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AIR UNIVERSITY **review**

STRATEGIC AIRLIFT: A CARGO CAPABILITY SHORTFALL	2
Gen. Paul K. Carlton, USAF	
THE EVOLUTION OF FLEXIBLE RESPONSE IN THE POST-VIETNAM ERA: ADJUSTMENT OR TRANSFORMATION?	11
Lt. Col. Laurel A. Mayer, USAF	
Dr. Ronald J. Stupak	
THE EVOLVING LAW OF AERIAL WARFARE	22
Col. Jay D. Terry, USAF	
ASPECTS OF AIR FORCE STRATEGY TODAY	38
Lt. Col. Joseph H. Stodder, USAFR	
AIR POWER: A NEW LOOK FROM AN OLD ROOFTOP	49
Maj. Dennis W. Stiles, USAF	
Air Force Review	
FLEXIBILITY IN INFORMATION RETRIEVAL FOR THE BASE-LEVEL MANAGER	60
Maj. Joseph A. Coleman, USAF	
Capt. Richard E. Ducharme, USAF	
SOCIAL ACTIONS TRