into a world empire. Caesar was a rake before he became a statesman. Lincoln's marriage to Mary Todd apparently yielded a minimum of bliss punctuated by stormy encounters. As one reviews the marriages of leaders, one wonders if a normal relationship is possible in competition with the demands of a political leader's career.

Each one of these people had significant youthful responsibilities. Yet it is only fair to say that, of this illustrious group, Lincoln and Caesar were notably late bloomers. Lincoln exhibited few of his gifts for leadership during his early years, even as a congressman. Caesar shifted from being a brilliant and irresponsible critic to becoming the leader of an empire, displaying qualities in maturity that were not evident in his youth. Washington lacked the ambition of the others, accepting responsibility thrust upon him rather than reaching for it. Alexander, Charlemagne, and Elizabeth were monarchs in their twenties.

Each one of these leaders was an excellent communicator, from Pericles and Caesar, who influenced their times by their oratorical skill, to Lincoln the great debater. Some wrote extremely well, particularly Caesar, who is remembered best for his commentaries on the campaigns in Gaul. Washington is least remembered for his speaking style, but we remember his written speeches; perhaps this is partly because he did not have a forum for oratorical development such as those which Pericles, Caesar, and Lincoln enjoyed.

A leader need not have military experience, even though the chart includes many of the great

commanders of all time. Elizabeth never saw a battlefield and did her best to isolate England and augment national strength by avoiding entanglement in European wars; however, this policy changed when the Spanish tried to invade Britain. Lincoln, although a frontier volunteer, did not rely on military credentials. Nevertheless, we see that the times of each were dominated by military events. It may be that wars and rumors of war condition people to more compliant roles as followers than do less anxious circumstances.

Intellectual curiosity motivated each leader. Great among teachers was Aristotle, who helped to shape the life of Alexander. Although unlettered (he spoke well but never learned to write), Charlemagne nevertheless helped to revitalize learning in Europe by founding the palace school with the assistance of Alcuin. Elizabeth learned her Latin well enough so that at age 64 she answered the Polish ambassador's bombastic speech with a torrent that astonished him and the listening court; she knew Greek, and she was as fluent in Italian and French as she was in English. Napoleon, an average student at a military school and graduating 41 out of a class of 51, became an avid reader, spending nights in his campaign tent engaged in study and thought.

Finally, a political leader has the support of the masses. Both Pericles and Caesar cultivated this support by choosing democratic rather than aristocratic parties, which would have been their more natural associations. Alexander was adored by his soldiers. Napoleon became the man of the people, carrying the democratic principles of the French Revolution throughout Europe. Washington, a born aristocrat who maintained the trappings of the good life, nevertheless won the support of most Americans after they had renounced obedience to an English king. Lincoln gained support—he desperately needed it or the nation would not have survived—but we must remember that the nearly unanimous praise for him is the blessing of history rather than of the time in which he lived.

## Political Leadership in America

Each of these people relied heavily on personal presence for leadership. We Americans continue to seek a personal association with our presidents; in fact, the politician has such an intuitive awareness of that yearning that he cannot easily forego travel throughout the land to speak before audiences and shake the hands of admirers. Nevertheless, the presidency largely requires administration now rather than personal involvement in each detail. The president today is torn between the need to inspire people by direct acts (usually through his speeches) on the one hand and the need to administer a vast bureaucracy on the other. Let us consider some of the changes in the machinery of government that have made the presidency such a difficult challenge.

The United States is larger than any area governed directly by the leaders discussed, and it is much more populous. It is true that Alexander conquered most of the known world, but he delegated the responsibility for governance to others from whom he received only sporadic reports. The same was true of Caesar and Charlemagne. Napoleon delegated substantial powers when he began his invasion of Russia.

The bureaucracy in the United States has grown since the early nineteenth century; some would add that it has burgeoned alarmingly. In 1816, the executive branch had 4479 civilian employees; when Lincoln took office, that number had grown to 36,106; Theodore Roosevelt had 231,056 employees in his bureaucracy; whereas his distant cousin Franklin began with more than twice that number, 592,560. By contrast, President Nixon took over responsibility for 2.9 million civilian employees in the executive branch and an even greater number in the armed services, when he came to Washington in 1969. If Emerson is right, that the institution is the lengthened shadow of the man, still it would require a superb force of character and a long tenure in office to shape the federal bureaucracy after the personality of the president.

Nevertheless, we often assume that the president is the boss as soon as he takes office; certainly his antagonists charge him with the responsibility carefully to supervise numerous minions.

Not only has the bureaucracy grown much larger but the president's life has become incredibly complex. Let us look first at the ability of modern man to communicate: all problems anywhere are known everywhere almost immediately. Alexander left Greece when he was 20 and never returned; he gained his news from messages that often must have seemed irrelevant to him. Management from afar then was impossible. But modern communication makes it possible to issue commands within minutes of an event occurring on the opposite side of the globe, or on the moon. George Washington relied on voice commands and written messages; President Carter utilizes an elaborate worldwide communications network in the State and Defense Departments to issue specific instructions to our diplomats and military commanders.

Communications also inform and alarm the people. Distant campaigns in the ancient world had little effect on the masses. Today we can watch tragedy develop on television. Could Lincoln have continued the war against the South if the people of the nation had seen the carnage of Gettysburg on television?

Consider, also, how transportation has changed the presidency. Charlemagne on the Elbe could not have returned to Aachen to respond to any immediate crisis. But President Carter can travel halfway around the world and visit the heads of state in several nations on a long weekend. Because the means of transport make these miracles possible, we expect our leaders to perform them.

Other aspects of the technological revolution have further complicated a modern president's life. The typewriter began to diminish the leader's force of personality because people who received presidential letters could not be certain how involved the chief executive had been in their preparation. Carbon copies led to the



spread of information that grew with duplicating machines: every office in the bureaucracy could have a copy. The process jumped out of control with xerography.

Now it is virtually impossible to keep anything in the government confidential if there are those in the bureaucracy who do not agree with the reason for making it so; dozens of copies of a top secret cable usually are printed in the State Department. It is common in Washington now to place "bootleg" copies of correspondence or reports into the hands of the recipient before the original is signed. If the sender dislikes the content and asks that it be changed, some "uncorrected" copies still may have been placed in hostile offices of the bureaucracy, or with congressional committee staffs, or sent to newspaper columnists who then will write about a mysterious report strangely muzzled by the administration. So we have traveled a long distance from the time when Elizabeth studied the defeat of the Spanish Armada based on handwritten reports by her Sea Dogs who commanded the English fleets.

The issues that a president faces also have grown more numerous and complex. Let us consider the resistance movement in Eritrea against the government of Ethiopia. All people everywhere who are revolted by war naturally are concerned. But specific groups have much at stake as well. Neighbors eye suspiciously the military dictators of Ethiopia, encouraged and armed by the Soviet Union. Even more warily they view the considerable presence of Cuban troops and advisers. Arab states naturally are concerned not only because of their brothers in Somali but also by growing Soviet presence in the region. The Sudanese watch carefully the developments around Asmara, near their eastern border. Black Africa is troubled by the incentive that these disputes offer to the major powers for intervention. The U.S. and our NATO allies naturally view with concern a developing problem near Saudi Arabia. Finally, in the climate of the Strategic Arms Limitation Talks (SALT), each of the superpowers views

the other wherever one might lend assistance or participate directly as the Cubans have done with Soviet encouragement.

Yet, where does Ethiopia fit on President Carter's daily calendar? Of course, he is concerned. But he is forced to worry much more about the budget he has just submitted, the fate of energy legislation, his proposed tax cut, inflation and the state of the economy, unemployment, the crisis in the Middle East and Iran, the workings of a new Congress, his campaign for reelection, his new initiative with China, and a plethora of other events. Nevertheless, President Carter certainly is expected by the press to react intelligently to questions about Ethiopia and every other stress point on the globe, and one ill-advised word could cause him and our nation immediate difficulty.

The nation has grown, the bureaucracy has grown, and the complexity of the burden has grown so that most issues must be handled administratively and not by the personal intervention of the president. But the American people still demand a personal leader, and in grave times a hero, who is attractive, speaks brilliantly, responds to every barbed question with wit and wisdom, tours the country so that vast numbers of Americans can associate with him and takes the time to be an ideal father and a lively husband.

While the challenge of the presidency has grown more complex and difficult, the authority of the president as a leader has diminished.

### The Nature of Authority

Only half of leadership relates to the qualities of the leader and the situation he inherits and is expected to command; the other half is the degree to which people are willing to follow. Let us now look at the nature of authority. People do things because doing them is better than refusing to do so; in other words the enjoyment of compliance outweighs the pain.

Let us suppose that the president asks someone in his administration to do something. Will that person do it?

Although the subordinate consciously will not analyze the matter as I do, his actual motivation might be complicated by some of the following considerations. Tradition urges him to comply: people in his job previously have done so; in fact his job probably was established to accomplish what the president wants. The law may require that he follow orders. His training may have been oriented to help him carry out the order. He may worry that he will lose responsibility if he refuses, or he may not receive a promotion. He may have a strong sense of cooperation, of wanting things to go smoothly in his office; he is a natural team player who desires the administration to be a success, who wants ours to be a great nation. His wife may want him to do what the president asks, so that she can tell the members of her bridge club what her husband did so well. His friends similarly may want to associate with someone faithful to the president. And so the list may be extended almost indefinitely.

But note that for each of these considerations there also may be counter forces encouraging refusal. Tradition may not be so strong; perhaps the president has never before asked someone in that job to do that act; or perhaps the job is new and there is no tradition. The law may be fuzzy on the point, or there may be some constraints to compliance. The subordinate may not be well trained to do what the president asks. He also may be a civil servant who has no fear of losing his job. Perhaps he is more proud of being an individual than he is of being a team player. He may have no interest in the success of the present administration; in fact, he may hope that the president fails to be reelected. His wife may be as independent as he is, and his friends, what few he can count, care nothing for the president's achievements. So there may be factors encouraging refusal as well as compliance. Increasingly, people are concerned for their own personal convictions more than they are for what might be expected of them.

At one time in the affairs of men, the fear of reprisal dominated all other considerations and

virtually ensured compliance. None of the leaders we studied earlier could possibly have coped with the present situation on compliance and the legal constraints on the leader without a thorough course of indoctrination. My guess is that part way through the course the leader willingly would have returned to history! Furthermore, in a growing bureaucracy and a changing society, tradition has lost much of its force. As I consider the factors urging cooperation with the president, I cannot see any motivations that have grown in strength recently, whereas many are weaker.

So President Carter no longer can assume that the members of his administration or the people of the nation will have the same allegiance to him or the respect for his office that once prevailed. This situation is not all bad; certainly the presidency is correspondingly more responsive to the people. But the presidency is weaker as a result. In a very real sense, our traditional leaders have passed into history, the job has become much more complicated, the nation is less easily governed, and thus the chances that one person will emerge to quicken our spirit and perform credibly are greatly diminished.

One must ask if the job is any longer possible as once it was. I believe it is possible to give strong leadership, but no longer is it possible in the way most of our people expect.

I have waited until the last to emphasize a most important point, the morality of the leader. Plutarch wrote of Pericles:

The source of this predominance was not barely his power of language, but, as Thucydides assures us, the reputation of his life, and the confidence felt in his character; his manifest freedom from every kind of corruption, and superiority to all considerations of money.

In his essay "Heroism," Emerson wrote: "The essence of greatness is the perception that virtue is enough."

We want virtuous leaders; in fact we demand them. But we as a people must live lives that will produce virtuous leaders. America will be a great nation if we are a great people. If we are

not a great people, by any standards that we may apply to being so, then we cannot expect to overcome what we are by choosing leaders—heroes, if you will—to save us. Perhaps we always have had the leadership we deserve.

SEVERAL years ago in the *New York Times*, columnist William V. Shannon wrote:

Can democracy survive if common moral values are leached away by a popular culture that endorses violence and self-indulgence? Can there be political heroes if there are no cultural heroes? If the old institutions continue to lose their legitimacy and fail to be renewed, can society find sufficient

cohesion and authority in national advertising and television talk shows? Is the fact that we all drink the same beer and watch the same programs enough to keep us moving together as one people? It is on this deepest level that there is cause for pessimism. In our communities, in our schools, and most of all in our family life, we must renew the moral capital upon which freedom depends. If we are once again to have a politics of decency and generosity, we must cultivate those virtues in every sphere.

To answer the question, "What has happened to leadership in America?" we must ask "What has happened to the American people?"

Moline, Illinois

Legislators who are of even average intelligence stand out among their colleagues. Many Governors and Senators have to be seen to be believed. A cultured college president has become as much a rarity as a literate newspaper publisher. A financier interested in economics is as exceptional as a labor leader interested in the labor movement. For the most part our leaders are merely following out in front; they do but marshal us the way that we are going.

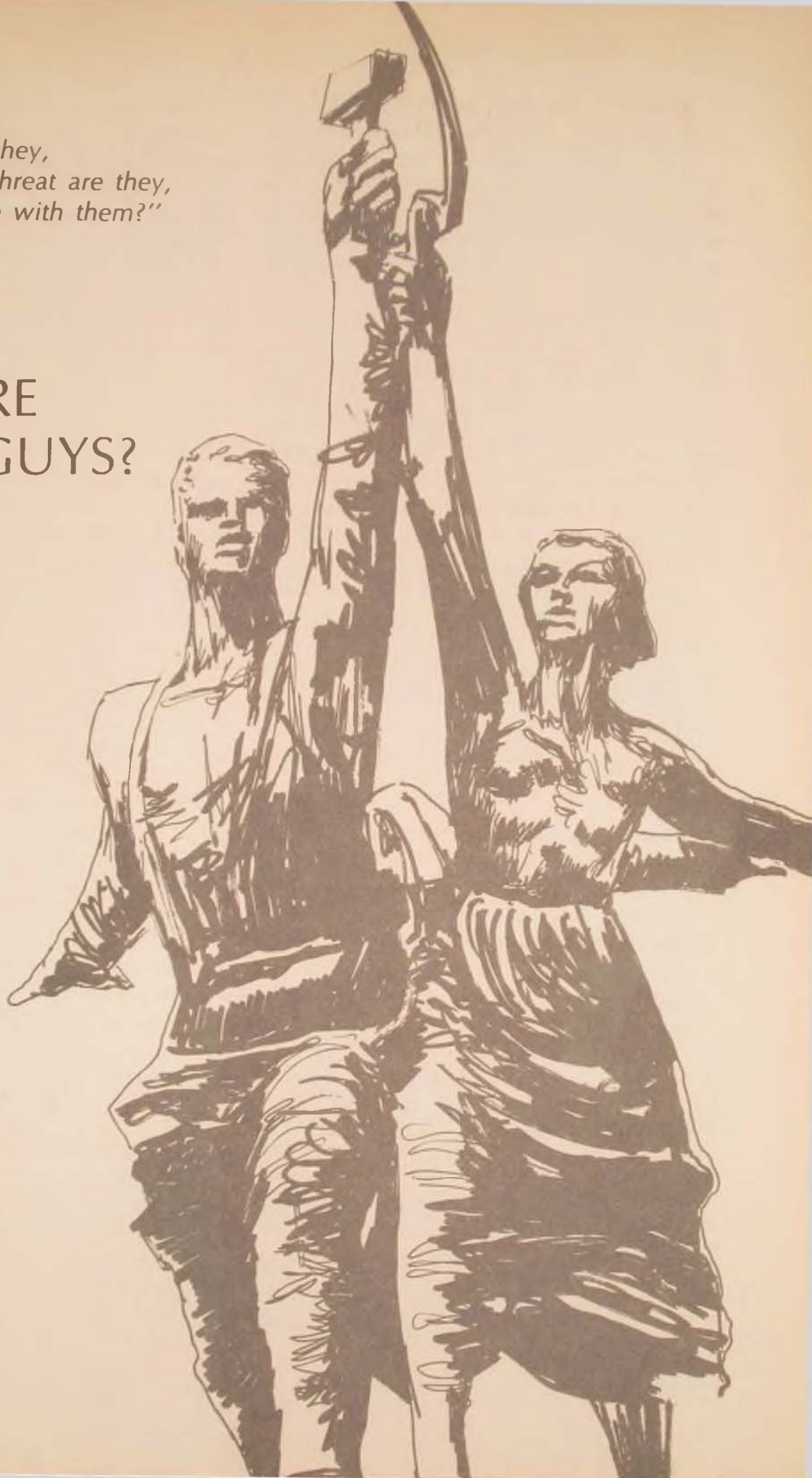
Bergen Evans, *The Spoor of Spooks and Other Nonsense*, 1954



*"How good are they,  
how much of a threat are they,  
and can we cope with them?"*

## WHO ARE THOSE GUYS?

DONALD L. CLARK



TODAY, America finds itself in a situation similar to that of Paul Newman and Robert Redford, when as Butch Cassidy and the Sundance Kid they were on the run; and no matter which way they turned or what trick they used, they found their pursuers still hot on their trail. Staring at their harassers, they moaned: "Who are those guys, anyway?" The U.S. security establishment has also tried many strategies—*détente*, cold war, massive retaliation, flexible response, assured destruction, volunteer forces, a draft, increasing and decreasing percentages of military expenditures from our gross national product (GNP), and, indeed, even military intervention—yet we, too, look around only to see our pursuer still on our trail, just behind, and today, some would say, overtaking, if not already having overtaken, us.

Cassidy and the Kid almost committed suicide to escape their foes. Will the U.S. have to do the same? Will we, too, be forced to such desperate remedies and jump off the ridge into a raging river without knowing how to swim and trust the Lord to rescue us miraculously? Our cult heroes survived their wild exploit, but, remember, it proved merely the beginning of their end.

Their persistent stalkers were the forces of law and order and a sinister, corporate-paid private detective. If one can believe the reams of information pouring forth from the media, America's never-ceasing and equally sinister adversary is the U.S.S.R. and, specifically, its military power.

The purpose of this article is to examine Soviet military might, in perhaps a different way, and answer the question, "Who are those guys?" As Redford stated his query, the "who" has a deeper meaning than simple identification. The question really means: How good are they, how much of a threat are they, and can we cope with them? These are precisely the questions I will address.

This will not be one of those numerical comparisons. Studies of this kind are about a dime a dozen now and have glutted the market. Some

of them are quite good.<sup>1</sup> However, I believe such studies are often misleading and relatively irrelevant to the gut issues: How good? How much of a threat? Why are they as they are? And can we cope? Thus, this article will not compare percentages of GNP devoted to weapons, defense, and research; numbers of strategic launchers or warheads; numbers of divisions; ratios of combat to support; equivalent combat units; equivalent megatonnage; readiness measurements; throw-weight; or even numbers of available youth at the military age.

Why? Partly because, as noted earlier, such comparisons are readily available. But, more important because such data have lost their relevance when one compares the superpowers of the '70s; additionally because so much of it is simply noncomparable and only leaves the observer thinking it should tell him something, but he is not sure exactly what. This is why we hear such widely diverse conclusions about U.S./Soviet military power, even when the comparisons are made by assorted groups of very intelligent and reasonable people. There is a tendency to be too scientific, to try to reduce value judgments to quantifiable terms and let the judgment then be more objective. But I argue that military force comparisons must go beyond numerical listings and include informed subjective analysis.

Before leaving numerical comparisons, however, something should be said about numbers of strategic weapons because there is a magic number somewhere that nations need to become true superpowers while beyond that number, I believe numbers are only important as they affect perceptions of power.

#### *the strategic equation*

By strategic forces I mean intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), strategic bombers, cruise missiles, and antiballistic missiles (ABMs).<sup>2</sup> In 1964 I began preparations for a tour of duty at the U.S. embassy in the U.S.S.R. At that

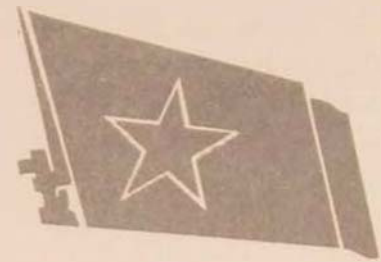
time, the U.S. had a clear-cut strategic superiority over the U.S.S.R., a significant quantitative and qualitative advantage that few disputed. In 1968, when I returned from the U.S.S.R. and before SALT I began, the U.S. still had a measurable, if declining, lead in all categories,<sup>3</sup> but that lead was no longer significant, exploitable, or meaningful. Since then the Soviets have seized the quantitative advantage and lessened the U.S. qualitative lead in at least many categories of comparison, but in spite of their enormous expenditures of investment (money, resources, and manpower), in my opinion, they have not accomplished a meaningful, effective change in the 1968 power relationship. This, I posit, is the most significant fact of the nuclear era: *Once a nation acquires a certain level of strategic nuclear capability,*<sup>4</sup> it has "conclusive capability"; additions or quantitative improvements by that state or its adversary(ies) will not change that fact. Today the U.S. and U.S.S.R. have, and the People's Republic of China (PRC), United Kingdom (U.K.), and France nearly have, those sufficient numbers. This is a meaningful accomplishment and well worth the magnitude of the costs. It is not mere entry into the nuclear club or the increased shot at a U.N. Security Council seat (note the PRC only got her seat after she had nuclear weapons) that makes it all so worthwhile. It is the deterrence. One clear fact revealed by the short history of nuclear weapons ("nukes") is that no nation that has acquired an operational system has ever seriously had its borders attacked by another nation, in spite of provocation or temptation.<sup>5</sup>

What all this means to the U.S./U.S.S.R. balance and particularly to the question "Who are those guys?" is that somewhere around 1965-67 the U.S.S.R. became a nuclear superpower. Additions to that nuclear force have added to their prestige, their trappings of world power, and created a perception of more near equality with the U.S.; but they have not significantly changed the real strategic balance, and *balance* is the right word. We and the U.S.S.R. are now, and were by at least 1967 for all practical pur-

poses, equal nuclear powers, and the addition by one side or the other of even 500 or so more launchers or warheads or multiple independently targetable reentry vehicle (MIRV) or maneuverable reentry vehicle (MaRV) capability<sup>6</sup> will not effectively change that parity, equity, or balance to a degree that would enable either of them to feel free to use nuclear forces or allow them an advantage politically that could force the other down. We are both now deterred, and that is why *détente* has been and is inevitable and why both nations have as their undebatable number one goal the avoidance of a nuclear war with one another.

---

*"Once a nation acquires a certain level of strategic nuclear capability, it has 'conclusive capability'; additions or quantitative improvements by the state or its adversary(ies) will not change that fact."*




---

The only way the U.S. or the Soviet Union can effectively change that fact of equity would be either through some revolutionary technological breakthrough (e.g., a new kind of and actually effective ABM that makes one side immune to nuclear attack, an effective death ray, etc.), or for the other to opt out of the game and over the years phase out its nuclear strike force. Neither of these alternatives, as an exclusive achievement, looms very expectantly on the horizon today. As a result of the strategic mix and the numbers involved, plus the possibility



of launch on warning, all discussions of first strike are merely exercises in theory. In the nuclear art of today, first strike is simply not a plausible alternative. Even if one side or the other were 90 percent sure it could seriously weaken the other side via a first strike try, the 10 percent doubt caused by only theoretical knowledge of nuclear war and the launch on warning possibility and degree of holocaust a miscalculation can cause is still sufficient deterrence.<sup>7</sup>

So it is my hypothesis that "those guys," in the strategic arena at least, are clearly our equal. We did not allow or cause this state by any failure to take precautions,<sup>8</sup> by any niggardly attitude toward defense expenditures, or by any diplomatic failure. It was their decision to become our equal, and, in the nuclear game and today's state of technology, all it takes for many advanced states is that commitment to expend the effort. There are numerous other countries that can, if they so decide, also accomplish this task.<sup>9</sup> The PRC will soon be at that level and cannot be stopped—it is too late to prevent her by preemptive attack. The U.K. and France are, for all practical purposes, in the range also. Neither we, the Soviets, nor apparently a nuclear nonproliferation treaty (NPT) signed by over 100 states can change this fact. Even that possible technological breakthrough would offer only a limited time advantage, so it is best we learn to live with this changed fact of life in the nuclear age—that individual national strategic nuclear superiority is now a most unlikely possibility. But I argue this is not bad; it forces us to work more carefully together to avoid nuclear war and to try to understand and cope with the growing world interdependence and lessening ability for any one state to dominate.

#### *GNP comparisons*

The other area of statistical overkill being foisted on thinking America is the attempt to reach conclusions based on comparisons of costs of defense or defense research, either as totals in

rubles or dollars or as percentages of national effort as reflected by the GNP. I have read numerous such studies,<sup>10</sup> each seemingly more efficiently done than the last, but I always arrive at the same conclusion: They really do not tell us much about the Soviet military or the Soviet potential or threat. Rubles and dollars are not comparable, and trying to transfer U.S. costs to Soviet effort, or vice versa, produces only theoretical results, not convincingly accurate or meaningful ones. The ruble has no accurate exchange rate via Western currency; and, due to an entirely different concept of secrecy and reporting, we have no accurate way of determining what the Soviets mean when their budgets record broad categories with some defense connotation. I admire the men and women who have grappled with this insoluble dilemma, and I have been impressed by the logic of their patchwork solutions; but, alas, none of them has convinced me that there is a way to determine how good the other guy is or what threat he offers, potential or real, by saying that he spends more or less rubles or dollar equivalents on defense than we do. What really counts, it seems to me, is not how much he spends in investment (money, resources, and manpower) but what he gets for that expenditure and how and why he perceives his need and use for these products.

The Soviet production system is operated with incredible inefficiency; this is lessened in high priority industry but still exists. I contend that official Soviet data on production and costs are basically based on millions of little lies, and any relation to the truth is purely coincidental. Unfortunately, many U.S. analyses of Soviet capability are also based on this faulty Soviet data. Additionally, actual costs in the U.S.S.R., if known, do not predict the quality or quantity of the output.

According to a Soviet friend, a Leningrad concern that produces a highly technical generator contracted to build and install one for a scientific institute in Novosibirsk. As usually happens, even on high priority projects, the enterprise cannot complete the contract on time because

of a shortage of required materials from elsewhere. Failure to meet plan dates looks bad, so management meets and contrives a way to transfer blame. They realize transportation from Leningrad to Siberia is at best slow and usually slower due to foul-ups and mismanagement. They conclude that the recipients in Siberia, once told the shipment is on the way, will blame the failure of arrival on the transport industry. So Leningrad sends a message to Siberia, "Project completed, en route such and such date." Leningrad management pats itself on the back for its ingenuity and relaxes. The Siberian management, however, is also experienced in the

learn of tank fiascoes or to get to know the defense industry better and learn that a small item like the cost of beautiful color brochures is included in defense contract expenditures, even if not line-itemed in the contracts. Dollar for dollar, our investment cannot translate directly to weapons output either, but I trust expenditure-to-product ratios are clearly more relatable here than in the Soviet Union and not comparable. Thus, we should not be concerned with what percent of their GNP they put into the military, for it may well be that a 10 percent effort on our part exceeds our needs and supplies excellent equipment, while a 30 to 40 percent investment of theirs is still inadequate, or, of course, vice versa. Instead, we should be concerned with what their military has and how that relates to their strategy and tactics as they, not we, see them.

I will broadly assess the historical background, social status and national influence, strengths and weaknesses, the perceived need, and the grand strategy of "those guys." My purpose is to offer the reader a better understanding of them and, therefore, their comparability to the military force of the U.S.

#### *historical background*

In 1917, Lenin took over a distraught country, and his government was reckoned to survive no more than 90 days. Sixty years later, if there is one force that has carried the Communist party of the U.S.S.R. through all its travail, one must seriously consider giving that credit to the Red military. Lenin gave away huge chunks of former Russian territory in order to survive and stop the Germans in World War I. The Red military gained most of that territory back before, and all of it after, World War II. Few will dispute the fact that the Red military made possible the East European commonwealth and that it remains a loyal Soviet commonwealth today, more due to the actual presence or proximity of that oft-committed military force than for any other reason. In the brief 60-year history of the

---

*"We are both now deterred, and that is why détente has been and is inevitable and why both nations have as their undebatable number one goal the avoidance of a nuclear war with one another."*

---



Soviet game of "lie to achieve." They receive the eagerly awaited message, recognize there will be a transportation delay, and decide to get a jump on the system by sending a message after a few days: "Generator arrived, send installation team." This is Catch-22, Soviet style, and it is not an isolated case but merely everyday life in the U.S.S.R. <sup>11</sup> One simply cannot judge Soviet success based on investment in any comparable way with a U.S. or West European industry.

Not to be one-sided, I should note that U.S. expenditures also can be quite misleading about our military product. One needs only to listen to a select few of the "60 Minutes" shows to



U.S.S.R., "those guys" have played a truly significant role. In fact, they secured the revolution from within and without and spearheaded the expansion of the U.S.S.R. into what it is today. As a result, it is not hard to imagine that the leaders of the Communist party of the U.S.S.R. hold their military in especially high esteem and show a deep appreciation for the advantages of significant military power. The Red military can appropriately be entitled the "defenders of communism."

### Who Leads Whom?

This brings us to one of the most debated questions about the Soviet military. If they have played such an important role in the development of the world's first lasting communist state and are so appreciated by the political leadership, how much clout do they have with that leadership? In fact, who leads whom? There have been numerous articles written on this subject, and, as a student of Soviet military affairs for years and a close observer of the Soviet scene, I find myself agreeing with those who conclude that the military leadership is under effective control of the party.<sup>12</sup> Frankly, however, I can understand why the opposite conclusion continues to persist. The Soviet military and its war machine, when compared with civilian counterparts and the civilian consumer industry, simply fare so well that one concludes the military have a favored status. They do. But the critical issue is why? I believe the answer is that political leaders recognize the advantages—indeed, in their minds, the absolute necessity—of considerable military might and a relatively contented military leadership. The politicians are aware of and often indebted for their current status to the same historical facts that I have so briefly summarized here. The military have pulled the fat out of the fire for the political leaders several times, and the nation has prospered both politically and economically by maintaining a large and well-equipped military force. Still, one is hard pressed to find

a time when the military-preferred solution to a problem has overridden a party-preferred one or where a military need has prevailed over a political one, while counter examples are common enough:

- The Soviets deployed only one small ABM system and then abandoned the concept.
- In 1967 a new draft law went into effect reducing the amount of time a draftee must spend on active duty, in spite of an obvious military preference that in this era of technological dominance draftees should serve longer, not shorter, terms. The political side of the argument was that Soviet youth, like most youth in the '60s, were proving to be a difficult problem, and one way to mitigate their rebelliousness was to put more of them on active duty, separated from friends and family and under tight discipline without the additional cost inherent in substantially increasing the total size of the military.

*"In the brief 60-year history of the U.S.S.R., 'those guys' have played a truly significant role."*



- Marshal Grechko's death was followed by the appointment of a civilian to the Defense Minister post. I cite this merely as an additional fact of the continued and steady subordination of the military. Even when military men Zhukhov, Malinovsky, and Grechko served as Defense Minister, most Sovietologists now believe they were subordinate to the civilian and Politburo candidate member, Dmitri Fedorovich Ustinov.<sup>13</sup> Ustinov apparently chaired or was a



key member of the defense committee chaired by Brezhnev or Khrushchev, and his ideas and arguments were the ones most respected by the Politburo then and now. He is not only Defense Minister but also a full member of the Politburo.

• In SALT I the politicians facing the possibility of a Moscow summit without a significant agreement included SLBMs in the agreement, probably unnecessarily, and forfeited a chance for the Soviet navy to continue in one of the few directions in which it had every advantage over the U.S.<sup>14</sup>

The leaders of the Communist Party of the Soviet Union (KPSS),<sup>15</sup> the Politburo power bloc, appear to have clear control and domination over the Soviet military; however, by choice they take good care and are considerate of the military needs of the U.S.S.R. because all of them have a cultural and historic appreciation for the importance of a powerful military force. Many of them have close ties with the current military leadership or military allegiances based on their World War II experiences.

*But are "they" influential?*

Concluding that there is civilian control of the Soviet military, however, may not be as meaningful as one would hope. Few argue that the U.S. government does not have civilian control over the military, but many argue that the influence of our military on the civilian leadership is excessive. In the U.S.S.R. this is a much more difficult area to analyze. The Soviet military does influence the Politburo decision-makers. Certainly, there is an active, albeit informal, lobby of military men and men in power posts who rate military needs more important than others and constantly argue in favor of priorities and expenditures that favor national defense over agriculture, consumer goods, arms control, and détente fostering decisions. However, in my judgment, as in the U.S., they sometimes win and sometimes lose, even though they are almost always heard.

Still, if one can accept the fact, as most So-

vietologists do, that the Politburo and the Central Committee of the party are the key bodies in the U.S.S.R. decision-making apparatus and the Council of Ministers the key organization for carrying out those decisions, one must conclude that official military influence on decision-making is relatively minor. Today, there are no military men represented on the Politburo, and there has been no more than one military member at any time in recent years. The Central Committee, which theoretically (and only theoretically) chooses the Politburo and has on a few isolated occasions overruled the Politburo, averages about 15 military members (under 10 percent), and several of them are old-time war heroes who hold the honor without any current influence.<sup>16</sup> Still, this official representation on key bodies could be considered to offer the Soviet military leadership more entrées into their decision-making bodies than the U.S. military has into ours. No U.S. active duty military man is in Congress or on the cabinet (the Politburo is in some ways similar to the U.S. cabinet but the Central Committee much less an equivalent of our Congress). Still, this ignores the fact that our system uses the National Security Council (NSC) in a way quite similar to Soviet use of the Politburo and its committees and that our cabinet and NSC together greatly influence top decisions<sup>17</sup> but still fall far short of the power of the Politburo. In the U.S., the Chairman of the Joint Chiefs of Staff (JCS) sits on the NSC and represents the corporate body of all the service chiefs. Supporting him is a very effective staff effort from the Joint Staff and their coordination with the service staffs. On each of the committees of the NSC there are military representatives, and it is the studies of those committees that form the basis of U.S. security decisions by our civilian leaders. There is military input at every level. I have worked in this system, and although I must rate the success of the military as erratic depending on the issue, I believe the opportunity for military influence in the U.S. to be quite high and well accepted in principle.

I have not sat in on the Soviet version of their defense council nor, of course, Politburo meetings. I have, however, talked with Soviet civilians and military who have been involved in their foreign and defense policy apparatus and have read material on such subjects reflecting the little precise knowledge we do have.<sup>18</sup> This all leads me to the conclusion that, overall, the U.S. military probably has better opportunities, consistently provided by formal mechanisms and procedures, to influence national decisions than do our Soviet counterparts. I am totally convinced that military members of U.S. delegations, such as SALT and MBFR, have more clout on the delegation decisions and recommendations than do their Soviet military delegate counterparts,<sup>19</sup> partly because of a freer mix of responsibilities. Our military men are usually involved in all aspects of the issue, while Soviet operations tend to restrict their military to military-related input only. In summary, I conclude that the appearance of great influence by the Soviet military on national decisions is usually exaggerated. In the U.S.S.R. the political leaders take care of the military well but do not pay undue attention to their advice and will decide against that advice with little hesitation.

#### *social status*

If, however, the U.S. military have more opportunity to influence national decisions than their Soviet counterparts, they have to take a subordinate position to "those guys" in relative social status. As a young Russian woman once summed it up for me, "A Soviet officer is a hell of a catch." The controlled media of the U.S.S.R. are obviously under constant instructions to glorify, laud, and support the high status of the Soviet military professional and the temporary draftee. Consistent with the aforementioned "defenders of communism" status, Soviet society is constantly told that the socialist military is different from the historic Russian military forces and their western and capitalist counterparts of today. They are representatives of the

people, the working class, and allegedly only in service to the people. In this service capacity, they receive privileges similar to those of party members (most officers are members or quasi-members of the party) and important officials. Officers of captain rank or higher usually have a car and a driver; their pay, although low compared to the U.S. scale, is higher on a comparative basis with the rest of their society. It is quite a complicated system and thus hard to cite a simple rank for rank comparison. It includes base pay, responsibility pay, longevity and education pay, and generous fringe benefits that exceed the sometimes-criticized fringe benefit

*"On each of the committees of the NSC there are military representatives, and it is the studies of those committees that form the basis of U.S. security decisions by our civilian leaders."*



package for our military; e.g., 45-day vacations annually versus 30 for U.S. and a better but later retirement. It is the intangibles, though, that could make military life in the U.S.S.R. more appealing than in the West. Many Soviet soldiers, for example, have noted to me how they are not bothered by the "militia" (Soviet police) or even the Commission of State Security (KGB)—agencies most Soviet citizens are generally quite concerned about. Military officers are also more likely to receive duty assignments outside of the U.S.S.R. and thus have freer access to better consumer products and foreign currencies. These can be and often are parlayed into considerable profit.

Thus, high social status, generous benefits,



and responsive and respectful treatment by the political leadership mean that the U.S.S.R. military can attract high caliber men (and a few women) into its ranks. There are more than 100 military schools in the country,<sup>20</sup> and attendance at one is considered a plum leading to a more comfortable, respected, and privileged life. There are also some apparently excellent technical schools and advanced professional schools the military can attend—education both within the military and elsewhere is one of the best passports to success. All this is a definite plus for the Soviet military: high prestige and privileges translate into good people with high morale and effectiveness on the job.

### The Special Status of the Plan

Here let me interject a discussion that, on the surface, may not appear to be directly concerned with "those guys." Americans generally do not recognize that one of the fundamental differences between Soviet and American societies is the impact of "the plan" on the U.S.S.R. By "the plan," I refer to the five-year plans and their revisions that guide the development of the U.S.S.R. This plan is all-encompassing and all-consuming. It is not only the contract that determines how many guns, tanks, and missiles will be built but in fact covers almost everything in Soviet society—from paper clips to ice cream cones, from maternity wards to restaurants. Nothing is built, no resource extracted, no employee hired unless covered by the plan. The plan shares a spot along with Lenin's works as the holy scripture of the U.S.S.R. This plan has a definite impact on the Soviet military and the machine they operate. The plan is produced and, more important, approved (read blessed) by the leaders of the party. If the plan calls for something at this location, it must occur; if the plan says the something will do such and such, it must do it, and if it does not, it behooves all to pretend it does.

Translated into military terms, this means, for

example, that an aeronautical institute, once called for by the plan, will exist and operate almost in perpetuity. A Soviet official could decide that the air age has passed by, but, in the same breath, he would be most hesitant to say that a research institute established by the plan to build airplanes is no longer needed and does not need funding to design new planes next year, too. That might be interpreted as saying the plan was or is wrong, which means that one thinks the leaders either are or might previously have been wrong—a most unhealthy attitude. So, the military benefits, albeit maybe in only the short term. Soviet tanks roll off the assembly line year after year, partly due to plan infallibility and momentum. Let us call it the "plan syndrome." In the past decade or so, Western analysts have often noted how the Soviets try out and fly military aircraft after aircraft, seemingly several each year, while the U.S. adds only one or two every several years. Is this a clear sign of greater Soviet interest in military things, or is it a reflection of the "plan syndrome"? Once an aircraft development institute is created in the U.S.S.R., it is in business. The design team has guaranteed employment and seemingly guaranteed and gradually increasing funding for its efforts. The initial creation may accurately reflect the Soviet leadership's interest in air power, but its continuation and its far more frequent product appearance springs to considerable degree from the plan syndrome. It is there, therefore it must be needed; it employs people, so it must produce something, and things cost more as the years go by, so give it more. The enterprise has no requirement to produce so many in order to make a profit, and the only incentive to sell to its Air Force or an airline is the prestige that comes from success. But if there is no success this year, just design more next year.

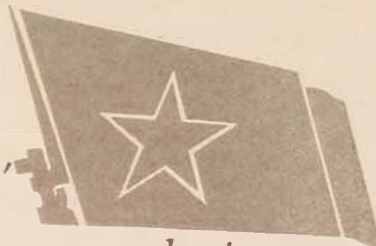
This practice creates a kind of stability for Soviet designers and their military consumers that their Western counterparts surely must envy, but it does not, as is often portrayed, accurately reflect a Soviet decision to achieve



military superiority over all. Many of the aircraft are never produced operationally, although more are than the West matches. The syndrome effect is felt across the spectrum of production, design, etc. But it is not a total blessing; more and more Soviets are questioning their inability to examine sunk costs and back out of something no longer needed or perhaps never needed. In 1968 the Soviets even allowed a movie on this theme, "Sovremenik" [The Modern Man], and, alas, as in real life, the film had a sad ending—the infallibility of the plan survived and wasted a few more million rubles while the career of the modern man who questioned it was ruined.

---

*" . . . military members of U.S. delegations, such as SALT and MBFR, have more clout on their delegation decisions and recommendations than do the Soviet military . . . partly because of a freer mix of responsibilities."*



Soviet warehouses are full of shoddy or unneeded consumer goods the people will not buy and do not need. As noted earlier this is caused both by the lies and inefficiency combined with the plan syndrome. But the military are more consuming than consumers; they often relish the oversupply and are not as thrifty with their resources. They will make use of this supply by adding more tanks or armored vehicles per unit, more training equipment, more exhaustible supplies to expend in maneuvers, etc. But, of course, even some of the military recognize that this steady momentum and difficulty, if not inability, to turn off a certain spigot is sometimes

wasteful and often gives them more than they need of one item while preventing acquisition of some other modern and perhaps more needed piece of equipment that, as yet, has not made it through the bureaucratic mess into the plan. Thus, partly because so many things and so much investment are already in effect and are so difficult to stop, the Soviets still often seem behind in quality if not quantity.

#### *the strategy*

Before we can finally evaluate the Soviet military, we need to have a more accurate feel for what they perceive as their needs rather than what our experts think they need. To do this, first, we need to try to conceptualize, both theoretically and from the facts available to us, what grand strategy the Communist leaders of the U.S.S.R. are attempting to follow.

One is tempted to believe that since planning is so important to communism and impacts so much on Soviet society that, unlike us, they must have it all carefully written down somewhere—a grand national strategy with pros and cons for each alternative, a final accepted strategy, or perhaps different ones to follow on a set timetable. How neat that would be, but all my efforts to learn of such a plan have failed to hook even a nibble. I am afraid the truth is that they are, after all, not much better at the game than we are and that no such revealing document exists. In 1969 I wrote an article on Soviet strategy for the '70s,<sup>21</sup> and now, after eight years of the '70s have passed, I am more confident about the accuracy of my description of their grand strategy of practice, if not design, than I was when I wrote it. I called it a policy of *détente/expand*. *Détente/expand* matches their obvious long-term goals effectively; in fact, it has been quite successful. In brief, *détente/expand* means the Soviets will follow policies that, on the issues the West (and especially the U.S.) consider important, will lead to a reduction of tensions, accommodation, peaceful coexistence, etc.—essentially a no-risk policy. But, on the other

hand, on those issues they judge to be on the periphery of Western (U.S.) interests, they will feel free to exert their growing ability to influence and even cautiously export military pressure and power. In describing the "expand" leg of détente/expand in 1969, I indicated that I would expect the Soviets, by around the mid-70s for the first time, to apply military force in some part of Africa to influence the outcome of a struggle for power. The Angola and Ethiopian operations fit the prediction quite well. In fact, I am less surprised by the fact they supplied force than by their conservative, cautious manner; they continued to use proxies (Cuba this time) to do the actual fighting. I have long felt the most apparent Soviet international trait has been conservatism, but their African act reveals this conservative bent to be even stronger than I had thought.

Détente/expand is an ideal strategy for the Soviets if their leaders' goals are (1) to stay in power, (2) to avoid war with the United States, (3) to maintain control of the Eastern Europe commonwealth and buffer zone, (4) to attain military economic parity or better with the United States, (5) to enjoy economic growth via access to greater technological skill, and (6) to acquire greater worldwide influence. I list them in an approximate order of priority based on Soviet actions internally and externally as well as on a perusal of what Soviet leaders say. As we go down the list, the priority order is less reliable; I would place "to achieve a Soviet-dominated Communist world" far, far down the list. Détente/expand as a strategy explains Brezhnev's emphasis on détente via agreements and negotiations like Helsinki, MBFR, SALT, the Berlin agreement, etc., yet, the dichotomy of Angola and Soviet expansion into the Middle East and Africa (Yemen, Somalia, Ethiopia, and Uganda).<sup>22</sup> It also indicates, however, that a war in Europe or even direct confrontation with the U.S. is something to be avoided. Supporting the détente/expand strategy choice is an underlying and rather sophisticated Soviet understanding that relaxed tensions favor the U.S.S.R. and its

goals accomplishment. Why threaten Western Europe and arouse their and America's fear and ire when together they overmatch the U.S.S.R. and then some and when history shows that when aroused they consistently outdo the Communists? On the other hand, relaxation of East/West tensions tends to split U.S. and European interests, lessens their willingness to spend money on defense, and opens the door for Soviet access to what the West has and the U.S.S.R. needs—technological know-how and machinery. War, on the other hand, risks failure on so many of these top objectives, and, even if carried out successfully, probably destroys the very thing (the technology) the U.S.S.R. would most likely hope to gain from it. Additionally, relaxed tensions increase pressure to reduce the U.S. presence in Europe. The Soviets like to point out to West Europeans the inevitable fact that someday the U.S. will go home, but the U.S.S.R. will always remain only 400 miles away.

#### *conventional force*

If the U.S.S.R. wants to avoid war with the U.S. and seeks perhaps only to increase political influence over Europe and access to Western technology in the future, then why a 4,000,000-man armed force, why 840,000 men in Central Europe, why all those tanks, airplanes, guns, missiles, rockets, armored carriers, and more and more coming that are better and better?<sup>23</sup> Because this, too, fits well with détente/expand. To the Soviet view—and I rather suspect every informed observer's view—détente, at least equal treatment in détente, is possible only if you are indeed an equal of those you want détente with. Furthermore, expand on the periphery is possible only if your borders are secure and you are a big enough threat so that no one dares to push you around or to pick a fight with you over an issue not really vital to them. In perhaps simpler terms, the U.S.S.R. leadership has studied history and noted that great powers—Rome, Greece, Great Britain, and the U.S.—all developed very large military forces



more modern than those of their potential foes and always capable of being exported to far away places effectively.

In addition, when we talk in conventional military terms (all but strategic), "those guys" have a need that they perceive, perhaps irrationally, but nonetheless "real" to them, which we simply do not share and include in our evaluation of their need. The U.S. is surrounded by friends or, if one is more bluntly valueless in judgment, weaker nation-states that offer no threat at all. The U.S.S.R., on the other hand, shares a 5000-mile, sometimes-disputed border with the nation-state that is her greatest rival in their special Communist world and a nation from which once erupted a force that conquered and dominated what is now the U.S.S.R. for 300 years.<sup>24</sup>

Furthermore, as noted earlier, the Soviet presence in Eastern Europe is objectively evaluated as at least as much to hold onto Eastern Europe as it is to threaten the West. All those Eastern Europe nations have been enemies and have provided the route for invasions from West European foes. Additionally, they are surrounded by U.S. forces, which, with the French, British, and Japanese (again allies), at the inception of Communist rule in the U.S.S.R., invaded Soviet territory and sided with their opponents.<sup>25</sup>

And, finally, another reason for all those numbers is a reflection of the plan syndrome. After World War II, extremely large Russian forces were needed, not only to occupy and hold but also to counter U.S. potential domination via our nuclear possession. Most Soviets I know will strongly make the case that the only reason the U.S. did not dictate terms to them or even attack with our atomic advantage in the late forties and the fifties was that the huge Soviet ground forces in Eastern Europe held Western Europe as their counterattack hostage. It is not important whether that is true. It is important that they believe it to be true and that it set a precedent, now perpetuated by the plan syndrome, for far larger forces in Eastern Europe than Western

analysts believe are necessary only to assure the peace. Additionally, one needs to be aware of the Soviet inferiority complex and the irrational estimate of the forces of opposition resulting from that complex.<sup>26</sup>

When the Communists took over in 1917, no one, apparently including themselves, really thought they would long survive. This was perhaps nurtured by the Russian cultural inheritance; Russians always seemed to be the weak sisters of Europe. They had everything the others had, and even more, but always seemed to bungle it some way and remain the most backward, least important, and least effective. Also, the Communist takeover was at least in part expected to fail because it represented such a small portion of Russian society. Yet, somehow—and this is not the place to deal with that fascinating story—the Communists prevailed. They prevailed while almost always appearing on the brink, always threatened from within and without, always barely surviving the predicted disasters. All this shaped a strange psychosocial ailment that infects the Soviet leadership and many of their citizens to this day. They try to hide it with grandiloquent claims of fantastic success. They sound like the Mohammed Ali of the world environment, always shouting, "We are the greatest!" Nevertheless, it always rings insincere and comes across not as if they are the greatest but as people who want to be as great as the rest but who somehow know everyone else judges them as less so. Yet in the silence of their back rooms, before going to sleep at night, one suspects they seriously doubt even their equality, much less their superiority.

The result is a kind of paranoia that impels Soviet leaders to acquire more and more military might and more and more world influence. For years they have shouted, "We are number one in everything . . . (and soon we'll even equal America)!" Their goal for so long has been to be able to say, "Look, world, we are as strong or stronger than America." That desire dominates their thinking, controls their international negotiations, and determines the acceptability or



unacceptability of so much that they do. A trade agreement with the U.S. is a clear and high Soviet priority; yet, when virtually won via détente/expand, it had to be rejected.<sup>27</sup> Not because the Soviets were not willing to let more Jews leave the U.S.S.R.—that decision had already been made—but because the U.S. Congress tried to make it a public and notable part of the agreement, and that would make the Soviets appear inferior. That was and is unacceptable. The realities of a SALT, MBFR, or a Helsinki agreement are far less important, or at least can be overridden by the cosmetics, if they enhance the world view of Soviet equity or, even better, superiority over the U.S. This equity or better attitude clearly dominates Soviet bargaining positions. One has to conclude that this is an inferiority complex, and that complex fuels the Communists' need to keep improving and keep inordinately large Soviet military forces.

*"The Soviet military, like all others, reflects its society, and in the U.S.S.R. this means advancement to important positions of only the safe ones—the most conservative, noninnovative, nonchallenging individuals."*



And this psychosocial complex produces another serious malady that spurs the U.S.S.R.'s military-industrial complex. The Soviets exaggerate the threat and believe in it. The Federal Republic of Germany is far too small a nation-state today to realistically threaten the U.S.S.R.,

but the Russians are genuinely fearful, and, on the basis of a rearmed Germany almost alone, they justify 460,000 ground forces in Central Europe. We all know that the U.S. and NATO have no intention of attacking the U.S.S.R. and that Czechoslovakia, Poland, Hungary, Romania, et al. could not really throw out their Communist dictators and join NATO. But Soviet leaders consider it a realistic threat that must be prevented by the sheer weight of power. Indeed, the huge KGB (a virtual military force in itself), the Border Guards, and the millions of Soviet military men scattered throughout the U.S.S.R. are, by our standards, excessive, but by theirs a required force to thwart dissidence and the infiltration of those who want to overthrow them. It sounds incredible, but many of the most sophisticated and informed Russians I know have admitted to me that it is true and that to them, instinctively, they always feel threatened. I refer you to an old book of the cold war days, *In the Name of Conscience*.<sup>28</sup> The author, a brilliant defector, tells the story of how the KGB files built up the reputation of an anti-Soviet group in Germany to the point that it was deemed vital to destroy it, and he was so assigned. On reaching Germany he learned the reality that the organization was most ineffective and not at all guilty of even a minute portion of the charges recorded against it in the KGB files. This is simply the "lie syndrome" in another form. Whenever anything goes wrong, the Soviets officially blame it on "Western influence, saboteurs, the threat," which absolves any failure of the socialist concept. This creates a vastly exaggerated and false threat but, nonetheless, one that is official and makes the acceptability of large and very powerful military forces appear most needed and logical, and, in fact, considering the alleged threat, a smaller, weaker force would appear to be a failure on the party's part to do what is necessary for security requirements. Another factor contributing to this is the recognition that the Communist party in the U.S.S.R., even today, is relatively small but was even smaller and less representative of the

masses in 1917. Yet, it overthrew the government. Consequently, small forces of resistance and threat must quickly be overwhelmed and stifled, or they, too, might succeed; this is a Communist dictum for survival.

### *civil defense*

These discussions relate closely to the current debate regarding Soviet civil defense (CD) efforts,<sup>29</sup> a subject I specialized in while I was in the U.S.S.R.

There is, indeed, a CD program, and it is certainly consuming more time and money than any Western counterpart. Why? In part, what I have already said supplies the answer. The Soviets feel inferior and have exaggerated the threat. Additionally, the plan momentum exacts a much larger expenditure on war materials than on consumer items, and that needs to be continuously justified. One clear way to remind people of an external threat that has been somewhat exaggerated is to require them periodically to sit through classes describing the horror of that threat and showing the government's efforts to lessen its calamitous effect. People accept the sacrifices, the restrictions, and the indignities a bit more easily if there seems to be some justification for them. That is the theory, at least, of the program directors and the Politburo. I believe the reality is quite different.

The Soviet CD program is in reality a farce—an excessive waste of money, time, and manpower. The overwhelming majority of the Soviet citizenry, who must participate in it, recognize the program as a joke and a typical example of bureaucratic mishmash. They mock the program and take advantage of it. It provides a day or several days away from the office, to read a novel, to sleep through lectures, and to socialize with friends. More often than not, this attitude is shared by the teacher, who is not a pro and is merely earning party brownie points. A Soviet doctor, now in the U.S., described his experience as the CD program director in his hospital in much the same way—as a farce. For example,

in the basement of the hospital there were boxes and boxes of CD emergency supplies; but, alas, not food, not clothing, not medical supplies—only World War II gas masks!

Still, the masses participate, the boxes are there, and the reports are lodged—all indicating the fantastic success and overachievement of the CD plan. Who is fooling whom?

### How Good Are They?

Some of you will argue that I have begged the question, especially on the conventional side. Is not the issue, simply stated, that due to the deterrence of strategic war, there is increased likelihood of a conventional war? And cannot the Soviets march to the Rhine in 19 to 20 days? How good are they in conventional power?<sup>30</sup>

The answer is damn good, but not that good. So good that my advice to any U.S. military leader or president would be not to attack the U.S.S.R. Assuming we could keep it conventional (and I don't), I think the U.S. and our allies currently would be overmatched. The U.S.S.R. and its East European buffer zone is an armed camp. Our losses would be tremendous, and we would be stopped sooner than Hitler or Napoleon were.

But I would give the same advice to General Rybkin,<sup>31</sup> Minister Ustinov, or to Brezhnev if they were contemplating a war in Europe. In place NATO forces are inferior to the Warsaw Pact in offensive punch but not in defensive capability, their real *raison d'être*. The Red offensive weaknesses and our defensive capability combined are too much for them to overcome without considerable increases in their current numbers and weapon systems.

In spite of rumors to the contrary, the Soviets are not tank crazy; they are combined-arms oriented and have devoted their greatest build-ups in recent years to mobilizing the infantry into fast-moving armored personnel carriers. Such carriers are even more vulnerable to the modern, smart (guided) weapons being acquired

by both sides than is the tank—and the tank is now more vulnerable than ever before. The Arab/Israeli War of 1973 was fought with many very good Soviet-made smart weapons, and the results augured very poorly for European style mass army wars.<sup>32</sup> The Soviets have learned that lesson well and are very much concerned over the impact of the smart weapons on their force structure; but as yet they have not devised answers in spite of lengthy debate and serious consideration.<sup>33</sup> If the U.S. and our allies benefit equally from our knowledge of Vietnam and the Middle East, and there are very encouraging signs we have, Soviet conventional power takes on more and more the role of mere superpower trappings to be exploited politically, to be exported to the periphery, to cost money, and to successfully serve the purpose of ensuring internal survival of the Communists in the Soviet Union and Eastern Europe, but not to being a credible alternative to détente in Europe or against the U.S.

For years the Soviet military experts reflected in their exercises and writings that European war would inevitably lead to nuclear war. They practiced it that way, even though they did not like it. The same occurred in the West, but then we worried about nuclear stalemate and tried to create flexible response. The Soviets liked our lead and have tried to match it. Except for modern technology they might have succeeded, though I doubt it.

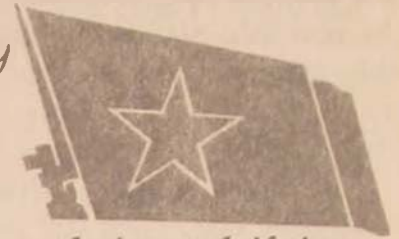
The battlefield model of the next war is going through a rapidly evolving and dynamic change. The most likely result appears to be a solid decrease in the number of soldiers needed to defend and a quantum increase in the numbers needed to wage a successful assault. As is typical, it is mostly the younger military men who are recognizing this. The most innovative of these are now foreseeing, and proving, that very small groups of highly trained infantrymen, using the new sophisticated smart weapons and supported by new technology like the latest helicopters, can combine to achieve kill ratios on tanks or armored vehicles that are quantum im-

provements over even the recent past. In a defensive role, teams of 3 to 20 men now or soon will be able to thwart the advance of hundreds and maybe thousands.<sup>34</sup>

---

*“ . . . generally a glaring weakness of ‘those guys’ is inherited from their stultifying system that snuffs out leadership and promotes mediocrity . . . ”*

---



Frankly, even 5 to 10 years ago I considered the current Soviet manpower and armor advantage to be insufficient to guarantee success in a war in Europe. I felt they would need at least 50 percent more to meet their conservative demands. But the smart weapons and the apparent willingness of the U.S. and NATO to train and deploy our personnel to take advantage of their revolutionary capability now would force the Soviets to be prepared to commit an additional force of two million or so in order to be assured of success. The U.S. and NATO have under arms the capability to stop the current Red threat. One can question the ability of that in-place force to live up to this potential due to serious weaknesses in command organization, weapons compatibility, morale, and state of readiness, but that must be the subject of another analysis and does not detract from the fact that the manpower and financial resources are currently on hand to counter a Soviet threat. If the U.S. and NATO do not get carried away with the numbers-game hysteria, we can spend our money wisely by adding these new weapons in much larger numbers to our current forces and counter the threat.

Thus, even after tremendous modernization



expenditures, the Russians now find themselves back where they started: the only way for them to overrun Europe is by all-out attack, including nuclear weapons and chemical and biological weapons from the outset. That might succeed, but the risk far exceeds the possible gain, and the potential nuclear holocaust is an unacceptable outcome. Perhaps more important, that means they have to destroy the very thing they want from Western Europe—its technology.

That Soviet offensive advantage, albeit not a conclusive one, does still offer the Soviets an edge. If one accepts *détente/expand* as a strategy, and the concomitant belief that it will eventually lead to relaxed tensions and drastically lessened American commitment and involvement in Western Europe, the Soviet conventional military advantage in Europe grows as and if American troops withdraw. The Europeans have the capability to counter that edge, but measurements of their willingness or belief that it is necessary to do so all indicate they will not. Thus, the chance appears on the horizon of the Soviets' achieving their goal of increased political influence, if not hegemony, over Europe, not by attack but by their presence and their comparative strength advantage. They expect the Europeans to be unwilling to match them and be nervous enough over the resultant inferiority to make judgments and decisions more favorable to the U.S.S.R., if and after the U.S. withdraws. They are quite possibly correct.

#### *the naval situation*

The Red Navy represents perhaps the most dramatic area of improvement in Soviet power in the last ten years. We have watched it grow from a purely coastal, defensive force (minus the SLBM submarine force) to a worldwide naval force to be reckoned with. Their navy could now challenge the U.S. on many of the high seas; it contributes significantly (approximately 800 launchers) to Soviet nuclear equity, and it would have an easier task in a conventional European war than its U.S. counterpart since only our side

would need to keep the sea lanes of communication secure.

But the navy follows the example of the other areas of Soviet military power. It was brought up to snuff only after the others. In my opinion, it is at its current capability to rival the West and makes the U.S.S.R. a true superpower. It cannot be the decisive force, just as in today's nuclear and aerospace age the U.S. and United Kingdom navies also must play slight second fiddle (with the exception of their SLBM role) to the other services.

---

*"Our pursuers are not ten-foot tall. . . . This is not to say the Soviet military is a paper tiger. . . . The West is just as strong as the East."*

---



This Communist ocean force led the naval forces of the world into missiles by being the first to deploy operationally the now famous cruise missile. In addition the Soviet fleet is relatively new and well constructed. Its weaknesses are the lack of a strong air arm for additional protection, its relative inexperience in naval warfare, and the fact that it cannot yet match combined Western naval forces. There are numerous excellent articles on the Soviet Navy,<sup>35</sup> and a few of them agree with the estimate of Jane's *All the World's Navies* that it is number one today. I disagree and classify it a close second or in a tie for number one, if an old-fashioned World War II-like conventional war were to be fought. But in the more likely role of showing the flag<sup>36</sup> and trying to influence an outcome via pressure or limited force, the U.S. Navy still excels due to our clear-cut su-

superiority in aircraft carriers, experience, and much larger Marine Corps.

#### *The weaknesses*

On occasion I have referred to Soviet military weaknesses, and I believe the first is size. In order to offer a genuinely credible offensive capability against Europe today, with U.S. presence, the Soviets would have to increase their conventional force by some two million or more men and the needed equipment. That approaches the size of the force it took to beat Hitler, and he was fighting a two-front war. To assume that it could be done with less today, considering the weapons advances that, at least currently, favor the defense, seems drastically unrealistic. Yes, the Soviets have large forces; larger than we would and do deploy in these days, but far smaller than their historical concept of what would be needed to overrun Europe or Germany rapidly, and "rapidly" is a necessary ingredient if one hopes to avoid nuclear escalation.

Additionally, they have other serious weaknesses that would need correction. Next is their lack of combat experience. Almost every Russian military man I have talked with bemoans the U.S. experiences in Vietnam and Korea. Soldiers know that nothing can replace combat experience and always prefer to have seasoned troops and officers in the forefront of an attack. It is not a crippling weakness, but it is one that contributes to Soviet conservative hesitation in the use of force.

Also, the Soviet military machine has the reverse of its U.S. counterpart's most criticized ailment. The U.S. Army is often jabbed by its critics for its alleged overemphasis on "tail" compared to "teeth." The Soviets' "bite" exceeds its "tail" excessively, and little seems to have been accomplished in the last ten years to correct this deficiency. Soviet tanks that rolled into potential combat zones with fuel tanks trapped vulnerably and ridiculously to their backs in Czechoslovakia in 1968 are still ob-

served in that weakened mode. In addition, as in Czechoslovakia, Soviet soldiers to date have no standard combat ration. The Soviet military machine far outstrips the Soviet consumer economy in its efficiency, but all indications are they can nowhere near match U.S. and Western technology or efficiency in logistics supply and control. It is a serious handicap.

The Soviets have altered their World War II strategy of mass with an intelligent application of speed and mobility, yet clearly not in sufficient variation to meet the demands of the modern battlefield. Today, small defensive teams pack the combat capability of the far larger and more vulnerable forces of just a few years past. They offer tremendous problems to the armor-laden, massed forces of the U.S.S.R. Moreover, the Soviets do not train or crosstrain their troops as effectively as the U.S. and West Europe.<sup>37</sup> U.S. combat men are usually prepared to fire or support several weapon systems, while the Russian soldier masters only one or two.

And, finally, with little concrete evidence other than a feel from association and a knowledge of the importance of leadership, this author questions the effectiveness of Soviet military leadership. The Soviet military, like all others, reflects its society, and in the U.S.S.R. this means advancement to important positions of only the safe ones—the most conservative, non-innovative, nonchallenging individuals. The more exciting, clever, daring, and first-rate ones are either culled out for being too risky or opt out due to their disappointment in the system. As Valery Tsarsis observed, the best conversations in the U.S.S.R. are carried on in the insane asylums, for the best people live there. In my experience, "the best and the brightest" of the U.S.S.R. are eventually, even if initially attracted to the service, turned off by the party; and the military through its "Zampolit" party control system.<sup>38</sup> The military is the most party-dominated group in the nation. The potential effective leaders opt instead for the *menye vso ravno* ("I don't give a damn") approach to life—a good job and a quiet life as free of party



pressure and influence as possible. As a result, the high-ranking Soviet military leadership is too conservative, too inhibited, too much from the same mold, too often picked on party loyalty instead of merit, and too worried and concerned about things party-wise to be number one soldiers. There will, of course, be exceptions, but generally a glaring weakness of "those guys" is inherited from their stultifying system that snuffs out leadership and promotes mediocrity and in so doing makes it more and more unlikely that the Soviet military will ever get that longed-for combat time or win if they do get it.

FOR Butch, Sundance, you, and me, that is good. Our pursuers are not ten-feet tall. We can cope with them, need not fear them, should not

overrate them, or overspend our resources in false fear of them. This is not to say the Soviet military is a paper tiger. It is to say that prudent U.S./NATO defense investments, a concentration on defense research, more efficient use of resources, and avoiding an overconcern with raw numbers and expenditure comparisons should reasonably ensure our safety in the years ahead. Indeed, with clever and intelligent application, we readily have the resources available to thwart the success ratio of the "expand" portion of détente/expand while encouraging the détente leg of it to mankind's advantage. The West is just as strong as the East.

Being only just as strong is hard to adjust to when you are so used to being stronger; but those days are gone, and adjust we must.

Bozeman, Montana

#### Notes

1. I consider these three studies the best of their kind. *U.S./Soviet Military Balance. A Frame of Reference for Congress*, Congressional Research Service, Library of Congress, January 1976, GPO 65-316. This is perhaps the most thorough and objective study done in recent years. *Military Balance*, Institute of Strategic Studies, United Kingdom, London annual. This annual report is so accurate. U.S. negotiators often prefer the unclassified data to official U.S. intelligence. *SIPRI Yearbook of World Armaments and Disarmament*, Stockholm International Peace Research Institute (SIPRI), Stockholm, Sweden annual.

2. My definitions: ICBM, Intercontinental Ballistic Missile—a nuclear missile capable of being delivered over 5000 miles to a target traveling most of that journey in outer space, usually launched from fixed, land-based and hardened launching sites.

SLBM, Submarine-Launched Ballistic Missile—same as an ICBM although usually smaller and launched from a submarine, usually underwater.

Strategic bomber—an aircraft designed for long-range bombing (3-5000 miles), capable of delivering nuclear bombs (specifically U.S. B-52s and Soviet Bears). Cruise missiles—low-altitude, nuclear-capable missiles that are almost miniature aircraft, highly accurate, very fast, and soon to have ranges of around 2000 miles.

ABM, AntiBallistic Missile—a missile designed and deployed to intercept and destroy incoming ICBM or SLBMs.

3. Peter Osnos, "No Saber Rattling in the USSR," *Washington Post*, February 21, 1977, p. 2. Mr. Osnos notes, as most experts will still acknowledge, that the U.S. was clearly superior in the mid-60s. U.S. annual Military Posture statement charts generally show the Soviets to have fewer than 300 ICBMs and fewer than 500 total delivery vehicles in 1966, but by 1968 they had made quantum jumps to approach U.S. levels.

4. I calculate that level to be about 500 deliverable warheads without having to use aircraft, i.e., SLBMs or ICBMs or, in the future, cruise missiles. At that level they can do irreparable and unacceptable damage to any other nation-state. Imagine any modern state suddenly awakening to, say, the total destruction of its 300 largest urban centers. This concept is growing in support and was recently noted in "The Odds on Arms Control," *Atlas*, April 1977, pp. 11-18, when an FRG correspondent, Herbert von Borch, noted, "It's not a question of simply playing with numbers. Are you more secure or do you deter more with 8,500 warheads or 50,000?" Dr. Kissinger, in a speech to the National Press Club in January 1977, said numerical supremacy has no operational significance. Robert Kaiser in the *Washington Post*, February 25, 1977, noted simply that counting weapons gives too much credit to the U.S.S.R.

5. The U.S. used its two atomic weapons only when no one else had the capability. Since then, and after one other acquired nukes, we restrained in Korea, Vietnam, the Cuban crisis, etc. The U.S.S.R. has not used nuclear weapons, in spite of Chinese provocation, the U.S./Cuban missile stance, the bombing of Hanoi, etc. One now simply has to question their use except in dire defense for survival. Yet, they do seem to deter. For a fuller treatment of this thesis, see Donald L. Clark, "Could We Be Wrong?" *Air University Review*, September-October 1978, pp. 28-37.

6. MIRV means Multiple, Independently Targeted, Reentry Vehicle. It is the act of putting more than one warhead (currently 3-10) on each vehicle and at a set time sending each off to a different target.

MaRV means Maneuverable Reentry Vehicle. This allows the separate warheads to alter their course as they approach a target and thus complicate an ABM's task of interception.

MIRVs are a fact of life in U.S./Soviet inventories. MaRVs have not yet been deployed.

7. William J. Beane, "Strategic Policy Implications of the High Energy Laser," *Strategic Review*, Winter 1977, pp. 100-107. Read for an exciting new weapon possibility, but even this development, the author suggests, cannot permanently upset the current nuclear balance. Jerome Kahan, *Security in the Nuclear Age: Developing U.S. Strategic Arms Policy* (Washington: Brookings, 1975) An excellent study of the pros and cons of first and second strike nuclear equations, etc. Kahan says first strike seems impossible, p. 328. William F. Buckley, "On the Right," *Bozeman Chronicle*, 18 February 1977. Buckley suggests that the particle beam might provide the Soviets an effective ABM.

8. In a speech before the Commonwealth Club and World Affairs Council of Northern California on February 3, 1976, in San Francisco, Henry Kissinger noted that no American policy caused or could have prevented the Soviet build-up to equity.

9. Major Wayne Morawitz, "Nuclear Proliferation and U.S. Security," *Air University Review*, January-February 1977, pp. 20-28. Daniel Verzin, "The Terrifying Prospect: Atomic Bombs Everywhere," *Atlantic Monthly*, April 1977. Ernest W. Lefever, "Undue Alarm over Nuclear Spread?" *Wall Street Journal*, October 15, 1976. *Atlas*, April 1977, special report: "Nuclear Power, the Global Controversy." These are just a few of the ever growing lists of articles and warnings about what some consider the most dangerous problem in the world: nuclear proliferation. Most list Brazil, South Africa, South Korea, Pakistan, Japan, Israel, and Taiwan as the most likely and capable candidates.

10. William T. Lee's "Soviet Defense Spending," *Strategic Review*, Winter 1977, pp. 74-79 is one of the most recent and well done approaches. U.S.



National Intelligence Estimates often focus on this aspect

11. Aleksandr Solzhenitsyn, *The Gulag Archipelago, Part II* (New York: Harper & Row, 1974). Even this great treatise on the Soviet prison camps is spiced throughout with recordings of the ingenious lies concocted by prisoner and prison keeper to beat the system.

12. William E. Odom's "Who Controls Whom in Moscow?" *Foreign Policy*, Summer 1975 is an excellent article that makes this point effectively.

13. *Red Star*, 31 July 1976, ran a brief biographical sketch of the new Defense Minister, at least partially confirming what students of Soviet defense had long known or suspected—that Ustinov had long been the most important civilian in the Soviet defense complex.

14. In 1972, when SALT I was on the verge of agreement, the U.S. Joint Chiefs of Staff were most concerned that SLBMs might be excluded from the agreement. At that time, the U.S. was adding no SLBMs or their submarine carriers to our inventory, but the Soviets, although behind, were adding 200-300 missiles a year plus 12 to 15 submarines. U.S. estimates indicated we could not match that level of Soviet production without adding facilities, and by leaving an SLBM limit out of SALT, we would be giving the Soviets at least a five-year running head start in such a race.

15. KPSS (or in Russian, KPC) are the initials for the Communist Party of the Soviet Union. The letters are seen all over the U.S.S.R. and often called by Americans the Howard Johnson sign of the U.S.S.R.

16. The number of quite elderly World War II and Civil War heroes is dwindling through the years, but now there seems to be a bloc of military positions that lead to Central Committee membership, more for prestige than as a true power indicator.

17. I refer here to the NSC and its panels and committees that deal with almost every domestic and foreign issue. The U.S. military assist in the preparation of background facts for all decisions with even the remotest security impact.

18. Harriet Fast Scott and John Erickson have done the best works on this subject, particularly Scott's *Soviet Military Doctrine: Its Formulation and Dissemination* (Stanford, California: Stanford Research Institute, June 1971).

19. The author served on the U.S. MBFR delegation and worked in the Washington, D.C., apparatus on SALT, Law of the Sea, European security, nonproliferation, Conference of the Committee on Disarmament, and Laws of Humanitarian Warfare; he also served at the U.S. Embassy, Moscow.

20. About 140 have been clearly identified. The most important and prestigious professional school is the Frunze Academy in Moscow. See, for example, "Soviet Military Education: Technical, Tactical, and Traditional" by Colonel Richard G. Head, *Air University Review*, November-December 1978, pp. 45-57.

21. Donald L. Clark, "Soviet Strategy for the Seventies," *Air University Review*, January-February 1971, pp. 2-18.

22. Scott Thompson, "What Can Be Done about Idi Amin?" *Washington Post*, March 6, 1977, pp. C1 and C4 notes increasing Soviet aid to Uganda.

23. James Wallace, "A New Look Inside Russia," *U.S. News and World Report*, December 6, 1976; John Erickson, "Soviet-Warsaw Pact Force Levels," *USSR Report* 76-2, 1976.

24. Unfortunately, few Americans are aware that the Mongol hordes dominated the Russian motherland for approximately 300 years—an era the Russians call the "Tartar Yoke."

25. Near the end of World War I, the U.S., France, United Kingdom, Italy, and Japan stationed forces in the U.S.S.R. The purpose and record of the action are fuzzy, especially on the U.S. side, but nonetheless the Communists considered it an attempt to aid the anti-Communist forces, and they teach Soviet

citizens today that the Reds drove the foreign interventionists out. To the West it has always been a minor incident, to the Soviets an important proof of capitalist animosity.

26. Robert Kaiser, "Is Anybody Winning?" *Washington Post*, February 25, 1977, p. 8. Kaiser, an astute student of the Soviet psychosocial, notes this inferiority complex and the psychic comfort improved military forces give to the Russians.

27. The U.S. Congress actually granted the Soviets "most favored nation" trade status—a long-term Soviet goal and expected fruit of Kissinger's détente, yet, when Senator Henry Jackson succeeded in attaching a rider to the authorization requiring increased Soviet emigration of Jews, the Soviets backed out. The Soviets were already allowing an exodus of Jews and even some Germans, far in excess of Western expectations.

28. Nikolai Khokhlov, *In the Name of Conscience*. The true story of one of the first Soviet KGB defectors—well worth reading.

29. Paul Nitze, "Deterring our Deterrent," *Foreign Policy*, Winter 1976-77, p. 195, and "Assuring Nuclear Stability in an Era of Detente," *Foreign Affairs*, January 1976.

30. "Nunn-Bartlett Report," (AP), *Bozeman Chronicle*, January 24, 1977. Senators Nunn and Bartlett visited NATO, Winter 1977, and reported the Warsaw Pact dangerously superior. A companion article disputed their conclusions via a retired French general, Georges Buis, President of the Foundation for National Defense Studies, France.

31. General Ye. Rybkin is a noted Soviet military hardliner and author of a provocative article in the January 1977 *Soviet Military Historical Journal*. Interestingly enough, the article has been quoted by both sides of the current Soviet/U.S. debate to prove the drive for Soviet superiority and their acceptance of détente.

32. Arthur T. Hadley, "Smart Weapons: A Revolution in Arms and Tactics," *Washington Post*, January 30, 1977, pp. C1 and C4. Author Hadley joins General Bar Lev and numerous others in describing the impact of precision-guided missiles (PGMs) on the battlefield as a result of the data from the 1974 Arab/Israeli War.

33. *Red Star*, 16 November 1974, noted a high-level Soviet conference at the Frunze Academy on the impact of PGMs on the battlefield. A follow-up conference was held in January 1975 (*Soviet World Outlook*), and Marshal Grechko revealed his concern for PGMs on tank and armored vehicle warfare in his book, *Armed Forces of the Soviet State*, second edition, Moscow, 1975.

34. Arthur T. Hadley, op. cit.; Phillip A. Karber, "The Soviet Anti-tank Debate," *Armor*, November/December 1976, pp. 10-14, and Colonel E. B. Atkeson, "Is the Soviet Army Obsolete?" *Army*, May 1974, pp. 10-16. All of these authors note the revolution caused by the "smart weapons" and stress the tremendous advantage they present the defense and the force willing to resort to small team use of them.

35. Wolfgang Höpfer, "Soviet Global Strategy, a Challenge at Sea," *NATO Review*, 1974. This work, the best of a recent surge, notes the political advantage of an all-seas navy.

36. James Wallace, op. cit., agrees with this naval role analysis.

37. Robert Kaiser, February 24, 1977, p. A14. In one of an interesting and balanced series of articles on the Soviet military, Kaiser notes Soviet weaknesses in training, quality, and flexibility. He concludes that the Soviet build-up is for political edge, not attack.

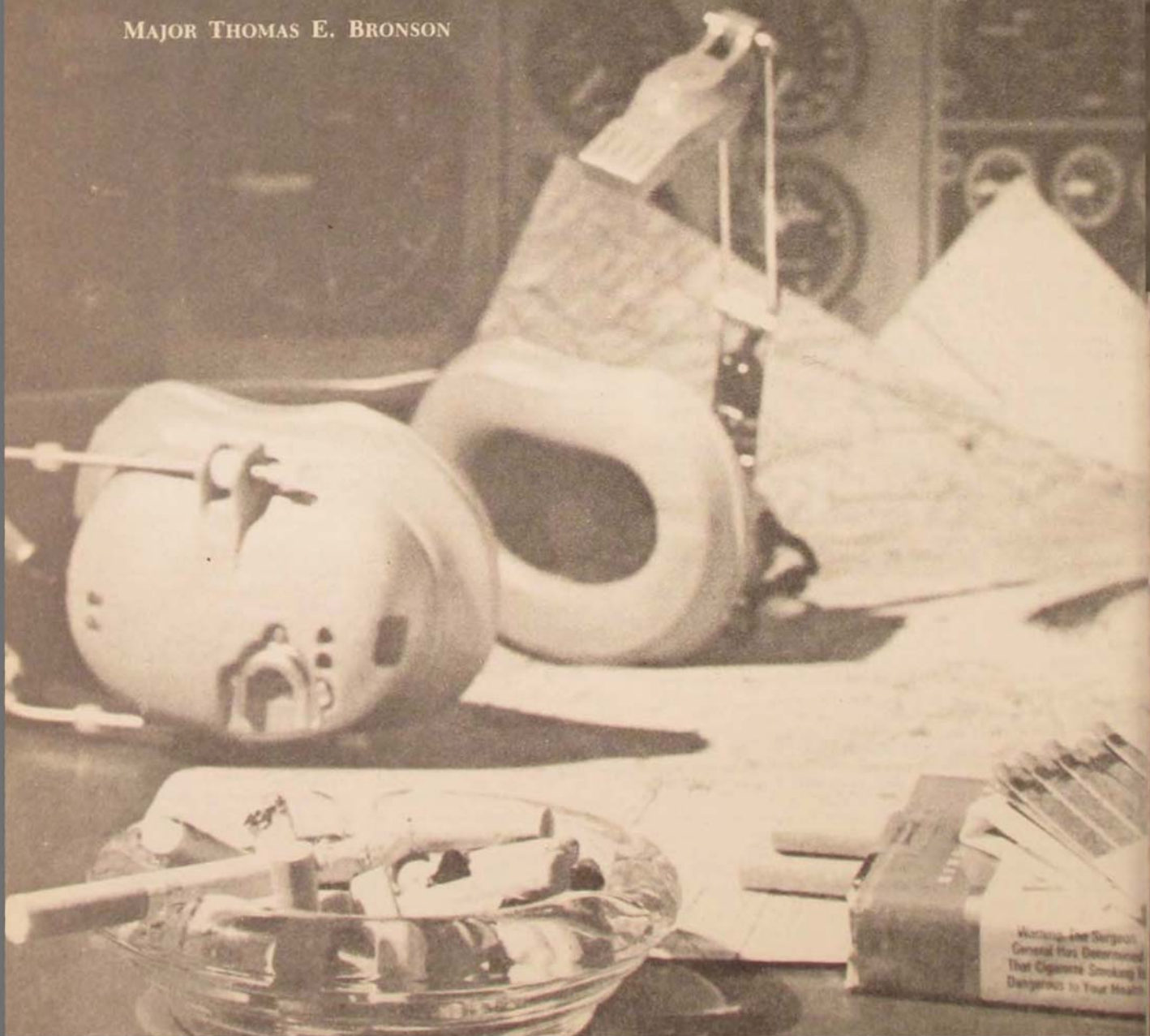
38. "Zampolit" is the term referring to the political officers in the military. There is a political officer "overseeing" the operation of every unit down to the company level. No commander moves up without the approval of his political counterpart. Soviet officers dislike the system but live with it.

# **R** in my opinion

## SMOKING

*a hazard for  
aircrews*

MAJOR THOMAS E. BRONSON





**S**MOKING and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service (1964) and other Department of Health, Education, and Welfare (HEW) reports such as *The Health Consequences of Smoking: 1967, 1968, 1971, 1972, 1974, and 1975* have generated much concern and controversy over the impact of smoking on public health.<sup>1</sup> In response to the efforts of many antismoking groups, several state and local governments have passed ordinances restricting smoking in many public places.<sup>2</sup> The Civil Aeronautics Board has voted to ban the smoking of cigars and pipes on all commercial flights, and it has proposed a rule that would extend the ban to cigarette smoking.<sup>3</sup> Last year the Department of Defense issued Instruction 6015.18, which outlined smoking policy in DOD buildings and facilities. Air Force Regulation 30-27, "Smoking in Air Force Facilities," established procedures and guidelines to control smoking in Air Force-occupied buildings.<sup>4</sup>

In keeping with this recent emphasis on the impact of smoking, the Air Force needs to focus attention on smoking among aircrews. The effects of smoking on the safe operation of Air Force aircraft have received little attention. Much has been published on the relationship between smoking and cancer, coronary artery disease, chronic bronchitis, emphysema, and other long-term health consequences, but little has been written on the short-term or immediate effects of smoking on the human body. This article addresses the matter and deals specifically with those effects that may have a pronounced impact on the performance of aircrews, for it seems very likely that smoking constitutes a hazard which may hamper the safe operation of Air Force aircraft.

Inhalation of the harmful components of tobacco smoke causes deterioration of many functions necessary for effective performance. Such deterioration can constitute a significant safety risk for aircrews. In addition, the constituents of tobacco smoke produce a harmful and irritating effect on nonsmoking crew members,

which is not conducive to harmonious crew functioning. Therefore, the Air Force should consider regulating the use of tobacco products by aircrew members.

The Public Citizen's Health Research Group expressed similar concern when it petitioned the Federal Aviation Administration (FAA) to regulate smoking by members of commercial aircrews.<sup>5</sup> The petition and the accompanying report presented evidence that smoking adversely affects the performance of certain vital body functions.<sup>6</sup> The conclusion was that smoking by commercial aircrews could cause a distinct safety hazard. The report also published a survey of airline crew members in which the majority favored the prohibition of smoking on the flight deck. The group petitioned FAA to prohibit smoking by crew members within eight hours of flying and during flight operations.

The FAA denied the petition, claiming that the evidence was not conclusive.<sup>7</sup> In a subsequent petition to reconsider, the group refutes the FAA's claim of inconclusiveness.<sup>8</sup> The petition also states that the FAA bases its position largely on only one study that shows few adverse effects of smoking.<sup>9</sup> The group's report, on the other hand, has produced numerous studies supporting its contention.

The effects of smoking a cigarette begin immediately:

In just three seconds a cigarette makes your heart beat faster, raises your blood pressure, replaces oxygen in your blood with carbon monoxide and leaves cancer-causing chemicals to traumatize various body organs.<sup>10</sup>

Smoking one or two cigarettes can produce an increase of blood pressure (10 to 20mm), acceleration of pulse (5 to 20 beats per minute), and a temperature drop of 2° to 7° in the fingers and toes.<sup>11</sup> Inhaled smoke remains in the mouth and can travel into the throat, windpipe, and the lungs. It also can travel into the upper breathing passages and into the stomach after it has dissolved in saliva. Smoke may also be absorbed in the mucous membranes of the mouth. The lungs retain 85 to 99 percent of all



the compounds inhaled, but the most dangerous are carbon monoxide, tar, and nicotine.<sup>12</sup> The Department of Health, Education, and Welfare has identified these three compounds as the most likely contributors to the health hazards of smoking.<sup>13</sup>

Carbon monoxide (CO) is a colorless and odorless gas produced by the incomplete combustion of organic matter. Smoke from one cigarette can contain up to 21,400 micrograms of CO. Nicotine is found in concentrations of 200 to 2400 micrograms per cigarette. Tar, the particulate matter that remains after moisture and nicotine have been removed, is the most practical single indicator of the total carcinogenic potential of tobacco smoke.<sup>14</sup>

Nicotine produces a transient stimulation followed by depression of both the sympathetic and central nervous systems and also causes a discharge of epinephrine from the adrenal glands. This, in turn, stimulates the nervous system and other endocrine glands and causes the conversion of glycogen into sugar. The result is a feeling of stimulation, "kick," and relief from fatigue.<sup>15</sup> The varied physiological and psychological effects of nicotine alone in cigarette smoke should concern Air Force policy-makers, who have prohibited the use of any drugs by aircrews other than aspirin and tylenol.<sup>16</sup> However, because of its effect on the functioning of the central nervous system, carbon monoxide has the greatest potential danger for flying personnel.

Tobacco smoke contains from 2.7 to 6 percent CO, and estimates are that 54 percent of the CO inhaled is absorbed into the lungs.<sup>17</sup> The principal effect of CO on the body is that it impairs the oxygen-transporting function of the blood. It exerts this adverse effect in two ways:

- First, when inhaled, oxygen combines with hemoglobin (a red pigment in the red blood cells responsible for transporting oxygen to the tissues) to form oxyhemoglobin (the red crystalline pigment formed in blood by the combination of oxygen and hemoglobin, without the oxidation of iron). However, hemoglobin has

210 times more affinity for CO than oxygen, and some estimates give it 240 times more affinity.<sup>18</sup> Thus, a very small amount of CO inhaled in cigarette smoke can inactivate a large amount of hemoglobin as an oxygen carrier. The combination of CO and hemoglobin is called carboxyhemoglobin (COHb). CO in the blood is referred to as the percentage of hemoglobin saturated with CO, e.g., 5 percent COHb.

- Second, CO causes the oxygen-hemoglobin dissociation curve to shift to the left and, consequently, interferes with the release of the already reduced amount of oxygen to the tissues. The oxygen is thus bound more tenaciously to the hemoglobin and is not given up so easily to the tissues. As a result, this produces an oxygen deficiency in the tissues identical to the oxygen deficiency produced at high altitudes.<sup>19</sup>

These two processes combine to produce a situation that deprives the functioning tissues of the normal amount of oxygen. The most oxygen-sensitive tissues are the brain cells of the central nervous system, which are the first to be affected by any oxygen deficiency.

All individuals have a relatively small level of carbon monoxide in their system. Studies have shown that the average level of COHb saturation in nonsmokers is 0.5 percent to 1.5 percent. However, smokers may have a mean level of COHb of five to six percent, even if they do not smoke immediately before testing.<sup>20</sup> Heavy cigarette smokers can have COHb levels of 15 percent.<sup>21</sup> COHb saturation in a smoker of 20 to 30 cigarettes a day can be as high as 10 percent.<sup>2</sup> A daily consumption of 35 to 40 cigarettes can easily attain and maintain an alveolar CO concentration of 50 particles per million (PPM) which reaches the legally established ambient air quality limitation for an eight-hour industrial exposure.<sup>23</sup> Air Force standards limit the maximum CO concentration to 9 PPM for eight hours and 35 PPM for one hour. To protect human health, neither of these levels can be exceeded more than once per year.<sup>24</sup>

The effect of CO on the human body is both cumulative and persistent. Initially, a cigarette smoker can inhale an average concentration of CO into the lungs of 400 PPM or 0.04 percent.<sup>25</sup> Continued smoking produces the COHb levels previously mentioned. Since the estimated half-life of CO in the body is two to four hours, the effect of smoking is long lasting.<sup>26</sup> Some studies have shown that moderate smokers (1 to 1½ packs a day) have had levels as high as 4.5 percent COHb in their blood after 8 to 15 hours of deprivation.<sup>27</sup> Thus, a smoking crew member inhales concentrations of CO far above the amount determined by the Air Force as a healthful atmosphere.

Studies of cigarette smokers in a Colorado town with an elevation of over 10,000 feet concluded that the adverse effect of cigarette smoking on oxygen transport may be especially pronounced at high altitudes and may restrict an individual's ability to adapt to reduced oxygen tension: reduced oxygen tension refers to lower partial pressure of oxygen at higher altitudes.<sup>28</sup> This same effect is equally critical for smoking crew members who fly in pressurized aircraft at cabin altitudes between 7000 and 8000 feet. Figure 1 shows the relationship between true altitude (cabin pressure altitude), varying levels of COHb saturation, and resulting physiological altitude. For example, smoking crew members flying at a cabin altitude of 7500 feet with COHb levels of 5 percent and 10 percent will have a physiological altitude of 11,500 feet and 14,000 feet, respectively. Thus, the smoking crew member performs his tasks at physiological altitudes above the altitude requiring oxygen, according to Air Force Regulation 60-16.<sup>29</sup>

Other researchers feel that this method of estimating the combined effect of carbon monoxide and altitude may be dangerously understating the situation. Since CO causes the nonsaturated hemoglobin to bind its oxygen more tightly, these researchers feel that much less oxygen is actually released to the tissues, which further increases the physiological alti-

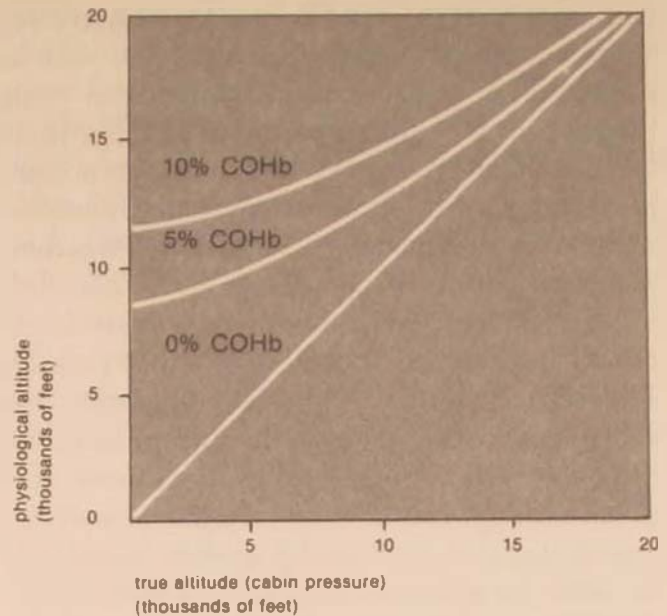


Figure 1. Effects of carbon monoxide on altitude tolerance<sup>30</sup>

tude of the flying crew member who smokes.<sup>31</sup> In any case, the hypoxic condition produced by mild CO intoxication has been shown to cause deterioration of many physiological functions of the body. When these effects are extrapolated into the already oxygen-lean atmosphere where crew members perform, a serious problem is quite evident.

Several studies have been conducted on the effects of mild CO intoxication on the human body. Some of these studies have shown that low levels of CO in the system can impair complex psychophysiological functions. COHb levels of less than five percent have produced deterioration in various sensory, perceptual, and cognitive functions.<sup>32</sup> Low levels of CO in the blood of human subjects have affected reaction to visual stimuli, temporal behavior, auditory discrimination, coordination, peripheral vision, certain psychomotor skills, and the ability to discriminate differences in brightness thresholds.

These results were obtained at sea level or low elevation. The total effect of the impairment



of these functions would be considerably greater when combined with higher altitudes, such as normal cabin pressure altitudes. One can easily understand how the impairment of these functions could be critical to crews that operate complex, high-speed aircraft in demanding situations, such as combat, landing in minimal weather, nighttime, or at the end of a 24-hour crew day.

These adverse effects are evident at low levels of CO intoxication, below levels that produce subjective symptoms. Thus CO intoxication may affect an individual's system, and he may not (probably will not) even notice the effects. Just as poisoning is insidious from high levels of carbon monoxide, such as automobile exhaust in an enclosed garage, so is mild CO intoxication. The effects can be closely compared with effects produced by some medications, drugs, or low doses of alcohol. The Air Force regulates the use of such items by aircrews, but, as yet, it has issued no regulations (except for emergencies, takeoffs and landings, ground operation, etc.) on the use of tobacco products by aircrews. Regulations such as AFR 60-16 were written in part to prohibit smoking during critical phases of operation in order to minimize the chance of fire. They were not written with any concern over the effects CO may have on the central nervous system during these critical phases.

Three other areas of concern for smoking crew members are times of useful consciousness, lung volume capacity loss, and peripheral movement detection. The pilot of a fighter-type aircraft flying at a cabin altitude of 22,000 feet would have approximately five minutes to discover he has a malfunctioning oxygen regulator; if he had smoked three cigarettes just prior to taking off, he would have only 45 seconds to make the same discovery.<sup>33</sup> Smoking would also significantly reduce the time of useful consciousness of a pilot flying a cargo aircraft that suddenly experiences rapid decompression.

William H. Browning studied the lung volume capacity loss of both smoking and non-smoking jet fighter aircrews after breathing 100 percent oxygen on missions that included brief

periods of practice air combat maneuvers. He found that under high G conditions smokers had an inflight volume loss 3½ times greater than that noted among nonsmokers. He concluded that 100 percent oxygen has a deleterious effect on aircrew members in an air combat environment, and the effect is especially aggravated among cigarette smokers.<sup>34</sup>

Craig Scoughton and Norman Heimstra studied 25 male subjects—15 smokers and 10 nonsmokers—to determine whether smoking had any effect on detection of peripheral movement. One cannot overemphasize the importance of a pilot's ability to detect motion in his periphery and estimate velocity and distance. In their study of smokers, deprived smokers, and nonsmokers in high and low illumination conditions, the researchers concluded that smoking does affect visual peripheral processing functions.<sup>35</sup>

An example of a real world analog of the visual field determination task could be posed in terms of a pilot with a target vehicle entering his field of vision in a parallel trajectory. At a lateral distance of 1000 yards, a differential velocity of 30 knots between command and target vehicle could be compared to the 1.00°/sec angular velocity used in the experimental task. The results of the present investigation indicate that a smoking pilot would require ¾ of a second longer to respond to a target vehicle than that same pilot deprived of smoking for several hours prior to the flight. In the case of the 1.86° difference found in the SM-NS [Smoker-Non-smoker] comparison, the delay would be increased by 2½ times to almost 2 seconds.<sup>36</sup>

NOT all studies have reached similar conclusions concerning smoking, however. A few studies have shown little deterioration in the area of vigilance, time perception, and driving performance.<sup>37</sup> Some have even shown that the effect of nicotine on the central nervous system actually increases behavioral efficiency.<sup>38</sup> Conflicts in the studies can be attributed to different tasks studied, methodology, and means of measurement employed by researchers. These conflicting views, of course,



contribute to the confusion and add fuel to the controversy concerning the effects of smoking. Yet, the great majority of studies substantiate the hypothesis that smoking significantly impairs certain physiological functions.

Smoking not only affects the smoker himself but also other people who may prefer not to smoke. The thrust of recent public policy has been to protect the rights of nonsmokers to an environment reasonably free from harmful and irritating pollutants. The pollutants of cigarette smoke can be especially irritating in small, enclosed areas, such as cockpits and flight decks. The dry, warm air on aircraft also accelerates the irritating effect on the throat and sinuses of nonsmokers.

The Department of Health, Education, and Welfare calls the exposure of nonsmokers to pollution resulting from smoke as "involuntary smoking." Many of the same constituents that affect voluntary smokers are present in a smoke-filled atmosphere unavoidably inhaled by nonsmokers. In addition to the sidestream smoke, which rises from the burning core of tobacco, nonsmokers also inhale mainstream smoke exhaled by smokers; mainstream smoke includes approximately one-half of the original concentration of carbon monoxide. Nicotine and carbon monoxide are found in much higher concentrations in sidestream smoke than in mainstream smoke. In one study, the ratio of CO concentration in sidestream smoke to mainstream was 4.7:1.<sup>39</sup>

In some circumstances, such as crowded, poorly ventilated, smoke-filled bars, the amount of CO in the atmosphere can exceed the 50 PPM eight-hour industrial exposure level established by the American Conference of Government Hygienists.<sup>40</sup> Because of excellent ventilation systems, these levels would normally never be reached on modern aircraft. A study by the FAA measured pollutants on 20 Military Airlift Command and 8 commercial airline flights with both smokers and nonsmokers and found a range of two to five PPM of carbon monoxide in the atmosphere.<sup>41</sup> H. L. Judd also studied levels of

carbon monoxide on overseas commercial flight decks and recorded maximum CO concentrations much higher than the FAA but none close to the 50 PPM level. However, several recordings exceeded the eight-hour exposure limit of nine PPM listed in AFP 19-5.<sup>42</sup>

Normally, the amount of CO inhaled through involuntary smoking by nonsmokers will not produce the function-limiting effects previously described. However, other constituents have caused minor symptomatic irritation in nonsmokers exposed to a smoke-filled environment. The major effects tend to be conjunctival irritation, dry throat, eye irritation, and headaches. In fact, the FAA study reported that more than 60 percent of the nonsmoking passengers and 15 to 22 percent of the smokers were annoyed by the smoking of other passengers.<sup>43</sup>

In addition to possible physical irritation of nonsmokers, tobacco smoke can also cause a number of psychological effects. The tension, conflict, and antagonism that may develop within a mixed crew of smokers and nonsmokers are certainly counterproductive to a well-knit, functioning crew. Anything that may detract a crew member from the efficient dispatch of his duties must be eliminated, if possible. Interestingly, the Department of Health, Education, and Welfare, in a letter to the FAA, concurred with the proposal to prohibit smoking in the cockpit but did not endorse the eight-hour preflight ban because of enforcement difficulties.<sup>44</sup>

The actual relationship between smoking and aircraft accidents has not been established by research; indeed it would be an investigative problem. One study of 4200 USAF accidents between 1962 and 1973 revealed 89 in which alcohol and drugs were associated in some way with the mishap. Only one of these investigations mentioned cigarette smoke. In this incident, a flight surgeon examined a crew member and found that he had mild emphysema, which could have been aggravated by cigarette smoking.<sup>45</sup> Apparently investigators do not really consider smoking as a possible cause of accidents.

In another study of 1345 fatal civil aviation accidents from 1968 to 1974, carbon monoxide in excess of 10 percent COHb was found in pilots' blood in 79 cases, or 5.9 percent. In four of these accidents, fire had not occurred, and in 23 cases no confirmation of fire could be established.<sup>46</sup> A more revealing statistic would have presented data on the number of cases in which the pilots' blood contained levels as low as 5 percent COHb. Also, the study failed to mention any correlation between these accidents and the smoking habits of the pilots. Accident investigators do not appear to make any attempts to determine whether a relationship exists between aircraft accidents and smoking. But there is ample evidence that a relationship could exist. This should cause enough concern for the Air Force to conduct extensive research in this area.

RESEARCH is needed to determine exactly the effects produced in the body by the combination of low levels of COHb from smoking and low-pressure altitude. This research should include aviators performing simulated flight duties in an altitude chamber at various pressure altitudes. Such a study should also include smoking, nonsmoking, and smoking-deprived subjects. Results would either validate or refute the cited studies and hypothesis.

There is a need for Air Force safety investigators to determine COHb levels in the blood of accident victims. They should be compared with the results of flight surgeons' medical records to determine the history and extent of an individual's smoking behavior. The flight surgeon would have the responsibility of recording the smoking history and habits of crew members so that this information would be readily available. A tracking of smoking aviators' records would also show the correlation between smoking and conditions of chronic sinus, respiratory, circulatory, and intestinal problems. If such a

relationship exists, the Air Force should be critical of crew members who voluntarily cause an expense in both lost time and medical attention.

If previous recommended steps confirm that smoking will impair aviators' functions or that a relationship does exist between smoking and accidents, then the Air Force should impose strict regulations on smoking by crew members. Smoking of tobacco products should be treated in the same manner as consumption of alcohol, the other socially accepted drug. It is a personal right to indulge, but indulgence must not interfere with job performance. The right to smoke and drink expires when the right limits performance and becomes a safety hazard to the individual, other personnel, material, and the mission.

Smoking by crew members should be regulated in the same way that the consumption of alcohol is regulated. For example, AFR 60-1 states:

Aircrew members will not consume alcoholic beverages during the 10-hour period before reporting for a mission, nor will they be assigned crew duties when under the influence of such indulgence.<sup>47</sup>

FOR the reasons already explained, AFR 60-1, AFR 60-16, and command supplements should add a ten-hour prereporting ban on smoking of all tobacco products by aircrews. The regulations should also ban smoking by aircrews during flight operations. Department of Health, Education, and Welfare concern over enforceability would not apply to Air Force regulations, since they are directive under law. Admittedly, these restrictions will raise considerable resistance from smoking crew members. Their claims of inability to stop smoking for short durations or claims of adverse physical or psychological effects of withdrawal would produce even greater proof that tobacco is a dangerous, addictive drug, and its use by crew members should be sharply curtailed.

*Air Command and Staff College*



## Notes

- 1 *Smoking and Health. Report of the Advisory Committee to The Surgeon General of the Public Health Service*, Public Health Service Publication No. 1103 (Washington: Government Printing Office, 1964), hereafter identified as *Smoking and Health, 1964 The Health Consequences of Smoking—1967, 1968, 1971, 1972, 1974 & 1975* (Washington: Government Printing Office, 1967, 1968, 1971, 1972, 1974, & 1975)
- 2 *The Smoking Digest*, U.S. Department of Health, Education, and Welfare (Bethesda, Maryland: National Cancer Institute, October 1977), pp. 83-91
- 3 "Pipes and Cigars Banned on Planes," *New York Times*, November 23, 1977, p. 1, cols. 5 & 6
- 4 Department of Defense Instruction 6015.18, *Smoking in DOD Occupied Buildings and Facilities* (Washington: Department of Defense, 18 August 1977), hereafter identified as *DOD Instruction 6015.18*. Air Force Regulation 30-27, "Smoking in Air Force Facilities" (Washington: Department of Air Force, 29 March 1978).
- 5 "Petition of the Airline Pilots Committee of 76, Public Citizen's Health Research Group, and the Aviation Consumer Action Project," Regulatory Docket No. 15614. Filed April 20, 1976, before the Federal Aviation Administration, Washington D.C., and hereafter identified as *FAA Petition*, 1976.
- 6 "Smoking: Its Adverse Effects on Airline Pilot Performance," A Report of Public Citizen's Health Research Group, Susan A. Robinson and Sidney M. Wolfe, M.D., April 1976, pp. 11-12, hereafter identified as "Smoking."
- 7 "Denial of Petition," Regulatory Docket No. 15614, U.S. Department of Transportation, Federal Aviation Administration, Washington, D.C., August 22, 1977.
- 8 "Petition to the Administrator for Reconsideration of Order Denying Petition for Rulemaking," Regulatory Docket No. 15614, September 21, 1977, Federal Aviation Administration, Washington, D.C.
- 9 Richard D. Stewart, M.D., et al. "Experimental Human Exposure to Carbon Monoxide," *Archives of Environmental Health*, vol. 21 (August 1970), pp. 154-64.
- 10 W. Wayne Worick and Warren E. Shaller, *Alcohol, Tobacco and Drugs: Their Use and Their Abuse* (Englewood Cliffs, New Jersey: Prentice-Hall, 1977), p. 78.
- 11 *Smoking and Health*, 1964, p. 318.
- 12 Worick and Shaller, p. 83.
- 13 *The Health Consequences of Smoking—1972*, DHEW Publication No. (HSM) 72-7516 (Washington: Government Printing Office, 1972), p. 142.
- 14 *Ibid.*, p. 143.
- 15 Harold S. Diehl, M.D., *Tobacco and Your Health: The Smoking Controversy* (New York: McGraw-Hill, 1969), pp. 48-49.
- 16 Air Force Regulation 60-1, "Flight Management," Washington: Department of the Air Force, 2 January 1975, Change 1, 4 October 1976, para. 7.9c. MACSUP-1 AFR 60-1, "Flight Management" (Military Airlift Command Headquarters, Scott AFB, Illinois, 21 March 1977), para. 7.9c(3).
- 17 *The Health Consequences of Smoking—1972*, p. 21. John R. Goldsmith, M.D., "Contribution of Motor Vehicle Exhaust, Industry, and Cigarette Smoking to Community Carbon Monoxide Exposures," *Annals of the New York Academy of Sciences*, October 5, 1970, p. 122, hereafter identified as "Community CO Exposures."
- 18 Wilbert S. Aronow, "A Critical Review of the Effect of Nicotine and Carbon Monoxide on Coronary Heart Disease," *World Smoking and Health*, Fall 1976, p. 21.
- 19 H. L. Judd, "Levels of Carbon Monoxide Recorded on Aircraft Flight Decks," *Aerospace Medicine*, March 1971, p. 345, hereafter identified as "CO on Flight Decks."
- 20 "Smoking," pp. 11-12.
- 21 "Community CO Exposures," p. 126.
- 22 "CO on Flight Decks," p. 345.
- 23 *The Health Consequences of Smoking—1972*, pp. 21-22.
- 24 Air Force Pamphlet 19-5, "Environmental Quality Control Handbook" (Washington: Department of the Air Force, 15 October 1975), para 3-22, Table 3-7.
- 25 John R. Goldsmith and Stephen A. Landaw, "Carbon Monoxide and Human Health," *Science*, 20 December 1968, p. 1352.
- 26 *Ibid.*, p. 1354.
- 27 "Smoking," p. 15.
- 28 *The Health Consequences of Smoking—1972*, p. 22.
- 29 Air Force Regulation 60-16, "General Flight Rules" (Washington: Department of the Air Force, 15 July 1977), para 6.6, Table 6.1.
- 30 "CO on Flight Decks," p. 345 (Figure 1 reproduced with permission.)
- 31 "Smoking," p. 32.
- 32 Steven M. Horvath et al., "Carbon Monoxide and Human Vigilance," *Archives of Environmental Health*, November 1971, p. 343.
- 33 Lieutenant Colonel David Root, "Cigarette Smoking and Carbon Monoxide," *Aerospace Safety*, March 1972, p. 15.
- 34 William H. Browning, "Deleterious Effects of Cigarette Smoke and 100% Oxygen on Aircrew Members in High Performance Aircraft," *Aerospace Medicine*, January 1970, p. 39.
- 35 Craig R. Scoughton and Norman W. Heimstra, "The Effects of Smoking on Peripheral Vision," University of South Dakota, Contract No. DADA 17-73-C-3037 (Washington, D.C.: U.S. Army Medical Research and Development Command, December 1973), p. 39.
- 36 *Ibid.*, p. 36.
- 37 R. D. Stewart et al., "Effect of Carbon Monoxide on Time Perception," *Archives of Environmental Health*, September 1973, pp. 155-60. R. A. McFarland, "Low Level Exposure to Carbon Monoxide and Driving Performance," *Archives of Environmental Health*, December 1973, pp. 355-59. Carol A. Christensen, "Effects of Three Kinds of Hypoxias on Vigilance Performance," *Aviation Space and Environmental Medicine*, June 1977, pp. 491-96.
- 38 Anna-Lisa Myrsten et al., "Enhanced Behavioral Efficiency Induced by Cigarette Smoking," reports from the Psychological Laboratories, University of Stockholm, Sweden, December 1971.
- 39 *The Health Consequences of Smoking, 1975*, DHEW Publication No. (CDC) 76-8704 (Washington: Government Printing Office, 1975), pp. 87-90.
- 40 *Ibid.*, p. 88.
- 41 *Report on Health Aspects of Smoking in Transport Aircraft* (Washington: Federal Aviation Administration, December 1971), p. 19.
- 42 "CO on Flight Decks," p. 347.
- 43 *Report on Health Aspects of Smoking in Transport Aircraft*, p. 54.
- 44 Letter from Theodore Cooper, M.D., Assistant Secretary for Health, Department of Health, Education, and Welfare, to Mr. John L. McLucas, Administrator, Federal Aviation Administration, 4 June 1976.
- 45 Ancharf F. Zeller, "Alcohol and Other Drugs in Aircraft Accidents," *Aviation Space and Environmental Medicine*, October 1975, pp. 1271-73.
- 46 Delbert J. Lacefield, Patricia A. Roberts, and Curtis W. Blossom, "Toxicological Findings in Fatal Civil Aviation Accidents, Fiscal Years 1968-1974," *Aviation Space and Environmental Medicine*, August 1973, p. 1032.
- 47 Military Airlift Command Supplement-1, AFH 60-1, para. 7.9c(4).

Postscript: *Smoking and Health: A Report of The Surgeon General*, U.S. Department of Health, Education, and Welfare (1979), released in January 1979, produced no new research or evidence on this particular subject.

T. E. B.



*There is a turmoil  
under the heavens. . . .*

Chou En-lai, 1971

NEARLY thirty years ago, the noted Sinologist Mary C. Wright evaluated the famous China white paper of 1949 for the *Far Eastern Quarterly*. She concluded that in the first years after World War II the United States government had possessed adequate, accurate information for making policy decisions on China following the Japanese surrender.<sup>1</sup> That information, of course, was not in itself sufficient to ensure indisputably good decisions, but it was more of an advantage than any American government has had in subsequent years. China-watchers since 1950, whether in government or out, have necessarily engaged in the "somewhat foolhardy practice of writing history on the basis of dubious data, rumors, and rumors of rumors."<sup>2</sup>

In discussing contemporary China, one immediately confronts the contradiction between how little is known and how much is written. To be sure, both Chinese and westerners know more about each other, and about the world at large, than they did at some points earlier in their relations. The leaders of contemporary China probably would not write to a western head of state in the terms Emperor Chien Lung addressed to George III of England in 1793: "I have already taken note of your respectful spirit of submission," he wrote in reply to a *démarche* from the king. "I do not forget the lonely remoteness of your island, cut off from the world by intervening wastes of sea."<sup>3</sup> After all, Henry A. Kissinger—the "inscrutable Oc-



## THE PEOPLE'S REPUBLIC OF CHINA IN WORLD AFFAIRS

*recent writings,  
contemporary topics*

DR. THOMAS H. ETZOLD



cidental," in the words of the *New York Times*—has proclaimed that China's leaders today have sophisticated understandings of world politics and power relationships, though perhaps one should note also that Kissinger sometimes seems to have confused sophistication with ruthlessness in matters pertaining to the use of power.

Similarly, in the West no contemporary journalist of merit would be likely to report along the lines of a young English reporter who, in 1933, wrote about "Mao Dsu Tung, a gifted and fanatical young man of thirty-five suffering from an incurable disease."<sup>4</sup>

Yet Chinese society and government remain more hidden than revealed. For example, on 16 July 1966, after a long absence from public view, Mao Tse-tung and 5000 individuals swam in the Yangtze River for a reported one hour and ten minutes, with about 200,000 onlookers present. It was ten days before the diplomatic representatives of other countries, the foreign press, and indeed the rest of the Chinese populace knew of it.<sup>5</sup> Again, in 1976, after Mao's death and the accession to power of Hua Kuo-feng, it was six weeks before the American liaison office in Peking even knew that Hua had a wife, and longer still before the U.S. government knew his family and given names and not just his revolutionary sobriquet.<sup>6</sup>

WHAT we know and do not know about contemporary China depends fundamentally on the sources of information and insight available to westerners and, for purposes of this article, particularly to Americans. As reflected in these writings, the sources consist of four categories: the Chinese themselves, the Nationalist Chinese on Taiwan, the officials and employees of the United States government, and academic scholars, both Americans and others.

Undoubtedly the most important source of information, if not always of insight, into contemporary China is mainland China's govern-

ment and, to a lesser extent, its people. The outside world receives a modest amount of information on what is happening in China through official speeches, publications, and statistics (when available). In ordinary diplomatic intercourse outsiders learn something of the view of China's leaders and perhaps also some things of substance concerning developments in the country. Chinese broadcasts are monitored, transcribed, and translated, mostly by government agencies. The outside world also learns from the Chinese press. Although the press in China appears to be among the most tightly controlled in the world, several hundred newspapers and countless periodicals circulate in China. Many of these have only local or regional circulation; many seldom if ever come to the notice or into the hands of foreigners whether inside or outside China. Still, from the large-character "newspapers" on the walls of Peking to the national, regional, and local papers, the press and other periodicals constitute the single largest source of information for most China-watchers.

Mainland China also provides less direct avenues of information that deserve brief mention. Refugees, principally from the southeastern and southwestern portions of China, provide some information of real importance; presumably, refugees and nomadic peoples on the Sino-Soviet frontiers are of similar usefulness to the Russians. Foreign diplomats stationed in China, of which there are now quite a number, also transmit their own observations and deductions, based not only on what they read but on what they see—and sometimes on what they do not see. Finally, travelers—the new China experts mocked by Mao Tse-tung and others for having acquired their expertise by sitting in the Peking airport for thirty minutes—have provided some information and occasional insights into China today. One must remember, of course, that there is no such thing as freedom of travel or association for foreigners in China. The expert consensus is that visitors to China, even very important ones, see only what their hosts wish to show them. Now, with formal Sino-American



relations, this may take a considerable turn.

In still another way, mainland China has proved a source of information about itself. Occasionally, and usually through irregular channels such as refugees or espionage, western authorities have obtained government documents of interest. Perhaps the best-known such instance occurred in 1961–62 when 29 issues of a classified military journal, the *Bulletin of Activities*, made their way out of China and into American hands during the course of the Khamba insurrection in Tibet.<sup>7</sup> At least as far as public knowledge goes, there has been no comparable acquisition since, but certainly there have been lesser instances in the intervening years.



A second source of data regarding mainland China, the Nationalist Chinese on Taiwan, contributes much in the way of information and analysis. Virtually all of the political and military leaders of Taiwan are mainland-born. They lived with, and sometimes fought with, men of the generation that still leads China. By culture, language, and life experience—and more than any other people in the world outside of mainland China—they know the land, the people, the problems, and the leaders of China today. In addition, they have the ability to penetrate mainland China with intelligence operatives and to exploit to the fullest the knowledge of refugees in places such as Hong Kong. Until the late 1960s, they also had so-called “technical means” of collecting intelligence; Nationalist Chinese U-2 aircraft flew regular photographic missions over the mainland until Chinese surface-to-air missiles (SAM), improved versions of Russian SAM-2s, made that aircraft unprofitably vulnerable.

Until this year, as allies, the Nationalist Chinese naturally exchanged some information and analyses with the American government. They continue to sustain a lively scholarly enterprise. The Institute of International Relations and the Academia Sinica, both in Taipei, support the work of Chinese and foreign scholars with programs of research, travel, conferences, publications, and with uniquely valuable libraries.

A third important source of information and views on China today is the United States government, from its diplomats to its intelligence officers to analysts on contract in think tanks around the country. Although much of what the government learns and supposes never reaches the public, a surprisingly large amount of government information makes its way into the public domain, usually after some lapse of time. This is true even of results derived from the highly secret operations of overhead surveillance systems. They are also persistent, though unconfirmed, rumors about Russian-American exchanges of information about the People's Republic of China (PRC).

Academic scholars of the United States and other countries (especially those of Taiwan and Japan) and perhaps a handful of journalists comprise a fourth category of sources on modern China. They draw on all three foregoing categories of information and thus constitute a resource of informed opinion, especially for officials in the American government who deal with China policy. Sometimes, in fact, academic experts on China become important “players” in Washington policy circles. The number one China-watcher in the United States government early in the Carter administration has been Michel Oksenberg on the National Security Council Staff; until 1977 he was a professor of political science at the University of Michigan. A few journalists, such as Fox Butterfield of the *New York Times*, have also developed the ability to comment with insight on things Chinese.

Academicians and journalists produce most of the large number of books, monographs, ar-



icles, and essays forming the usual information base of nonexperts who interest themselves in Chinese affairs. Many military officers also are writing on Chinese politics and military affairs, mostly in unpublished papers at the senior service schools and in periodicals directed toward military audiences. To date, however, these officers' writings have had little appreciable influence either on government policy circles or on the academic experts.

Limitations on knowledge and sources concerning mainland China have become increasingly acute matters in the last decade. For there is, as Chou En-lai said to Henry Kissinger in 1971, a "turmoil under the heavens." Great power relationships, especially but not exclusively in the Far East, are fluctuating more significantly than at any time since World War II. International relations are evolving from an era in which Soviet-American relations were the fundamental dynamic of world affairs to a more complex, more difficult political context, in which not only Russia and the United States but China, Japan, Western Europe, the cartels of resource-producing states, and even lesser states such as Korea may exert considerable influence on the course of events.

China has had central importance in causing the turmoil of contemporary world politics, a fact laden with irony. For the Chinese today, like their forebears, display a certain Sino-centrism, an attitude more like that of Emperor Chien Lung than different from it. In mainland China, this outlook has shown recently in several ways. For one thing, the PRC has established national priorities in which domestic affairs overshadow things external to the Middle Kingdom. For another, although Russian, American, and Japanese heads of state and other high officials have journeyed to Peking, some of them repeatedly, high Chinese officials have stayed at home, venturing occasionally to visit only obviously inferior former tributary states such as Burma and Nepal. The visit of China's Teng Hsiao-ping to the U.S. in January 1979 was exceptional, not a change in basic outlook.

The Chinese have expressed a fear of encirclement, another manifestation of a Sino-centrist mindset.



On Taiwan, at least one leading Chinese official has enunciated an even more distinct view of a world centered on China—and indeed on the Republic of China! "All in all," he has written, "the Republic of China is the key to the solution of the problems of the world." His point, simply summarized, is that in the long-term struggle between communism and more liberal values and institutions, China, with one quarter of the world's population, will play a decisive role. Thus, as the only political alternative to communism in China, the government of the Republic of China assumes worldwide significance.<sup>8</sup>

It is easier to say that China has been central in the turmoil of our times than to say whether or how much China may contribute to the alleviation of that turmoil. Here one confronts what the Chinese, with their fondness for lists and slogans, might call the "two ignorances": one resulting from lack of adequate information about China itself and the other from the unpredictability of a changing world order. These difficulties show, in varying measure, in each of four topics prominent in recent writings: Sino-Soviet relations, Sino-American affairs, China's relations with the rest of the world, and China's military development.

#### *Sino-Soviet relations*

In discussing the Sino-Soviet relationship, one may recall a dictum of the philosopher Hegel: "Peoples and governments never have learned

anything from history. . . . " American ability to assess that relationship has for thirty years been marred by shortsightedness. In the first years after World War II, American policy-makers confidently expected Sino-American antagonism to develop into a limitation on the power of the Soviet Union in the Far East, without any investment of American military resources. The Soviets, after all, occupied traditionally Chinese territory.

But expectations based on history were disappointed in short order. A series of accidents and errors in American strategy and policy at the time of the Korean War altered, at least temporarily, American ability to await the developments they had expected. Then the American reaction to China's intervention in Korea forced China into a closer connection with the Russians than otherwise would have developed.<sup>9</sup> Now that recent scholarly analyses are casting doubt on the idea that the North Koreans were merely Russian stooges in their aggression, it is interesting to speculate on the enormous effects such a small country as Korea can have on great power relations.<sup>10</sup>

In the accidents and errors of the Korean War, the communist monolith took its place at the center of American political and strategic thought, despite the better-reasoned and still valid perceptions of earlier leaders concerning the grounds for long-term Sino-Soviet hostility. Since the late 1950s and early 1960s, when the Sino-Soviet split became truly serious, discussion has returned repeatedly to the question of whether Sino-Soviet cooperation is the aberration in that relationship or whether confrontation between communist states is the abnormal and transitory mode of relations.

The view of Henry Kissinger, and of many others, has been that the history of Sino-Soviet relations shows far more reasons for long-term antagonism than for adjustment of differences. As Harold Hinton, author of the best short summary of the dispute, noted, the Russians so hate the Chinese that "next to lowering the price of vodka, nothing would increase the popularity

of the Soviet regime more than declaring war on China."<sup>11</sup> In contrast, the Taiwanese insist that ultimately communists in China and communists in Russia will have goals more consonant than dissonant, so that the Sino-Soviet dispute is at best temporary and at worst tactical—an outright sham for the purpose of relaxing the vigilance of the noncommunist world.



Apart from the ideological and emotional aspects of the Sino-Soviet conflict, however, there are the more durable and genuine issues of border disputes. As one commentator on world politics has shrewdly noted, border dispute practically guarantee enduring enmity; for "people tend to attack and defend small territorial claims with the same viciousness that they defend or attack large ones. Just as the size of the territory claimed is unimportant, so too is the strategic or economic value of it."<sup>12</sup> And, of course, some of the Chinese claims against the Russians are rather sizable.

Like so many topics in Chinese affairs, the Sino-Soviet conflict raises a "contradiction"; although scarcely anyone would question its importance in world politics, hardly anyone can agree on exactly what that importance is and whether, on balance, the conflict is beneficial or harmful to world politics.

There are clear benefits for the United States and for other powers in the Sino-Soviet rivalry. The tensions keep both China and the Soviet Union tied down in the Far East, at least to some extent. The rivalry raises the importance of the outside world to China and thus supplies a fundamental motive for more constructive and substantial Chinese relations with states China might otherwise ignore or annoy. These factors



provide political, economic, and military opportunities, perhaps even benefits, to the United States, Japan, and other Asian nations.

There are also detriments in the situation of Sino-Soviet enmity. For in this context, the United States faces extremely difficult policy choices in both peace and war. In peacetime, the adversary relationship has led Peking to explore questions of military assistance from the United States, which has made for great uneasiness in Washington—and Moscow. Associated issues, even discussion of possible alliance, hold great potential for aggravation of the Russians. The possibility of Sino-Soviet war on a large scale, possibly even involving nuclear weapons, must also be one of the constant nightmares of Washington officials who might have to identify and pursue American interests in such circumstances.<sup>13</sup> As George F. Kennan wrote in the summer of 1977, under such conditions it cannot be in the interest of the United States to encourage dangerously hostile relations between two such powerful countries as China and Russia.<sup>14</sup> One must constantly remember that the United States inhabits the same strategic environment as do the other superpowers.<sup>15</sup>

In the long run, it will probably be difficult to avoid damage to American interests as a result of Sino-Soviet conflict. It is essential to remember, as Hinton has written, that the United States "has benefited from the dispute without having caused it or having been able actively to exploit it."<sup>16</sup> Over time, the United States may be as likely to suffer as to profit from the dispute, and it will suffer most of all if policy-makers assume that no amelioration of tensions is possible, that the United States can count on permanent advantage from a Sino-Soviet conflict.

#### *Sino-American affairs*

Problems of the Sino-Soviet relationship lead directly to those of Sino-American relations: "normalization," concerted action on "parallel interests" in Asia, potential military cooperation, trade, travel—and Taiwan.

Aspects of domestic politics have caused special difficulties for both Chinese and Americans in attempting to deal with the real issues of Sino-American affairs. The opening to America was unquestionably a factor in radical-moderate political struggle within China in the last ten years. In the United States, the China question has long held an unusually sensitive position in politics.

Yet, intellectual difficulties in Sino-American affairs are, if anything, more severely crippling than political liabilities. These intellectual difficulties arise from the fact that China is more important for what it may be eventually than for what it is now. For the present, China policy thus depends on the ability to perceive clearly the probable relationships between the immediate and the eventual, in spite of the "two ignorances" mentioned earlier: those resulting from the uncertainty of international political evolution and from the impenetrability of Chinese government and society.

The United States is in a sense dealing with three Chinas: the China of the past, present, and future. It will be readily apparent how much this compounds the problem caused by limitations of information and sources. Even if Americans can acquire a grasp of China past and present, which is much in doubt, it is not clear that they will be able to comprehend or to forecast China future. The paradox is that the single most important influence on American policy toward China today is perception of China's future, of what China will eventually become.

The framework sketched above to some extent predisposes American policy-makers to sacrifice or to compromise immediate interests in the hope of creating a residue, or tradition, of good will in relations with a country presumed to be on the way to superpower status. It is fashionable to say that, because China is heading toward such power, no important issues in Asia can be decided against Chinese opposition or without Chinese cooperation. Such reasoning has led directly to the widespread conviction that "normalization" of relations with China was



an early and urgent requirement for the United States in the latter 1970s.<sup>17</sup>

Yet, it is sobering to reflect on the scarcity of gratitude in international relations. Can one really expect to create long-term good will or heighten American influence by compromising or conceding on issues in Sino-American relations? It is possible to argue that now, after normalization of relations, the United States will have less influence in Peking than before; the granting of recognition carried enormous potential leverage, which is lost—and irrecoverable—now that the United States has committed itself by recognizing mainland China.<sup>18</sup> In 1976, Kennan made another point about the Chinese that is relevant:

I think that [the Chinese] don't particularly like foreigners. I don't think they're terribly interested in us, and I think they're capable, along with their great delicacy of behavior, of great ruthlessness when you least expect it of them. I would feel that Americans ought to be very careful in their dealings with them.<sup>19</sup>

However things may turn out in Sino-American relations, it is certain that any development will be both politically significant and technically difficult. The United States has a China problem, and, ironically, one very much of its own making. By persevering in treating China as a great power and the issues of Sino-American relations as urgent, the United States has made China much more important than it would have to be at present. By hastening to anticipate China's future, American leaders have immensely complicated America's present, and one can only hope that they prove equal to the tests they have set themselves.

### *China and the world*

It may seem ridiculous to address a subject as broad as that of China and the world in a format such as this. Yet it is both possible and necessary to make brief observations on two aspects of that general subject: China's political influence outside its borders and China's importance as an

ideological, strategic, and/or economic development model.

China's political and economic influence outside its borders, at least in the traditional context of state-to-state relations, has never been very great, and is not now. For a time after the Communists came to power, China made a serious effort to assume leadership of the Third World, but this drive for influence peaked quickly, perhaps as early as the middle 1950s, certainly by the time of China's nuclear and thermonuclear explosions in the middle 1960s. The Great Proletarian Cultural Revolution, with its drastic re-direction of Chinese political priorities, marked the virtual end of China's ability to assert significant political influence outside its borders except on the two superpowers.

Despite its success in displacing Taiwan in most international organizations and in state-to-state relations with all but five governments, mainland China today exerts little influence on other governments. Although there are occasional indications that some Chinese leaders hope, and even expect, that this will change until mainland China develops considerably more economic and military strength, coupled with more advanced technology, its influence is likely to be high only in the small contiguous states, such as Burma and Nepal, that traditionally have acknowledged a tributary relationship to Peking.

The one important exception to the foregoing generalizations about China's lack of influence beyond the circle of superpowers, of course, is the relationship between China and Japan. The elaboration of extremely large and promising trade relations between China and Japan, coupled with Japan's cautious adjustment of its political orientation, has constituted the single most important actual—in contrast to potential—political-economic change in northeast Asia in recent years, at least for American interests.<sup>20</sup> American policy toward China from 1969 to 1971 not only accelerated the increase in China's importance to the United States but similarly raised its importance to Japan. The consequent

adjustments—some might call them disturbances—in Japanese-American relations have held the most far-reaching significance. The potential for adverse developments in this three-sided relationship is high enough to claim priority attention in Washington for years to come.

The Chinese-Japanese relationship is also of concern to Moscow. For years it has been evident that Japan would need reliable supplies of energy and ores from the Asian mainland, as well as large markets for its consumer goods. It is an open question—in fact, an open competition—to see whether Russia or China will succeed in preventing Japanese economic dependence on, and possibly political cooperation with, the other.

Although in the long run China's importance in state-to-state relations will probably increase, in the short run China's principal influence outside its borders and contiguous areas, where it has any, is likely to be as an exemplar of ideology, strategy, and development methods.



The prospect of China's influence as a model should not overly concern the United States, whether in terms of ideology, strategy, or development. Only 13 years ago, in 1966, Lin Piao was hailing the thought of Mao Tse-tung as a "spiritual atom bomb of infinite power."<sup>21</sup> Today, the successors of Lin and Mao are using quotations from Mao to undo the revolution, at least as the Great Helmsman conceived and directed it.<sup>22</sup> It is true that Mao-thought has become a fad with some small proportion of revolutionaries around the world. In importance, however, Mao-thought as radical chic resembles the hula hoop in America some years ago: everywhere one could see people in vigorous move-

ment, but they moved mostly in circles while keeping their feet firmly planted on one spot; and soon the fad passed. The world revolution, if it ever comes, scarcely seems likely to be Maoist.

As for strategy, the tendency of many writers to confuse Mao's strategy of people's war with irregular warfare of any kind, and occasionally even with terrorism and so-called urban guerilla tactics, has muddied discussion almost to the point of hopelessness. At present, the precise applications, and correspondingly the limitations, of Mao's strategic thought seem poorly understood in the West, with the result that opinions on the future significance of people's war vary from extreme to extreme. Some consider it the ultimate weapon against the industrialized nations, the unbeatable counter to conventional war and high-technology armies. Others, perhaps more soberly and accurately, regard it as a strategic method of circumscribed usefulness, and perhaps more a failure than a success in its most recent applications.<sup>23</sup>

Like people's war, Chinese development methods seem at least for the present difficult to evaluate unambiguously in terms of their potential influence outside China. There is unanimous agreement that, with the exception of the years 1969–71, Chinese development since the Great Leap Forward of 1958 has been disastrously mismanaged. Yet admirers of the Chinese experiment persist in attempting to find praiseworthy models for capital-poor, labor-rich developing countries.<sup>24</sup> Perhaps all that one can say for now is that, until revolution and development Chinese-style have progressed yet further, with more attempts to transplant their elements to other societies, the subject will remain hazy, open to debate if not dispute.<sup>25</sup>

### China's Military Development

To some extent, each of the three relationships just discussed—Sino-Soviet relations, Sino-American affairs, and Sino-world relations—depends on the facts and expectations of China's



military capability. Although many people today are repelled by the idea, it is no less true that in world affairs political influence and military power remain linked. Thirty years ago George F. Kennan and others with influence on American political and military priorities could, and did, view a potentially Communist China as no real threat to American security. They reasoned, correctly, that for decades to come China would lack the combination of resources, technology, industrial capacity, and skilled labor necessary for projecting modern military power.<sup>26</sup> Today, fewer people would be comfortable with that view for the long run, even though it remains true at present and probably will for some time.

With the explosion of Chinese nuclear and thermonuclear devices, the orbiting of Chinese earth satellites, and such things as the Sino-Soviet conflict to motivate improvements in Chinese war-fighting capability, Chinese military development has become parallel in importance to the Chinese ascent in great power politics. As Jacques Guillermaz wrote near the end of his two-volume history of the Chinese Communists from 1921 to 1976:

The general evolution of Chinese military policy, China's progress in the field of modern weapons, and its attitude toward the disarmament question are by far the most important subjects for reflection that the country has to offer us today.<sup>27</sup>

Here the problems of China's impenetrability loom large indeed. The Chinese promulgate virtually no information about their armed forces and equipment except to propagandize, somewhat inaccurately it now seems, about the army's contribution to China's economy and development. Although over the years it has been possible to learn quite a lot about Chinese armed forces as regards order of battle, and to a lesser degree equipment, for the most part Chinese military doctrine remains unknown. No two western analysts seem able to agree exactly on organization, command, and control relationships within the Chinese military and government; even less is known about trends and priorities in Chinese technical development for

military applications.<sup>28</sup> And all that is known of the latter is either highly classified, highly technical, or highly inferential.

It is obvious, as suggested, that China's military development has the greatest potential for disturbing the already delicate Sino-Soviet relationship. Some analysts believe that the Russians were on the verge of invading China in 1966, out of exasperation at the polemical and military posturing accompanying the opening phases of the Cultural Revolution.<sup>29</sup> Recently, H. R. Haldeman, former assistant to President Richard M. Nixon, has asserted that the Soviets asked the United States to join in, or at least permit, a Russian disarming strike against China's nuclear facilities.<sup>30</sup> In contexts of less global scope, the United States and China in their bilateral discussions clearly expect that, as time passes and China's military power grows, the Chinese may simply insist on terms or take action to resolve regional political and border questions—including that of Taiwan—unilaterally and possibly militarily.



Chinese military development will depend to a considerable extent on Chinese progress in basic science and engineering as well as in industrial capacity. Here the Chinese face difficult problems, even though the scientific community has revived considerably since the death of Mao.<sup>31</sup> Advanced electronics, for instance, are the sine qua non of modern weaponry, and it will be years before the Chinese even approach Soviet and American ability in this field. It is significant that the Chinese have been able to explode thermonuclear weapons long before they could devise guidance systems adequate to make them explode on, or over, meaningful targets. Similarly, production capacity and qual-



ity control constitute immense barriers to Chinese progress in advanced weapons. China's attempt to build a high-performance combat aircraft of Chinese design has stalled in recent years, probably due to inadequacies in high-temperature metallurgy processes.

Given its weaknesses in technology and industry, for many years China will be forced to meet some of its military needs by importing technology in various forms, probably including outright purchase of military equipment. Few areas of international relations are as difficult to manage as transfer of technology. In so many instances, the difference between initial use and end use of given technologies depends more on the imagination of the persons acquiring them than on the foresight and controls of those supplying them. For reasons alluded to earlier, China's search for improved military capability is fraught with anxious ambiguities. It is possible that China's military needs may force accommodation with the Soviets, at least in part.<sup>32</sup> Analysts now are also exploring the general issues of a Sino-American military and technical relationship.<sup>33</sup> It is certain that China's trade with Japan, and eventually with other states, will result in benefits to Chinese science and industry, some of military significance.

China's fundamental problem in military modernization, familiar also in the experiences of the United States and the Soviet Union since World War II, lies in the trade-off between present needs and future requirements. China's problem with the Soviet Union places immediate and high demand on the resources available for military use in China, but China's longer-range military necessities as an emerging superpower place competing demands on resources. China thus faces hard choices between purchases of current capability on one hand and investment in long-term research, development, and procurement of long lead-time equipment on the other. The Chinese must also address the all-too-familiar problem of the extraordinary cost of high technology weapons as they approach modernization.

A prudent view to the future, therefore, would seem to require the Chinese to manage their disputes with the Russians at the lowest levels of conflict and cost consistent with acceptable definitions of interest and political appeal, and to avoid, when possible, the expenditure of military resources on military aid, adventurism, suppression of minorities within China, or even a military approach to resolution of the Taiwan problem.

It is not certain, however, that the Chinese will see their problem in these terms, or that, even seeing it thus, they will be able to maintain a long-term perspective. Chinese aid to Cambodia against Vietnam in 1977-78, for instance, would seem to run counter to the prudent prescription outlined above. It may be some time before a consistent Chinese policy becomes apparent to outside observers.<sup>34</sup>

THUS, as China's relation to the world alters and enlarges, there is turmoil under the heavens. Some twenty years ago, the Assistant Secretary of State for Far Eastern Affairs, Walter Robertson, told Congress that it was the policy objective of the United States government to overthrow that of Peking. Scarcely ten years ago, then Secretary of State Dean Rusk informed the United States Senate that "Peking's behavior is violent, irascible, unyielding, and hostile." By 1972, Chou En-lai and Richard M. Nixon were assuring each other, and declaiming to the world, that the Americans and Chinese were great peoples, with great leaders, great pasts, and great futures. Within five years, it was commonplace to hear commentators and officials discussing the "parallelism" of Chinese and American interests in both Asian and world issues. As of 1979, then, it remains to be seen whether such utterances revealed a constructive trend in China's relations with America, and with the world, or whether turmoil would, after all, constitute China's chief contribution to world affairs.

*Naval War College  
Newport, Rhode Island*

## Notes

Dr. Etzold's essay derived from his study of the six recent Asian monographs: Jacques Guillermez, *The Chinese Communist Party in Power, 1949-1976* (Boulder, Colorado: Westview Press, 1976, \$24.75), xxi and 614 pages.

Francis H. Heller, editor, *The Korean War: A 25-Year Perspective* (Lawrence: The Regents Press of Kansas, 1977, \$13.00), xxii and 251 pages.

Harold C. Hinton, *The Sino-Soviet Confrontation: Implications for the Future* (New York: Crane, Russak & Company, Inc., 1976, \$4.95), viii and 68 pages.

Harold Lasswell, Daniel Lerner, and John D. Montgomery, editors, *Values and Development: Appraising Asian Experience* (Cambridge: Massachusetts Institute of Technology Press, 1976, \$19.95), x and 291 pages.

Harvey W. Nelsen, *The Chinese Military System: An Organizational Study of the Chinese People's Liberation Army* (Boulder, Colorado: Westview Press, 1977, \$18.00), xiv and 266 pages.

Louis J. Samelson, *Soviet and Chinese Negotiating Behavior: The Western View* (Beverly Hills, California: Sage Publications, 1976, \$3.00), 62 pages.

1. Thomas H. Etzold and Jerome K. Holloway, Jr., "America's Relations with China's Leaders: The 1920s to the 1970s," in Etzold, editor, *Aspects of Sino-American Relations since 1784* (New York: Franklin Watts/New Viewpoints, 1978).

2. Kenneth R. Whiting, *The Chinese Communist Armed Forces* (Maxwell AFB, Alabama: Air University, 1974), p. iv.

3. This quotation appears, among other places, in Richard W. Van Alstyne, *The United States and East Asia* (New York: W. W. Norton, 1973), p. 17.

4. Etzold and Holloway, p. 128.

5. Jacques Guillermez, *The Chinese Communist Party in Power, 1949-1976*, pp. 385, 386.

6. Etzold and Holloway, p. 158.

7. A large portion of one issue of the *China Quarterly* was given over to a discussion of these revealing papers. See *China Quarterly* #18, April-June 1964, pp. 67-99. The papers were published in English in J. Chester Cheng, editor, *The Politics of the Chinese Red Army: A Translation of the Bulletin of Activities of the People's Liberation Army* (Stanford, California: Stanford University Press, 1966).

8. General Chiang Wei-kuo, "My View on the Issues That We Are Concerned About," unpublished essay dated 19 September 1977 and personal letter to the author of the same date.

9. This point is developed at length, with supporting documentation, in Thomas H. Etzold, "The Far East in American Strategy, 1948-1951," chapter five in Etzold, *Aspects of Sino-American Relations*, pp. 102-22.

10. See Robert R. Simmons, "The Communist Side: An Exploratory Sketch," in Francis H. Heller, editor, *The Korean War*, pp. 197-208; Robert R. Simmons, *The Strained Alliance: Peking, P'yongyang, Moscow and the Politics of the Korean Civil War* (New York: Free Press, 1975); and John L. Gaddis, "Korea in American Politics, Strategy, and Diplomacy, 1945-1950," in Yonosuke Nagai and Akira Iriye, editors, *The Origins of the Cold War in Asia* (New York: Columbia University Press, 1977), pp. 277-98.

11. Harold C. Hinton, *The Sino-Soviet Confrontation: Implications for the Future*, p. 4. A useful factual reference book on the background of Sino-Soviet antagonism up to 1969 is *Keesing's Research Report: The Sino-Soviet Dispute* (New York: Charles Scribner's Sons, 1969).

12. See the witty discussion in Shimon Tzabar, *The White Flag Principle: How to Lose a War and Why* (New York: Simon and Schuster, 1972), especially pp. 32, 33.

13. For the suggestion that this subject has come up in recent years, see reports on the contents of the memoirs of H. R. Haldeman in the *Washington Post*, 17 February 1978, and the *New York Times*, 19 February 1978. See also Haldeman's memoir, *The Ends of Power* (New York: Times Books, 1978).

14. George F. Kennan, *The Cloud of Danger: Current Realities of American Foreign Policy* (Boston: Atlantic-Little, Brown, 1977), pp. 106, 107. See also the argument in Thomas H. Etzold, "Are 'Full' Relations Important to China?" *Washington Post*, 7 August 1977.

15. Etzold, *ibid.*

16. Hinton, p. 62.

17. Michel Oksenberg and Robert B. Oxnam, *China and America: Past and Future* (New York: Foreign Policy Association, 1977), is one good example of this view. Two other expert China-watchers, slightly less insistent on the urgency of normalization, also deserve a careful reading: A. Doak Barnett, *China Policy: Old Problems and New Challenges* (Washington: Brookings Institution, 1977) and Ralph N. Clough, *East Asia and U.S. Security* (Washington: Brookings Institution, 1975).

18. Etzold, "Are 'Full' Relations Important to China?"

19. Interview with Martin Agronsky, 16 December 1976, published in the *New York Review of Books*, 20 January 1977, pp. 12 ff.

20. The *New York Times* of 19 February 1978 indicates that Japan and China have reached an eight-year agreement worth about \$20 billion.

21. This famous quotation appears most widely in Lin Piao's introduction to "the little red book," *Quotations from Chairman Mao Tse-tung*, second edition (Peking: Foreign Language Press, 1967), p. iii.

22. One of the most interesting analyses of what is distinctive about Chinese revolution under Mao Tse-tung appears in the work of sociologist Charles P. Cell, *Revolution at Work: Mobilization Campaigns in China* (New York: Academic Press, 1977). He argues that mass mobilization via campaigns and slogans was the hallmark of Maoist revolution and concludes that although "it is too early to tell whether there will be more mass mobilization campaigns of a genuinely enduring and penetrating character . . . it is not too early to predict that if there are not more of these kinds of campaigns in the years to come, Mao's revolution as the world and the Chinese people have known it will be at an end," p. 185. See also John Gardner, "The Gang of Four and Chinese Science," *Bulletin of the Atomic Scientists*, September 1977, pp. 24-30.

23. This latter view is capably presented in Chalmers Johnson, *Autopsy on People's Wars* (Berkeley: University of California Press, 1973).

24. One recent example is Vaclav Smil, "Intermediate Energy Technology in China," *Bulletin of the Atomic Scientists*, February 1977, pp. 25-31.

25. A good example of the limitations of such studies at present is Jorge I. Dominguez, "Revolutionary Values and Development Performance: China, Cuba, and the Soviet Union," in Harold Lasswell, Daniel Lerner, and John D. Montgomery, editors, *Values and Development: Appraising Asian Experience*, pp. 20-54.

26. For documentation on this point, see Thomas H. Etzold and John Lewis Gaddis, editors, *Containment: Documents on American Strategy and Policy, 1945-1950* (New York: Columbia University Press, 1978). The documents in chapter five, especially Policy Planning Staff paper number 39, are particularly relevant.

27. Guillermez, *The Chinese Communist Party in Power*, p. 509.

28. Compare, for instance, Harvey W. Nelsen, *The Chinese Military System: An Organizational Study of the Chinese People's Liberation Army*; Whiting, *The Chinese Communist Armed Forces*; Karl P. Piotrowski, "Military Leadership in the People's Republic of China," *Military Review*, January 1977; and Bohdan L. Suprowicz, "The Role of the PLA in the Chinese Economy and Foreign Affairs," *Military Review*, December 1977. Some differences are undoubtedly a consequence of time passing and situation changing, but most reflect the actual deficiencies of western information on these points.

29. Hinton, p. 10.

30. *Washington Post*, 17 February 1978. See also note 13 above.

31. Gardner, pp. 24-30.

32. Hinton, pp. 56, 57.

33. Especially interesting are Michael Pillsbury, "U.S.-Chinese Military Ties?" *Foreign Policy*, Fall 1975, pp. 50-64 and A. Doak Barnett, "Military Security Relations between China and the United States," *Foreign Affairs*, April 1977, pp. 584-97. Barnett's article also formed part of his book, *China Policy: Old Problems and New Challenges*.

34. *New York Times*, 19 February 1978.

## THE INTELLIGENCE BOOKSHELF

COLONEL WENDELL E. LITTLE, USAR (Ret)

**I**NTELLIGENCE, espionage, counterespionage, and covert operations are important subjects for the military professional interested in our own security and the capabilities of potential enemies. These subjects are also important to private citizens concerned with both a healthy national defense and the preservation of our basic freedoms. Five recently published books offer insights into some of the concepts of intelligence operations.

*Secret Intelligence in the Twentieth Century* by Constantine FitzGibbon has a provocative title, but the book itself does not measure up.† Following a brief outline of the intelligence apparatus of the Soviet Union, Germany, Great Britain, and the United States, the main body of the work is devoted to the origin, conduct, and conclusions of World Wars I and II with emphasis on political and diplomatic aspects. Secret intelligence in both wars was primarily concerned with cryptographic (code breaking) information.

FitzGibbon provides a good description of the work of British Admiral "Blinker" Hall and his Room 40 team reading the secret German messages during World War I, including the Zimmerman telegram to Mexico on 17 January

1917. The British exploited this cable in "perhaps the most perfect large-scale politico-military action" to get the United States in the war. (p. 166) American secret intelligence during World War I was centered on the work of Herbert O. Yardley in the State Department Code Room, which has been largely unappreciated and ignored. Even this effort "quietly faded away" following Secretary of State H. L. Stimson's remark that "Gentlemen do not read one another's mail." (p. 158) This was not to be the last time that such moralistic pronouncements were to take priority over realism in American foreign policy.

*Secret Intelligence* also has an interesting discussion of the historical impact of President Woodrow Wilson's Fourteen Points, the first of which rejected secrecy as a relic from an evil age. Wilson ignored the secret covenants on division of spoils of war reached by our Allies prior to 1917. His moral pronouncements, including a promise to the Germans of a "permanent peace of justice," impressed the enemy but not our Allies. The President seemed never to realize any need for secret intelligence on the concealed plans and intentions of his country's enemies or Allies. He

---

†Constantine FitzGibbon, *Secret Intelligence in the Twentieth Century* (New York: Stein & Day, 1976, \$12.95), 350 pages.



was not alone in the futile hope that the "War to end all wars" would eliminate the need for secret intelligence.

FitzGibbon's conclusion of "almost incredible incompetence by the American Central Intelligence Agency" in the Bay of Pigs operation is surprising. It represents a subjective judgment without the benefit of authoritative writings on the event, including those directly involved.<sup>1</sup> The primary fault must lie with a young, inexperienced president who ordered the Bay of Pigs action and who, after the operation was launched, withdrew vital air support that was part of the approved plan and a key to its chance for success. While some biased media's comments on the Cuban affair could support the author's conclusion, the degree of ignorance displayed here is rare for one purporting to have researched his subject with any care.

The author is more sound in his description of the German Enigma Machine and the Ultra operation at Bletchley, England, where secret German messages were read through the end of World War II. Having served as an American officer assigned to Ultra and later to General Omar N. Bradley's 12th U.S. Army Group, FitzGibbon is able to depict the whole spectrum of cryptographic intelligence from its collection and analysis to its use on the battlefield. The necessary extreme measures to protect knowledge of Ultra, including use of the Lucy Ring to warn Stalin of the attack by Hitler, are well described. But more complete and authentic records of Ultra and its effect on World War II are available in other writings.<sup>2</sup> Strangely, the author concludes that "Secret intelligence. . . used in the Second World War. . . played no important part in the final victory over Nazi Germany so far as the Western powers were concerned." (pp. 295-96)

Throughout *Secret Intelligence*, FitzGibbon takes a hard line against the American failure, in his opinion, to recognize and react against the obvious moves of the Soviets to further

Communism during and following World War II. He concludes that the Third World War actually started in the skies over Warsaw in August 1944 when the Soviets used U.S.-made planes, sent for their defense against Hitler, to shoot down American supply planes coming to aid the Polish defenders of that city.

The Soviets viewed 1945 not as the end of World War II but as completion of a successful campaign gaining vast territory, but much remained to be conquered by one means or another. There has not been any failure of Western intelligence to discern Soviet motives; rather, "this sell-out to the Soviets," initially by President Roosevelt, has been protracted by those who control our foreign policy. The outcome of the Third World War "remains undecided, and the Soviet leaders may yet revert to naked aggression if they decide they cannot win either by proxy or by subversion." (p. 321)

Constantine FitzGibbon says he was offered, but refused, a job with the Central Intelligence Agency (CIA) when it was created following World War II. As a result, he admits to "no direct knowledge of secret intelligence in any form since 1946." With such knowledge he might have spared himself the dubious conclusion of "almost incredible clumsiness" on the part of the CIA on discovery of the Soviet missiles in Cuba. The real facts show a truly sophisticated collection operation involving Air Force aerial reconnaissance and most advanced analysis techniques that identified the missiles soon after their arrival in Cuba. This timely intelligence enabled the President to take decisive action to eliminate the weapons before they became operational.<sup>3</sup>

Near the end of the book, FitzGibbon evaluates the existing intelligence structure of the U.S. as "based on outmoded, legalistic concepts." The National Defense Act of 1947 not only created an independent U.S. Air Force "when most intelligent persons. . . were accepting the fact that an autonomous air force was a mistake" but made the same type of

error in failing to completely centralize all intelligence and counterintelligence activities in the newly created CIA. The "built-in errors" leave the National Security Agency, the Aerial Reconnaissance Program of the Air Force, the Defense Intelligence Agency, and certain counterintelligence activities of the FBI relatively independent.

The author ignores the duties of the Director of Central Intelligence to coordinate and prevent duplication of intelligence functions. These duties, established by present law, are distinct from the role of the Director of the Central Intelligence Agency, although assigned to the same officer who is provided with separate deputies and staffs for each responsibility. This distinction was further clarified and reinforced by Executive Order 12036, issued by President Carter on 24 January 1978, which makes it clear that the Director of Central Intelligence is the principal intelligence officer of the U.S. government, controlling the budgets and coordinating the intelligence activities of all departments and agencies.

In summary, *Secret Intelligence in the Twentieth Century* only partially treats secret intelligence during World Wars I and II. The Office of Strategic Services (OSS) is barely mentioned, and secret intelligence in the Asiatic wars is ignored. The Defense Intelligence Agency is neglected. Code breaking during both World Wars is discussed, but no mention is made of the work of the National Security Agency. Some apparent conclusions in one part of the book are inconsistent with other parts. This is not a book that a busy Air Force officer should bother to read. There is better writing on each of the subjects treated here.

A good book that explains how intelligence estimates are constructed and fed

into the policy-making process is *U.S. Intelligence and the Soviet Strategic Threat* by Lawrence Freeman.† It is a competent exposition of the importance of political considerations, initially in the estimates themselves but more important in the formulation of national policies deriving from the estimates. Top political leaders arrive with their own concepts of world affairs and are not uniformly impressed by intelligence estimates that do not conform.

Lawrence Freeman records the rise (under Eisenhower and Kennedy) and fall (under Johnson and Nixon) of the National Intelligence Estimates (NIEs) produced and strongly influenced by the CIA. Both Johnson and Nixon were irked by the CIA's pessimism concerning U.S.-Indochina policies. Henry Kissinger disliked the "agreed" aspects of the NIEs, preferring to keep different opinions visible so that he and his NSC staff could shape the estimates and the resulting national policies.

A discussion of the key intelligence debates of the 1950s is followed by a detailed study of estimates on the vulnerability of the Minuteman (ICBM) to a first Soviet strike. Under McNamara the objective was preservation of "nuclear stability" with both sides retaining an "assured destruction" capability even after the first strike. Superiority was no longer a goal of policy. The U.S. must avoid precipitate actions that would stimulate a counterreaction by the Soviets.

By 1969, the increase in both the number and size of Soviet ICBMs was seen as a real threat to Minuteman, although the Air Force insisted that eighty-five percent of the force could survive. Among the options considered were increased hardening of the silos, making the missiles mobile, and emphasis on antiballistic missiles (ABMs). The latter alternative was viewed as a major impediment to SALT, to which Nixon and Kissinger gave top prior-

---

†Lawrence Freeman, *U.S. Intelligence and the Soviet Strategic Threat* (Boulder, Colorado: Westview, 1978, \$22.50), 235 pages.

ity. The Air Force continued to support the three pillars of deterrent: Minuteman, long-range bombers, and submarine-launched ballistic missiles (SLBMs). Possibly as a show of good faith in SALT, the Soviets slowed ICBM construction in 1970, but in 1971 came the intelligence of a new generation of Soviet ICBMs. The effect was to add urgency to Kissinger's efforts to achieve a breakthrough on SALT. He believed that things would get worse without an agreement. The Soviets' new generation of missiles may have been their "bargaining chip." The SALT agreement was signed in 1972.

Current intelligence indicates that while not actually violating the letter of SALT agreements, the Soviets have pushed and explored every possible loophole. This feeds the Pentagon's suspicion of Soviet motives and the belief that the Kremlin does not subscribe to the U.S. theory of mutual deterrence.

*U.S. Intelligence and the Soviet Strategic Threat* should be read by Air Force intelligence officers and, at least, perused by senior officials concerned with planning and strategic concepts.

**I**NTELLIGENCE, *Espionage, Counterespionage and Covert Operations* edited by Paul W. Blackstock and Colonel F. L. Schaf is a most complete and useful guide.† It is a bibliography listing the most significant books, journals, magazine articles, and newspaper accounts in each of the four categories of the title and includes a more detailed breakdown within each subject. For each listed document, the editors provide brief annota-

tions of scope and content which are sources of considerable useful information.

For example, the annotation of a Congressional Research Service document records the actions of Congress between 1947-1972 relating to oversight committees for the CIA. Two bills for this purpose reached the floor and were defeated by more than a two-thirds majority. During that quarter-century, only the President controlled the actions of the CIA, but since 1972, Congress has gone to the opposite extreme by injecting itself into covert and clandestine operations—with the inevitable security leaks and losses of effectiveness. A reasonable balance is yet to be achieved.

In contrast to the flood of writings on intelligence and espionage, there is a relative dearth of open information on the organization, functions, and doctrine of counterintelligence and counterespionage. In Part IV of the book, the editors note the paucity of theoretical or even descriptive works about covert operations as instruments of foreign policy.

This guide, designed primarily for the American public, is a very useful book for the busy Air Force officer with an interest in any of the four aspects of the title. It includes a selected bibliography of fifty books suggested for personal collections or small libraries. The publications are primarily about the U.S. and the Soviet Union, but the list includes works on most of our NATO allies as well as on Israel, China, and Japan.

**S**PIES *and All That* by Ronald M. DeVore is another excellent bibliography of available literature concerning intelligence organizations and their operations.†† It includes a

---

†Paul W. Blackstock and Colonel F. L. Schaf (editors), *Intelligence, Espionage, Counterespionage and Covert Operations: A Guide to Information Sources* (Detroit: Gale Research, 1978, \$18.00), 256 pages.

††Ronald M. DeVore, *Spies and All That . . . Intelligence Agencies and Operations: A Bibliography* (Los Angeles: Center for the Study of Armament and Disarmament, 1977, \$3.00), 71 pages.



short essay entitled "An Approach to Reading about Intelligence," which outlines the four phases of the "Intelligence Cycle": planning, collection, analysis, and use.

If, as suggested in the essay, the historical development of intelligence activities has suffered from scholarly neglect, this little book will help cure the defect. It identifies recent works revealing that the allies were able to read Axis communications throughout World War II, which demands a revision of the earlier histories of that conflict. Some of the seemingly skillful moves by allied generals may be attributed as much to the superiority of their intelligence operations as to their innate skill. The spy in his cloak may be fading, but he now has some "exotic companions such as the satellite parked 25,000 miles out in space, guarding the United States against surprise nuclear attack." *Spies and All That* lists many of the documents needed to help the scholar span the infinite variety of areas concerned with intelligence.

THE use of animals constitutes another of the exotic aspects of human conflict, and *The War Animals* by Robert E. Lubow describes the techniques and results of efforts to train birds and animals for military tasks beyond the capabilities of either humans or machines.† The research here recorded has increased our knowledge of behavior modification in animals—and also, possibly, in humans.<sup>4</sup>

The author traces the use of war animals from ancient times to World War II, when the pigeon was tried out as a homing device for the Pelican missile. But military authorities were unwilling to rely on a bird-based system, and the "pigeon in a Pelican" never became airborne.

As might be expected, the dolphin is identified as the most useful of aquatic creatures. What the dog can do on land, the dolphin is capable of doing in water—including finding and retrieving specific objects. The Soviets have done considerable research in the training of dolphins, no doubt related to military needs. Collection of intelligence by detection of metal objects such as mines and enemy submarines and the delivery or retrieval of sensitive electronic equipment in restricted locations are tasks for which the dolphin is especially suitable.

The last half of the book concerns the selection, training, and use of dogs. In contrast to the superior vision of the pigeon, it is the dog's acute nose that creates its value for intelligence and paramilitary purposes. Even the experienced nose men of the perfume, wine, and cheese industries have not developed the olfactory system of the dog. The hounds (for example, the bloodhound) use ground scent, while the retrievers (pointers and setters) seem to use airborne scent to accomplish their assigned tasks.

Working with the Limited Warfare Laboratory in Aberdeen, Maryland, Robert Lubow undertook a program to train dogs to help Army units in Vietnam track guerrilla infiltrators back to their encampments. Labrador retrievers were selected for this assignment. At least four dogs completed the training and performed well at the feasibility demonstration. Tracking was accomplished after delays of up to an hour after departure of the target. In each case, the dog assumed the down position—a vital element of the stalking training—as soon as the target's presence ahead was perceived. The dogs and all the training data were turned over to the U.S. Army in 1969. Additional dogs were trained and successfully employed in Vietnam for purposes of locating mines and booby traps.

†Robert E. Lubow, *The War Animals* (New York: Doubleday, 1977, \$7.95), 255 pages.

A short chapter near the end of *The War Animals* records Lubow's contact with the Central Intelligence Agency, which was interested in ways to avoid a tracking dog—apparently as part of a scheme to aid in the escape of American prisoners from North Vietnam. Another chapter discussed methods of injecting odors into potential targets—such as feeding garlic—to ensure that the dogs cannot miss

the trail. Still other chapters concern the use of dogs in control of narcotics and explosives at airports.

For one interested in the subject, this is a valuable book. The author, a noted clinical psychologist clearly committed to scientific methods, has made a valuable contribution to a little known field of scientific research.

San Antonio, Texas

#### Notes

1. See David A. Phillips, *The Night Watch* (New York: Atheneum, 1976).
2. See Anthony C. Brown, *Bodyguard of Lies* (New York: Harper & Sons, 1975). Reviewed by Captain Daniel T. Kuehl, "Military History: Four Approaches," *Air University Review*, May-June 1978, p. 76.

3. See Ray Cline, *Secrets, Spies and Scholars* (Washington, D.C.: Acropolis Books, 1976) and Victor Marchetti and John D. Marks, *The C.I.A. and the Cult of Intelligence* (New York: Knopf, 1974).

4. For a recent study of human behavior modification, see Vance Packard, *The People Shapers* (New York: Little, Brown & Co., 1977).

All leaders are actual or potential power holders, but not all power holders are leaders.

James MacGregor Burns, *Leadership*, 1978

# THE THIRD WORLD

## *new dimensions to old problems*

COLONEL JAMES B. AGNEW, USA (Ret)

**T**WENTY-FOUR years have passed since Dien Bien Phu, which simultaneously represented some sort of calvary of colonialism and the bright dawn for national revolution in the nether regions of the globe. The most recent surge of literature on revolution in the less developed areas suggests that all has not gone as well as predicted by the social prophets of the '50s and '60s. The authors of four recent scholarly works on those disparate regions, known variously as the "Third World," the "Developing Nations," and the "Microstates," have cast a pall of despondency on progress to date and on its potential among the growing roster of the crudely termed "Bum and Beggar Nations," "Bits and Pieces," "Banana and Rice Republics," "Sandboxes," and the like. Of course, there are implications for United States policy, most of which are, at best, uninspiring. In typical fashion, since Vietnam many thoughtful but disillusioned Americans have ignored those nether regions, save the Mideast. Doubtless, they hope that these problems might go away and fret us no more. Not so. Despite our penchant for wistfulness in the wake of tragedy, there persist certain phenomena and trends that must command our attention. At least with the Third World the news is not all bad.

For example, consider the terse but thoughtful book by Frenchman Gérard Chaliand,† whose experience denotes expertise on turbulence in the Francophone states and France's other former colonial dependencies. In his opening pages, Chaliand bemoans the eroding

effects of colonialism on subjugated peoples and the failure of capital and foreign aid from the industrialized nations to right those wrongs; then he shifts into high gear about the aftermath of some exemplary experiments in revolution. First, he says, there were traumatic impacts on the former white donor or colonialist powers in loss of influence, resource denial, and diminished regional security affiliation for the ex-colonialists. To illustrate, he neatly dissects some revolutions of recent decades: Algeria, Cuba, and North and South Vietnam. He writes that Ho Chi Minh's expulsion of the French appeared to all nascent revolutionaries as the classic example of the nationalistic David's challenge and defeat of the colonial Goliath and inspired much of the bloodletting and upheavals that followed on three continents.

And what of the so-called good news implied earlier in the piece? Chaliand supplies it in his admission that as a self-admitted mythmaker and erstwhile true-believer in the benefits of revolutions accruing solely to enlightened revolutionaries, he was wrong. Candidly, he confesses that:

- among the most enduring and therefore successful revolutionary or quasi-revolutionary regimes have been the more conservative and implicitly repressive ones: Park in South Korea; Marcos in the Philippines (whose regime might be argued as repressive, but doubtfully revolutionary); Hassan II in Morocco; and Hussein I of Jordan.

- revolutionary leaders, with few exceptions, have often been unable to bridge the gap between their own class and those above or below, thus thwarting mass mobilization making for struggling in place and ultimately accommodating a bureaucracy often created along colonial lines. Alternatively, revolution leaders must come to terms with the propertied; ergo, a return to something akin to the status quo ante

---

†Gérard Chaliand, *Revolutions in the Third World* (New York: Viking Press, 1977, \$11.95), 195 pages.



and another gang rape of the people, for whom the revolution was staged in the first place. Few revolutionaries, it seems, have the tenacity or ruthlessness of Mao or Ho to destroy entire classes to rebuild societies from the ground up against local history or folkways.

- if internal postrevolutionary cohesion is difficult, then the problem of active, felicitous coalition with one's revolutionary neighbors all but defies solution. Thus, contrary to the gleeful tocsins of the Marxist and Maoist disciples during the Bandung and Colombo era, the decadent, imperialistic West is not now faced with wall-to-wall revolutionary legions marching abreast from Peking to New Delhi, ever more northwestward, central in dogma and objective, and intent on wrenching down the final twisted underpinnings of odious capitalism. On the contrary, each of the revolutionary societies, with few exceptions, seems to be in a death struggle to keep its own chin above the economic tides with few thoughts for its equally poor neighbors.

- the revolutions of almost three decades have not changed many of the grinding strictures of colonialism. True, the flags and soldiers of metropolitan powers have departed but not their capital nor their grip on technical management. Thus, the unfavorable terms of trade and legacies of class distinction still persist; the revolutionaries have been reluctant to destroy them without a promising substitute.

Chaliand suggests a cure: less dependence on the largess of the former mother countries and others, and initiation of an offsetting "Third World Only" mobilization. Thereby, the less developed nations would concentrate on agricultural expansion and exploitation and only marginally on industrial development. Here Chaliand seems to be pursuing the regional chimera. The Third World is so strewn with the corpses of defunct regional organizations that global coalescence appears more elusive than ever. Give Chaliand an "A" for effort for even suggesting a panacea, no matter what the odds.

What with all the divisive factors that abound,

Soviet political ideological failures in Africa and Asia, and the relatively greater dependence of Europe and Japan on the raw material producers that comprise the bulk of the Third World, the United States is the gainer economically and politically. This is true at least for a decade or so longer, barring major American domestic crises or a vast shift in the relations among states. Despite internal shortages in such critical materials as petroleum, bauxite, magnesium, chrome, and tin, our agricultural production will be the "green gold" that will keep the aging revolutionaries of the Third World at bay—to include the tenders of the oil well heads. We owe much, says Chaliand, to Henry Kissinger, who has worked with considerable success to establish a stable world order favorable to the U.S., although his labors were far from complete when he left office. Even better (and we did not even know it was happening), he was changing the American view of history from the timeworn moral illusion to one of realism and pragmatism—the first return to a practical path since Theodore Roosevelt and the Big Stick.

The Third World "utopia"—everything through revolution—if it ever lived at all, has succumbed. Imperialism, implies Chaliand, is still tall in the saddle, and the U.S. is riding point!

### The Philippines: Pacific Bad Boy

Rural Bible-thumpers worry more about backsliders than they do about gaining new converts. So it seems to be with the U.S. and its erstwhile colony, the Republic of the Philippines, if the moralistic analogy will hold water after the previous section. The growing tangle of Philippine-U.S. relations is an example of developed states' problems with the diverse and populous Third World, particularly the ex-colonies. Those are often the most perplexing to the former mother country, whose statesmen cannot understand the frequent bellicosity of the little people whom "we taught better." Claude A. Buss addresses this situation in *The*

*United States and the Philippines.*† Professor Buss deals with familiar material here, having spent a large portion of his adult life in the islands as a Fulbright professor, lecturer, and bureaucrat for Uncle Sam. In this rather short book, he leads the reader through the entire bilateral experience, with particular emphasis on the post-World War II period. He highlights the peaks and troughs of the relationship, commencing with the granting of independence in 1946, a move somewhat akin to the bloodless manner in which Britain disengaged from part of her empire, leaving a tie of good relationships that served her best interests—at least for a time.

The post-independence Philippine revolution resembles one of a series of models developed by Chaliand—that of “revolution from the top” (typified by the case of Peru). In Filipino elitist perceptions, U.S. colonialism was replaced by U.S. imperialism—a not uncommon perception of many postrevolutionary leaders in Asia, the Middle East, and Africa. The golden age of U.S.–Filipino relations was, of course, during the regimes of Magsaysay, Garcia, and Macapagal (1953–1965), when the postcolonial island society bore more earmarks of the former mother country than now: liberal reform, personal liberty, and the beginnings of economic growth.

When our Vietnam efforts began to sour in the late sixties, the prophecies of one nationalist senator, Ferdinand Marcos, seemed fulfilled. Marcos, rising to the office of president of his republic, took the lead among the so-called “Free World” allies in Vietnam by pulling out the Philippine Civic Action Group. With respect to his revolution from the top, it commenced almost as soon as Marcos concluded his first inaugural address. He began to erode the progressive policies of his predecessors in a bid

for constitutional change which would grant him the presidency for ten years or longer. Where Magsaysay and Macapagal had instilled a breath of reform into the criminal-ridden armed forces and government bureaucracy, Marcos began to build a series of bridges to the generals and politicians/bureaucrats, permitting bribes and kickbacks to flourish once again, gnawing at the still weak social fabric of the country. Winning recurring re-elections, he can attribute his victories in part to the widespread distribution of pork barrel funds to the politicians in the hinterlands and Manila, thereby leading the island republic to the brink of bankruptcy. His charisma, if it had been apparent in his first term, was gone. He co-opted the sugar barons, and rich farmers increased family holdings. Meanwhile, the disparity between rich and poor—never good—has widened, generating wider unrest. Fear and lawlessness became the order of the day; in desperation, Marcos proclaimed martial law in September of 1972.

Marcos's relations with the U.S. since that time lend credence to Chaliand's general thesis that at the end of the revolutionary trail the United States is waiting at the finish line. Economically, Marcos must have U.S. capital and aid while proclaiming domestically a policy of self-reliance. National security problems confront him with a similar dilemma: China and Southeast Asia remain enigmas in terms of Philippine safety. Chaliand (writing before the “new” U.S.–China policy) suggested the possibility of an economically strong and militarily advanced China by the year 2000, heralding a new world posture of tripolarism, an interesting concept echoed in other academic chambers. Marcos may subscribe to this theory and, like an ambivalent bettor-owner at some hypothetical Asian racetrack, he is reluctant about wagering his Phili-bucks on Chinese or U.S.

---

†Claude A. Buss, *The United States and the Philippines* (Washington: American Enterprise Institute for Public Policy Research, 1977, \$3.75), 152 pages.



jockeys. Nor can he bet on his own homebred nag whose capabilities are not as great as the boasting that has convinced the hometown crowd that they have a winner. And, of course, there are the long shots that cannot be ignored: a united, militant Vietnam and an ambitious, watchful Indonesia.

With insurrection and lawlessness, reminiscent of the Huk era gaining momentum in the archipelago, Marcos appears to be stuck with his martial law policy for the time being. But, in addition to what appears to be a diminishing returns-to-scale proposition domestically are its unwelcome foreign relations spinoffs. Marcos has discovered that his proscriptions collide foursquare with Jimmy Carter's affinity for global human rights, obviously not a strong feature of a policy of martial law. This could have serious economic drawbacks for the Filipinos. Other venerable allies with records of internal oppression are already sensing the hardly concealed threats of aid reappraisals unless reforms are made.

If all fails and Mr. Marcos's domestic problems amplify, this former American colony may soon be taking its next step toward resurrection of Chaliand's dead "utopia." The implications for the U.S. vis-à-vis its eighty-year-old island bastion could be quite disconcerting. Our military minds might well forget about the Panama Canal and begin to grapple with the potential loss of Clark Field and Subic Bay. Professor Buss has done a good job in identifying the problem, but it remains a political, not an academic, question.

### Sociologists and Soldiers

Professor Morris Janowitz of the University of Chicago, aside from writing one of the classic works on what makes the military tick, *The*

*Professional Soldier*, was, in 1964, among the first of the social scientists to probe the military side of the Third World and published the first milestone work, *The Military in the Political Development of New Nations*. It was widely read by military officers, particularly those bound for assignment in the developing nations. Along with Mao's and Che's works, the book became one of the trilogy on revolutionary warfare languishing on the shelves of service school libraries and almost certain to be on everybody's reading list. Now, at the urging of colleagues, Janowitz has rewritten the 1964 book, updated it, and made it more comprehensive.† Using techniques of comparative analysis, Janowitz provides a digestible two-part book of post-mortems on revolutions.

Part I is a solid pitch dealing with the role of paramilitary forces during and after revolutions, coups, wars of liberation, and other forms of political upheaval between 1945 and 1975. Janowitz and Chaliand were writing at the same time, presumably not collaborating, but there is a great deal of parallelism in their products. While Professor Janowitz's midvolume conclusions deal with the stabilizing and regime-perpetuating effects of Third World paramilitary forces and Chaliand's work encompasses the entire corporate military body, both conclude that in postrevolutionary decades the various military establishments about the Third World have embarked on and persisted in a search for legitimacy, becoming absorbed in the technical side of bureaucracy. It has become axiomatic that a cooperative, military-integrated bureaucracy minimizes the degree of coercion required for the revolutionary regime to sustain power. Both authors suggest, by implication, that for purposes of creating policy bellwethers, U.S. diplomatic and military personnel overseas should perform more sub rosa liaison with bureau chiefs and file clerks instead of restricting contact to

---

†Morris Janowitz, *Military Institutions and Coercion in the Developing Nations* (Chicago: University of Chicago Press, 1977, \$3.95), 211 pages.



state ministers and the palace guard.

In Part II, Janowitz updates his 1964 analyses. Among the challenges he undertakes is a comparison of military forces among several regions of the "new world," including their recruitment, self-image, upward mobility, cohesion and cleavage, and several other aspects. Janowitz isolates five models of government among Third World regions and discusses the role of the military in each. The variances are quite enlightening. For example, a regime based on a form of personal autocracy, as existed in the militarist Thieu's late South Vietnam, is termed "Authoritarian-Personal," and the military is, so to speak, a patron or partner in government. This type of arrangement is most likely to be found in nations just beginning the modernization process, where the military have vaulted one of their own into power. Ghana, on the other hand, is identified as a state governed by "Authoritarian-Mass Party" control, whereby the military is manipulated by national leadership figures as a counterweight to other internal institutional threats—perhaps paramilitary or police aspirants. The military is not a partner but a capricious servant kept too busy to think about making trouble.

The other categories are equally interesting, and a table is provided to identify the relative positions in the power structures occupied by the armed forces of 51 new states. Janowitz measures domestic military effectiveness in terms of "coercive capabilities." Given the persistently high rate of coups, internal subdividing, and other turmoil of the past two decades (irrespective of Chaliand's "Tombstone" theory), the military of any given country may have upgraded itself or, conversely, have been eliminated before another volume by Janowitz is complete. For example, Castro's Cubans, ranging through Africa and other local imbroglios, are ignored by Janowitz.

While the military in most developing nations seem to sustain themselves by recruitment from whatever middle and lower middle classes that exist, the military hierarchy does tend to de-

velop cohesion by class-wide integration. Military service provides security to the peasant or urban poor boy in exchange for his loyalty to the institution that "fathers" him. The arch enemies of the military in most areas analyzed by Janowitz are the restless student bodies rising or demonstrating perennially against actual or imagined repression, a phenomenon not entirely confined to the "Third World." As if batterings by discontented students do not perturb the officer of the new nation's armed forces enough, he has also to worry about the divisive effects of national land reform programs. Such reform, usually some variety of redistribution, is often the first grandiose, coverall, eye-catching palliative seized on by new regimes from Asia to Latin America. The military officer, often self-cast in a heroic image, discovers his loyalties wrenched between service to state and people and familial and comradely links to large land-owners.

Janowitz logically concludes that, in most circumstances, for political, technical, or economic reasons, the means to achieve modernization do not lie expressly in the hands of the military, a fable that was widely believed by U.S. officers of the 1960s. Many of us held illusions of indigent air force civic action squadrons and infantry battalions creating complex civil air traffic control systems and superhighways out of good will and candy bars, somehow mobilizing dozens of thousands of happy natives toward economic takeoff. Again, we discover Janowitz and Chaliand to be of like mind. Janowitz also recommends salvation in coordinated programs of mutual assistance among the developing nations. Such programs would transcend the military entirely and be a more fruitful course of action than the thirty-year-old habit of proffering the hats in Washington, Moscow, Paris, and Peking for more and more foreign aid. The problem emanating from this solution, however, is as old as the habit: how do you get a developing nation off welfare and onto a job, particularly when you are fresh out of steelmills. Maybe Professor Janowitz can also advise Professor

Chaliand on how to influence a bloc of developing nations to work as a team.

## 2000: The Year the World (Might Have) Exploded

If this "scarehead" sounds like the title of a calamity movie, it is not unintentional. If it suggests, the unlikely event that before long international relations may grind to a standstill, take counsel and read Elmer Plischke's *Microstates in World Affairs*.† While we were watching Vietnam and the Sinai, a new peril—slow, ominous, irreversible—has been creeping up on us, and be warned, it may be gaining momentum! *Microstates* tells the story of the proliferation of ministates, the adverse potential of which is as much a threat to world order as the more widely chronicled and scary population explosion. Professor Plischke, of the University of Maryland, has a creditable track record for publications on U.S. diplomacy and foreign relations, and this concise projection of the mushrooming of sovereign states in the community of nations is another well-documented study, an academic horror story with heavy security overtones. To appreciate the flavor of Plischke's thesis—that the world is subdividing into so many smaller but legal entities that it soon may not be able to conduct international intercourse—one should sample a few examples of the proliferation and their effects:

- On 26 June 1945 the representatives of 50 governments assembled in San Francisco and signed the United Nations Charter. At the publication of Plischke's book, the U.N. or its affiliate organizations numbered 155 members. The tripled size of the organization is largely due to the admission of recently created ex-colonies rather than those excluded in 1945 or those that opted initially not to participate.

- Four of every five states in the United

States have larger populations than 30 independent countries, all sovereign and all members of the U.N. The United States, like each of those 30 nations and the 120-odd countries comprising the membership, has one vote in the General Assembly, irrespective of size, population, national wealth, or other basis of discrimination.

- Eighty of the member-nations have fewer people than the University of California.

- United States delegations meet frequently at the U.N. and at international conferences elsewhere with representatives of Comoro, Grenada, Qatar, Tonga, Surinam, Bhutan, the Maldives, Gambia, and São Tomé e Príncipe. While the U.S. annually pays 46 percent of the total costs of U.N. operation, each of these nations, as well as a number of other small members, is assessed but one-quarter of one percent, the legal minimum.

- According to Professor Plischke, it is possible that the world's nations could increase by 100 or more additional legally created and internationally recognized states in the years ahead unless remedial action is taken. Among the potential new nation-states are Goa, Hong Kong, the Spratly Islands, Guam, Puerto Rico, Gibraltar, Ifni, and Afars and Issas. Again, barring international reform, the rule of one country—one U.N. vote will apply.

The crux of the problem lies in the practice that when a new state is created it becomes the legal equal of all those created previously. Since the early rash of new states consisted primarily of the larger ex-colonies that had won or been granted independence, usually with the blessings of superpowers America and Russia, the chain became a growing, self-perpetuating one. These new states were quick to establish the sovereignty of even still newer states, shedding colonial sackcloth by virtue of secession, coup, civil war, foreign liberation, or direct mother-

---

†Elmer Plischke, *Microstates in World Affairs* (Washington: American Enterprise for Public Policy Research, 1977, \$3.00), 153 pages.

country grant. Recognition was quick to come to any new government, however tenuous, that could lay claim to a few hundred square miles, a hundred thousand people, and, if lucky, a flag. Thus, countries such as Guinea-Bissau, Malagasy, and Zaire were recognized and entered the family of nations.

While Plischke views the problem primarily in terms of disrupted diplomatic and trade patterns, the security implications are also alarming, particularly when assessed against U.S. global interests. Our post-World War II national goal has been to seek a stable and peaceful world order in which we might flourish. Now the trend of international proliferation pushes this goal more beyond our reach than before. Simply stated, the more sovereign political entities that exist, the higher the likelihood that there will be more issues to argue and fight about. The childhood adage applies: Two boys play better than five.

And what might be the effect on the U.S. if expansion continues at the pace Plischke suggests? For example, who will coordinate 200-plus politico-military-economic policies for so many states? State? DOD? A new SUPER-STATE/DOD-plus JCS? War, if one looks at the bright side of unchecked proliferation, might become unfashionable because the red tape will have become overburdensome.

Plischke offers solutions—more limitations on

sovereign recognition, more tests to be passed by new nations before entry in the world community is awarded—but in the last analysis, all that starts and ends in the United Nations. And the trend there has definitely not been toward retarding its own growth. Finally, as we all know, the U.N. has no standing world police force!

IN SUMMARY, Buss's Philippine volume, disclosing the complexities of one nation's relations with the U.S. and neighbors in its region, is a microcosm of the horror story that Plischke discusses—a suggestion of things to come when there are 200-plus Philippine-like nations about to confound U.S. foreign policy planning and execution. Revolution, as Chaliand says, may be the dead utopia, but it seems to have been replaced by an even grimmer one—a world of thousand square-mile sovereign states that do not need revolution to make it. Janowitz's several dozen military establishments may become even more tranquil as they are inundated by more burgeoning bureaucracies attendant to the creation of even more new nations and regional organizations. For Americans of the future, our own utopia—a stable world order in which to flourish—appears still more elusive than in the salad days of 1946.

*Falls Church, Virginia*



# IDEAS AND WAR AT SEA

DR. PAOLO E. COLETTA



NAVAL thought is important to the modern Air Force officer for two reasons. First, the only American to gain world renown as a military theorist was a naval officer, Alfred Thayer Mahan. Although air power theorist Giulio Douhet admitted no debt to history or historians, the very title of his book, *The Command of the Air*, suggests an indebtedness to Mahan and calls to mind the main theorem of Mahan that the first objective must ever be to gain command of the medium (the sea, in his case) through the

engagement and defeat of the enemy's main battle fleet. So too, Douhet argues that one must gain command of the air through the defeat of enemy air power at the very outset of any war, be that air power on the ground or aloft. The works of the two men can be compared in many other ways, also.

A second significance of naval studies for Air Force readers is that they provide some disarmament case studies superior to most others available. The record of arms control before this century was dismal; since World War II, it has been so involved with current domestic and foreign politics that its academic value is limited in some ways, and the records are not yet unclassified. Thus, the naval arms control of the twenties and thirties provides about the only example of successful limitation that is far enough in the past to provide reliable data. The readers of *Air University Review* may, therefore, find it useful to maintain some acquaintance with the literature of naval affairs.

IN extremely terse prose, Roger Dingman has written a fine comparative history about naval relations among the United States, Great Britain, and Japan from 1914 to 1921.† Despite the word "Pacific" in the title, the book really deals with naval affairs on a global scale. Though he is strong on characterization, the nature of naval bureaucracies, and political matters, Dingman is less impressive in dealing with organizational matters and ideologies. Among other things, he makes Warren Harding appear more astute than he really was. Also, a broader view of Japan might have resulted had Dingman been able to use Asada Sadao's essay on "Japanese Admirals and the Politics of Naval Limitation" in Gerald Jordan, editor, *Naval Warfare*

---

†Roger Dingman, *Power in the Pacific: The Origins of Naval Arms Limitation, 1914-1921* (Chicago: University of Chicago Press, 1976, \$19.00), 318 pages.

*in the Twentieth Century, 1900–1945; Essays in Honour of Arthur Marder.*

Nonetheless, Dingman's work reflects tireless multiarchival research in three countries abetted by his knowledge of Japanese. He provides new vistas in the naval history and politics of national defense, particularly in the case of Japan. Since the author used many new materials on the Washington Conference, he gives a much fuller picture of the naval attitudes of the three nations than do the older works by Harold and Margaret Sprout, Mark Sullivan, Dudley Knox, and even the more recent study by Thomas Buckley.<sup>1</sup>

Dingman describes the attitude toward naval matters of the political, diplomatic, and economic leaders of all three countries from 1914 to 1922. His theme is that naval affairs were influenced less by admirals than by the more realistic civil leaders, the latter being moved much more by domestic constraints than by international events. This was particularly true in Japan, where military officers were little subject to civil ministers and had direct access to the emperor. There, the Diet found it difficult to control military expenditures.

In the first period, 1914–1915, although the naval arms race continued, the leaders of the three nations were conscious not only of differences in the reasons why they needed naval power for national security but also that they could upset domestic political equilibrium with exorbitant military spending demands. World War I heightened the importance of statesmen, lessened that of parliaments, stressed the efficiency of fleet actions rather than increases in fleet sizes, and temporarily repressed the opponents of arms expansion and war dissenters. In Great Britain, for example, largely because of embarrassments at Gallipoli, Jutland, and in the antisubmarine campaign, David Lloyd George (rather than John Fisher, Churchill, Jellicoe, Beatty, or Geddes) assumed strategic leadership. In the United States, Woodrow Wilson proved to be a better strategist than his naval secretary, Josephus Daniels, or even than

his Chief of Naval Operations, William S. Benson.

The same war caused a different reaction in Japan. Only a limited fleet expansion could be funded, and it could not be allowed to provoke criticism from the other naval powers. Most important, military expansion in Japan was seen as a political stabilizer.

As the Great War ended, a new world order emerged, and a new order of seapower along with it. Dingman's lucid account explains the effect of British politics and the decision to disarm down to the level of parity with the United States. He also provides some new insights on the relationships between the Treaty of Versailles and domestic politics on the one hand and the Washington Naval Conference on the other. French intransigence prevented the controlling of submarines, and the Japanese premier was able to use the plea of the security of the western Pacific as an aid in establishing domestic political tranquillity. One of Dingman's major themes, then, was that domestic political pressures, rather than international political factors, again determined the fate of the negotiations at the Washington Naval Conference.

Until World War II, the Washington treaties provided about the only real example of arms control, and even here there was the lingering skepticism that the diplomacy was only the codification of the constraints that were put on the statesmen by the economic and political realities of the day. There were additional agreements in the years that followed which attempted to deal with arms that were not controlled at Washington—principally submarines and, especially, cruisers. The Geneva Conference of 1927 failed over the cruiser issue. The London Conference of 1930 resulted in a treaty that limited cruisers and extended the battleship-building holiday. Japan refused to participate in the second London Naval Conference in 1935, and only minor agreements between Great Britain and the United States were then possible. The world was already embarked on the road to war, and that is where James R. Leutze picks up the



story. Leutze's *Bargaining for Supremacy*<sup>†</sup> provides details on the relationship between Roosevelt and Churchill in what Joseph P. Lash calls "the partnership that saved the west."<sup>2</sup> The study goes beyond diplomatic history to examine the political, economic, and strategic aspects of the alliance. Leutze concentrates on how the Americans and British sparred for almost four years before agreeing on an alliance in which the latter consented to "allow the U.S. Navy a major role in the Atlantic/European area with a concomitant increase in America's influence in directing the war." (p. 4) Since the Treaty of Versailles had done away with the Kaiser's navy, English and American interest had concentrated on naval problems in the western Pacific and Southeast Asia. The Fall of France in 1940 caused concern to redound to the Atlantic, where Hitler had suddenly become a very real threat. Churchill was convinced that he had to have U.S. logistical and military support against that threat, and the price he had to pay was American predominance in the partnership.

In developing his ideas, Leutze made extensive use of American and British archives. He read widely in government primary and secondary sources. He had the further advantage of being able to interview a number of the men who made the bargain possible. His story is a compound of the ways in which the U.S. developed a consensus within her own ranks and then contrived understandings with British counterparts at both the diplomatic and naval levels.

It is all too easy for Americans to assume that their military and logistical prowess made the alliance with Britain pretty much a one-way street. Faced with the uncertainties of the day, however, the decision-makers could not have

felt that way at all—the British did have very considerable bargaining chips. They enjoyed trading advantages in their technological superiority in many areas, especially in underwater sound detection, radar, and nuclear physics. Furthermore, in 1940, when the Fall of France called forth visions of a similar collapse in England, the naval-conscious Roosevelt and many other Americans were mightily concerned about the fate of the British fleet. Were it to fall into Hitler's hands, they thought, Mahan's struggle for the essential "command of the sea" would be no pushover for the U.S. The English were well aware of these attitudes and used them to advantage in the negotiations. In the last analysis, however, the British had to recognize reality and give the U.S. the lead in planning for the war, even in their own backyard against Hitler. The whole experience was a rare example of successful coalition warfare, and it is so effectively presented by Leutze that it should serve as a model for succeeding generations of strategists and diplomats. It is a sound book that bears serious study by any officer engaged in combined or joint planning.

MAHAN compensated a bit for his country's sparsity of military theorists with the remarkable breadth, depth, and durability of his ideas. In his own day, he was lionized in England, and his work had a profound impact on the German and Japanese navies—to name only two. A book of essays by Herbert Rosinski, a refugee from Hitler's Germany, spans the periods of both the works already discussed.<sup>††</sup> He gives us some insight as to the ways in which Mahan's thought was used and modified in the decades after his death in 1914. Though B.

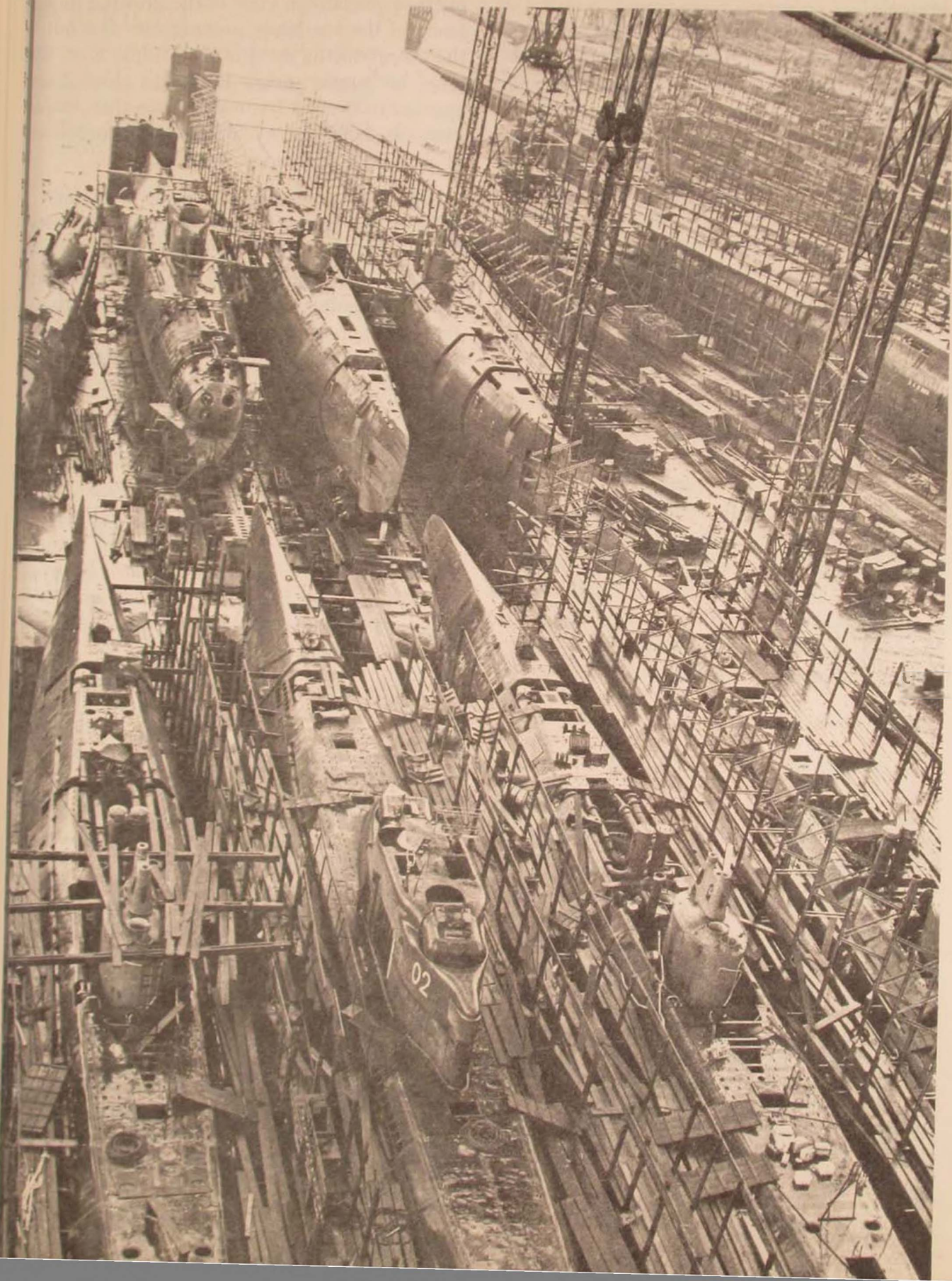
---

<sup>†</sup>James R. Leutze, *Bargaining for Supremacy: Anglo-American Naval Cooperation, 1937–1941* (Chapel Hill: University of North Carolina Press, 1977, \$17.95), 266 pages.

<sup>††</sup>B. Mitchell Simpson III, editor, *The Development of Naval Thought: Essays by Herbert Rosinski* (Newport, Rhode Island: Naval War College Press, 1977, \$2.75), 139 pages.



Although the Treaty of Versailles had done away with the Kaiser's navy, two decades later Hitler's navy was a very real threat in the Atlantic. V-E Day found 40 U-boats in various stages of construction and repair on the ways at Werftshafen in Bremen harbor.





Mitchell Simpson's editing does not rescue Rosinski from his own writing ineptitude, the ideas of the work may nevertheless be worth the struggle.

These essays first appeared during the 1940s in various issues of *Brassey's Naval Annual*. Rosinski fully agreed with Mahan in the thought that command of the sea was essential and a prerequisite for all other operations. However, he criticized the great man for not fully expounding the implications of that theorem. Mahan, Rosinski says, did not sufficiently articulate the importance of a decisive and obvious superiority of naval arms in achieving command of the sea. In addition, he made more of the importance of naval force to the merchant marine than was necessary.

One of Mahan's principal articles of faith was that a war against commerce without command of the sea was a hopeless proposition. He was criticized time and again for failing to foresee the importance of the airplane and especially of the submarine. During the interwar period, many of the theorists of the weaker naval powers argued that the failure of the German submarine campaign did not prove Mahan right but that the flaw had been with the execution rather than the idea. As Rosinski explains, these men felt that earlier massive exploitation of the subma-

rine against commerce might indeed have turned the tide. In any event, he seems to favor Mahan's view, and the topic remains as relevant as ever—especially in view of the growing importance of the sea lanes running into and out of the oil-producing areas of the Middle East. Beyond his turgid prose, Rosinski's chief defect appears to be that he, much more than Mahan himself, should have had a greater appreciation of air power and carrier warfare.

FEW Air Force officers will want to pursue these three works as a part of a general professional reading program. Each presupposes an understanding of Mahan, but that is better obtained from his *The Influence of Sea Power on History* or from Robert Seager's fine biography, *Alfred Thayer Mahan: The Man and His Letters*. However, Roger Dingman's *Power in the Pacific* would be useful to those with a special interest in naval affairs, diplomatic history, or arms control. Leutze's *Bargaining for Supremacy* provides good background reading for specialists in joint and combined planning or for historians of coalition warfare. Rosinski's essays probably have little appeal for the lay reader, but they may be interesting to specialists in military theory and doctrine.

United States Naval Academy

#### Notes

1 Harold and Margaret Sprout, *Toward a New Order of Sea Power: American Naval Policy and the World Scene, 1918-1922* (Princeton, New Jersey: Princeton University Press, 1940); Mark Sullivan, *The Great Adventure at Washington* (Garden City, New York: Doubleday, 1922); Dudley Wright Knox, *A History*

*of the United States Navy* (New York: G. P. Putnam's Sons, 1948); Thomas H. Buckley, *The United States and the Washington Conference, 1921-1922* (Knoxville: University of Tennessee Press, 1970).

2 Joseph Lash, *Roosevelt and Churchill, 1939-1941: The Partnership That Saved the West* (New York: Norton, 1976).

## Potpourri

**City of Fire: Los Alamos and the Birth of the Atomic Age, 1943–1945** by James W. Kunetka. Englewood Cliffs, New Jersey: Prentice-Hall, 1978, 234 pages, \$10.95.

The origin of atomic weapons and the nature of their enigmatic creators shall undoubtedly prove fascinating to mankind for generations to come. In *City of Fire*, the author emphasizes the intellectual, personal, and physical challenges that the remarkable group of men and women who came to Los Alamos had to overcome.

Kunetka does a fine job throughout the book of describing the scientific and technical achievements of the Manhattan Project in clear, understandable language. The reader also obtains a sharp image of the rugged physical setting in New Mexico, the hardships that the environment and its relative inaccessibility imposed, as well as the spirit and enthusiasm of the community for its all-important project. Finally, an account of the disputes and tensions arising between the scientists and the military leadership is also given.

It is the portrayal of this last theme in which the flaws of the book are most apparent. To enhance readability, the author chose to present much of the history of the project through the interplay of personalities. Inevitably, Kunetka prefers certain individuals to others. Hence the scientists are generally presented as broad-minded humanitarian idealists while the military are characterized as narrow, self-serving bureaucrats. The author dwells particularly on the issue of security, with the scientists viewed as academic freedom-fighters and the military as arbitrary jailers.

Even the author must grudgingly admit, though, that serious breaches of security did occur. Both David Greenglass, via the Rosenbergs, and Klaus Fuchs regularly passed sensitive information to the Soviets from 1943 to 1945, and yet their actions were not detected until the 1950s. Indeed, the overall impression the reader gets is that security was appallingly primitive during this time at Los Alamos. While common now, collaboration between science and the military was a new phenomenon in the U.S. during World War II. It is a pity that the author did not devote any attention to the important lessons about security and weapons research that all parties

involved must have learned from the Manhattan Project.

Another theme the author dwells on is the portrayal of J. Robert Oppenheimer as a martyr persecuted by the military after he had done so much to strengthen it. No one can deny that Oppenheimer was treated most shabbily by the government during the 1950s. It must be remembered, though, that it was not the military who persecuted him but political leaders hoping to further their careers by taking advantage of the rising tide of anti-Communist hysteria. Indeed, the military itself was the target of such persecution, most notably when Senator Joe McCarthy decided to look for Communists within the Army.

*City of Fire* is an informative and highly readable book. Nevertheless, a definitive, balanced account of the creation of the bomb, the people involved in the Manhattan Project, and the significance of these events on history has yet to appear.

Mark N. Katz  
Political Science Department  
Massachusetts Institute of Technology

**The Overthrow of Allende and the Politics of Chile, 1964–1976** by Paul E. Sigmund. Pittsburgh, Pennsylvania: University of Pittsburgh Press, 1977, 326 pages, \$14.95.

Readers interested in the continuing drama of Chilean politics will be aided by this scholarly study. Originally intended as a comparison of the Frei and Allende presidencies, Sigmund's book uses many Chilean and other sources to go beyond that comparison.

Central to the frustrations of both the Frei presidency (1964–1970) and Allende's (1970–1973) were the encumbrances of the Chilean political system. Staggered presidential, congressional, and municipal elections, a complicated legislative procedure that allowed as many as 2000 modifications to a bill, and a marked tendency toward fragmentation within the body politic would have hampered almost any chief executive. Christian Democrat Frei's "revolution in liberty," with promises of reform and prosperity, led to a rise in expectations from the highly literate, urbanized Chilean population. When Frei limited his program to progress in agrarian reform and "Chileanization" of the copper industry, his political base weakened, leading a three-way contest for the presidency in 1970. This split between conservative and middle sectors, united in the '64 election, opened the door for election, by a mere 36 percent plurality,



of the socialist-communist coalition candidate, Salvador Allende.

Allende's Chilean way to socialism led to confrontation with the institutional and economic realities of Chile. His first year in office went smoothly as he used the foreign exchange reserves of the Frei administration and unused industrial capacity to create a facade of prosperity. By 1972, however, deficit financing and acts of dubious legality (such as seizures of businesses) led to the polarization of Chilean society and confrontation with the opposition-controlled legislature. Throughout this turbulence the armed forces remained on the sidelines, true to their traditional role of noninterference in Chilean politics. However, when the military perceived that Allende was arming the populace and planned to subvert the armed forces, they decided on a coup. After Allende refused exile, they bombed the presidential palace and found that he had committed suicide.

Sigmund's account is peppered with examples of U.S. intervention against Allende. The author shows the often-crucial impact of the U.S. on short-term events but concludes that the primary reasons for Allende's fall were internal.

Despite the authoritative nature of this work, Sigmund's style is often cumbersome. Moreover, he reverts to the alphabet-soup approach in describing political parties, almost unavoidable in any account of Latin American politics. His characters would be better understood, though, if he treated them more deeply. All in all, Sigmund has done great service for those who desire a concise account of this era of Chilean politics.

Captain E. Richard Downes, USAF  
United States Air Force Academy

**Arab and American Cultures** edited by George N. Atiyeh. Washington: American Enterprise Institute for Public Policy Research, 1978, 236 pages, \$4.75.

I liken this book to a crystal geode. Its outside appearance and format seem unpromising, but the essays and articles inside sparkle with cogent analysis and provocative commentary.

In the autumn of 1976, the American Enterprise Institute for Public Policy Research convened a conference on Arab and American cultures, bringing together top scholars, diplomats, and public figures from the United States and the Arab world. This book presents the edited proceedings of the conference. America and the Arab world were compared in a series of sessions focusing on four areas—history, cul-

ture, literature, and politics. There were two major papers in each category (one American and one Arab) followed by two commentaries and some revealingly frank, open discussion. As happens in conferences not all the papers dovetailed with one another, but they did effectively highlight the intercultural differences, which are intangible but real sources of misunderstanding and conflict. Also included is the transcript of a round-table discussion on the problems of communication across cultural barriers.

Given the new international balance of power that has emerged since the oil embargo of 1973, the conference remains one of the most relevant topics in international affairs. As the proceedings make clear the cultural asymmetries between the Arab and American worlds are immense because there are so few values and experiences shared by both. Thus, the papers tended to be useful, straightforward explanations of the Arab or American view of the topic at hand. Of particular interest to officers concerned with the Arab world are the papers on classical Arab culture by a University of Cairo professor and two papers on Arab diplomacy by the foreign ministers of Egypt and the Sudan.

These informative papers on the Arab condition are overshadowed, however, by a brilliant series of American papers, which are the gems of the book. Samuel P. Huntington, John Updike, William E. Leuchtenburg, and Robert Nisbet conceived and delivered papers of very broad scope. From four perspectives they explain the American condition in the 1970s for the Arab participants. Forced by the format of the conference to be brief yet challenged by the task of presenting America to the Arabs, they provide the reader with a lifetime's consideration and reflection about the status of our nation, rendered clearly, concisely, and in distinctly vigorous prose. Aside from its worth in assessing our problems in the Middle East, then, *Arab and American Cultures* is a book that affords highly readable, cogent, though short inquiries into the future of our nation. It is a book of value to all officers.

Captain Donald M. Bishop, USAF  
Department of History  
USAF Academy

**The Japanese** by Edwin O. Reischauer. Cambridge, Massachusetts: Harvard University Press, 1977. 426 pages + index, \$15.00.

A glance at the table of contents of this new work by the former U.S. ambassador to Japan gives one the impression that it is just another history book.

On the contrary, an examination of the text dispels this notion rapidly. *The Japanese* is, in fact, a highly readable account of the growth of a major nation. In this, his most recent in a long series of books about Japan, Mr. Reischauer evidences a knowledge of that country which is probably not equaled by any other Westerner.

After first setting the scene for an understanding of this large and diverse subject, Mr. Reischauer traces both the societal and political developments of Japan from the third century A.D. to the present. He provides the reader with a thorough chronicle of the country's significant historical periods. Additionally, he frequently refers readers desirous of a more detailed consideration of Japanese history to specialized texts. Through the use of original, imaginative illustrations, Reischauer successfully depicts intricate statistical comparisons that most writers vainly attempt to describe verbally. Despite occasional lapses into what it properly termed "academese," the majority of the work is written in a fluid style that holds the reader's interest. This is indeed no mean task considering the historical nature of the book.

Attention is next directed to the evaluation of Japanese society and the major influences on it, i.e., education, religion, psychological traits, etc. This is of particular interest to those attempting to discern the underpinnings of Japan's current culture.

Remaining sections contain enlightening discussions of the political nature of modern Japan. Mr. Reischauer describes both the symbolic Imperial and the praxeological Diet systems of government in great detail. His analysis of trends and issues, although somewhat dated, reveals that the author is more than an accomplished historian. He provides astute political observations of Japan's metamorphosis from American adversary to ally. Of special interest is the final chapter, wherein the writer gazes into his crystal ball and predicts, in rather vague terms, the future of Japan. If, as the author believes, the country is to become a world leader in developing the "global fellow feeling that mankind needs for survival," then *The Japanese* would be a valuable investment for the future. In the interim it is useful as a comprehensive source of information about the Land of the Rising Sun.

Captain Charles A. Royce, USAF  
Department of Air Force Aerospace Studies  
Ohio State University

**Beginning Gliding and Understanding Gliding** by Derek P. Piggott. New York: Barnes and Noble Books, 1977, 208 pages and 259 pages; \$13.50 and \$20.00, respectively.

*Beginning Gliding* concentrates on offering practical advice to the instructor and the beginner learning to fly gliders. The book not only suggests what to learn but how to learn it and, more important, how it should be taught. I highly recommend the book because the breakdown of the problems faced by student glider pilots in the early stages of flying and the explanations offered to overcome these problems are skillfully handled.

*Understanding Gliding* is a natural follow-up to *Beginning Gliding*. One might assume there would be a great deal of repetition, but such is not the case. While the subject matter is the same, the treatment is different. The major portion of this book deals with the technical and theoretical problems of gliding. This book offers a clear and understandable guide to the principles of flight and the reasons behind them. Pupils, pilots, or flight instructors will find the book a valuable tool in learning the art of gliding.

Simplicity of expression makes the reading of these two books readily understandable. This is a quality that the author has developed to near perfection, and it probably derives from his varied flying career and his unrivaled experience as a professional gliding instructor.

Senior Master Sergeant John R. Monteith, USAF  
NCOIC Soaring Operations  
United States Air Force Academy

**Summer, 1940: The Battle of Britain** by Roger Parkinson. New York: David McKay, Inc., 1977, 236 pages + footnotes, bibliography, index, illustrations, \$12.95.

Military historian Roger Parkinson's fourth and latest book on World War II is a hastily compiled collection of anecdotes about the Battle of Britain. It is filled with colorful details, but it lacks the analysis one expects from a professional military historian, especially from a respected biographer of Clausewitz.

In the limited space Parkinson does devote to examination, he correctly identifies Hitler's ambivalences regarding the planned invasion of Britain as the major factor in the German defeat. Parkinson is also right when he asserts that the battle was nowhere near British defeat. He is incorrect, however, when he claims that the Germans "had no chance of success" in the Battle of Britain and that Hermann Goering's many mistakes were "irrelevant to the outcome," because the entire venture was "hopeless" from the start. One would want to debate Parkinson on this issue, raising the following questions:

—Would not the outcome have been different had



Goering attacked the radar stations with perseverance at the earliest moment?

—With the radar stations destroyed (a distinct possibility considering their vulnerable construction and location) and Fighter Command blinded, could not Goering then destroy the forward fighter bases and sector stations that lent organization to the defensive battle?

—Might not the outcome have been different had Goering permitted his fighter pilots to free-hunt the Spitfires and Hurricanes as they wanted to do, instead of forcing them to fly tight formations? American fighter pilots using such tactics decimated the Luftwaffe in 1944.

These issues are not raised in Parkinson's work, and, by failing to recognize that the German failure was tactical as well as strategic, Parkinson's book has only limited utility to students of air warfare. Those who own Peter Fleming's *Operation Sea Lion* or Telford Taylor's *Breaking Wave* need not add Parkinson's latest to their collections.

Lieutenant Colonel Alan L. Gropman, USAF  
Hq USAF

**World War II: An Account of Its Documents** edited by James E. O'Neill and Robert Krauskipf. Washington, D.C.: Howard University Press, 1976, 269 pages + contributors, bibliography, index, \$15.00.

This is one of a series of volumes indicating the wealth of materials in the U.S. National Archives. Eighteen papers are presented, ranging from Barbara Tuchman's discussion of why she wrote her biography of General Joseph Stilwell as she did to the Department of Defense story of how it declassified World War II military records (a presentation by Rudolph Winnacker, former defense historian).

Whereas the book serves several broad aims, one of the more intriguing to this reviewer is that of enabling students to find aids not normally available to

the general public. Such volumes are necessary if one is to present factually the events affecting mankind. Most revealing is the paper discussing research on World War II in the Soviet Union and the more than 70 volumes produced by Russian historians on the defeat of Hitler's army and 30 more pertaining to the defeat of the Japanese. For one interested in World War II research, the volume is a useful resource.

Lloyd H. Cornett  
Albert F. Simpson Historical and  
Research Center  
Maxwell AFB, Alabama

**How to Handle Speechwriting Assignments** by Douglas P. Starr. New York: Pilot Books, 1978, 40 pages, \$3.95.

*How to Handle Speechwriting Assignments* is a welcome little pamphlet for the officer tasked to write speeches—when he has had little experience with the art. Dr. Douglas Starr, a professional journalist and teacher of public relations, delivers a workmanlike product with an enviable economy of words.

Three main ideas provide the neophyte with a good start. First, the speechwriter must research the speaker. The writer must strive to be a mirror that will reflect the undistorted image of the speaker. Second, the audience must be analyzed. What are its biases, its interests, its educational levels, its moods, and its goals? Finally, the speech must be written with the research well in mind and in a direct, forceful way. Keep it simple, and let the speaker add his own humor, for that is too personal a thing for the writer to provide. For the military man, Starr's most valuable contributions probably are the various check lists and the bibliography—these provide concrete starting points in an unfamiliar art.

If the harried staff officer can afford the rather steep purchase price for this pamphlet, *How to Handle Speechwriting Assignments* would doubtless be a useful addition to his desk reference collection.

D. R. M.



# **R** the contributors



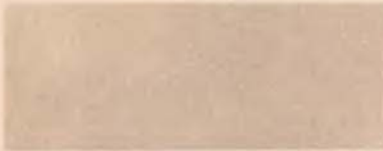
**STEVEN L. CANBY**, Lieutenant Colonel, U.S. Army Reserve, (USMA; Ph.D., Harvard University), is a mobilization designee in Deputy Chief of Staff Operations, Department of the Army. His active duty service included tours in Germany and the Infantry School. He is the author of numerous studies on military manpower and military tactics and force structuring. Dr. Canby is a graduate of the Infantry Airborne, Ranger, and Command and General Staff courses.



**WILLIAM S. LIND** (A.B., Dartmouth College; M.A., Princeton University) is legislative assistant for the Armed Services Committee to Senator Gary Hart of Colorado. He has served as legislative assistant to Senator Robert Taft, Jr., of Ohio, and assisted him in the preparation of the Taft white paper on defense. His publications include a critique of U.S. Army doctrine in the *Military Review* (March 1977), proposals for restructuring the Marine Corps in the *Marine Corps Gazette* (December 1975), and a critique of current naval force structure in U.S. Naval Institute *Proceedings* (March 1978). Mr. Lind is a doctoral candidate at Princeton.



**G. K. BURKE** (Ph.D., St. John's University) is a private consultant dealing principally with foreign relations and defense questions. He was an instructor in history at St. John's University, has studied at Oxford University, and is the author of other articles in related areas. Dr. Burke is a previous contributor to the *Review*.



**CURTIS W. TARR** (Ph.D., Stanford University) is a Vice President of Deere & Company, Moline, Illinois. Dr. Tarr spent five years in the federal government as Assistant Secretary of the Air Force, Manpower and Reserve Affairs; Director, Selective Service System, and Under Secretary of State for Security Assistance and Acting Deputy Under Secretary of State for Management. Before going to Washington, he was President of Lawrence University at Appleton, Wisconsin. Dr. Tarr is author of the recent *Private Soldier. Life in the Army from 1943-1946* and of numerous articles in professional journals, including *Air University Review*.



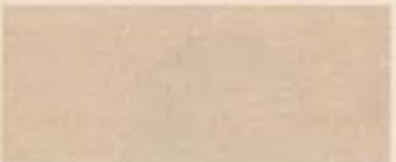
**COLONEL DONALD L. CLARK, USAF (Ret)**, (M.P.A., George Washington University) is Assistant to the President and a lecturer in political science at Montana State University, Bozeman. While in the Air Force, he taught international affairs at Air Command and Staff College, was the first USAF Fellow to Fletcher School of Law and Diplomacy, Tufts University, was Assistant Air Attache in Moscow, and served on the Joint Staff in the Office of International Negotiations. He has been a frequent lecturer at the various military staff and war colleges and is a previous contributor to the *Review*.



**MAJOR THOMAS E. BRONSON** (M.Ed., University of Massachusetts) is an assistant professor of aerospace studies, Detachment 730, University of Pittsburgh, AFOTC. He has been a C-130 and A-26 navigator in Okinawa and Thailand, and after completing undergraduate pilot training he flew EB-57s for Aerospace Defense Command and C-5s for Military Airlift Command. He has served as squadron scheduler, flight commander, and executive officer for an air base commander. Major Bronson is a 1978 Distinguished Graduate of Air Command and Staff College.



**THOMAS H. ETZOLD** (Ph D., Yale University) is professor of strategy at the United States Naval War College, Newport, Rhode Island. He is the author of *The Conduct of American Foreign Relations*, *The Other Side of Diplomacy* as well as co-author and editor of *Aspects of Sino-American Relations since 1784*. He has written many articles for professional historical and military periodicals concerning American defense and diplomacy. Dr Etzold is a previous contributor to the *Review*.



**COLONEL WENDELL E. "Tex" LITTLE, USAR (Ret)**, (B.A. University of Texas; M.A., American University) is living in San Antonio, Texas, after serving 21 years in the Central Intelligence Agency, where his assignments included Korea, Japan, Pakistan, and Germany. During World War II, he served in Africa, Italy, France, and Germany. An Air War College graduate, Colonel Little is author of several articles concerning intelligence and strategic planning and a frequent speaker on national security.

Virginia after 25 years of active Army service. He was formerly Director of the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania. His military career encompassed field artillery and staff assignments at Hq Department of the Army and in the Department of Defense. In 1969 he commanded the 21st Field Artillery of the 1st Cavalry Division, Vietnam. His book, *The Eggnog Riot, Christmas Mutiny at West Point*, is scheduled for publication in May 1979 by Presidio Press.



**PAOLO E. COLETTA, Captain, USN (Ret)**, (B.S., M.S., and Ph D., University of Missouri) is Professor of History, U.S. Naval Academy, Annapolis, Maryland. After serving three years in the Navy during World War II, he completed 30 years in 1973. He has written eight books and numerous articles for historical and military journals. Dr. Coletta is a previous contributor to the *Review*.



**COLONEL JAMES B. AGNEW, USA (Ret)**, (M.P.A., Princeton University), is living in



The Air University Review Awards Committee has selected "Nuclear Strategy: Differences in Soviet and American Thinking" by First Lieutenant John W. Jenson, USAF, as the outstanding article in the March-April 1979 issue of the *Review*.

---

## *editorial staff*

LIEUTENANT COLONEL DAVID R. METS, USAF  
*Editor*  
MAJOR THEODORE M. KLUZ, USAF  
*Associate Editor*  
JACK H. MOONEY  
*Managing Editor*  
JOHN A. WESTCOTT  
*Art Director and Production Manager*  
ENRIQUE GASTON  
*Associate Editor,*  
*Spanish Language Edition*  
LIA MIDOSI MAY PATTERSON  
*Associate Editor,*  
*Portuguese Language Edition*  
WILLIAM J. DEPAOLA  
*Art Editor and Illustrator*  
RUDOLPH W. MORGAN  
*Financial and Administrative Manager*

---

## *advisers*

COLONEL ROBERT J. O'BRIEN, JR.  
*Hq Aerospace Defense Command*  
MAJOR GENERAL JOHN W. HUSTON, *Chief*  
*Office of Air Force History*  
COLONEL RICHARD K. KING  
*Hq Air Force Systems Command*  
COLONEL RICHARD A. INGRAM  
*Hq Air Training Command*  
DR. KENNETH J. GROVES  
*Hq Air University (ATC)*  
LIEUTENANT COLONEL LOUIS A. TORRACA, JR.  
*Hq Military Airlift Command*  
FRANCIS W. JENNINGS  
*Air Force Service Information & News Center*  
COLONEL DAVID O. SCHILLERSTROM  
*Hq Strategic Air Command*  
LIEUTENANT COLONEL STEPHEN B. HINDERLITER  
*Hq Tactical Air Command*  
LIEUTENANT COLONEL ROBERT W. HUNTER  
*Hq United States Air Force Academy*  
COLONEL GLENN E. WASSON  
*Hq United States Forces, Japan*  
PROFESSOR I. B. HOLLEY, JR., *Duke University*  
*Major General, Air Force Reserve*

---

## *attention*

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

---

Address manuscripts to Editor, Air University Review  
Division, Bldg 1211, Maxwell AFB, AL 36112. Printed  
by Government Printing Office. Address subscriptions

to Superintendent of Documents, GPO, Washington DC  
20402, yearly \$11.60 domestic, \$14.50 foreign; single  
copy \$2.00. Air Force Recurring Publication 50-2.





*The Professional Journal of the United States Air Force*



# AIR UNIVERSITY **review**

JULY-AUGUST 1979

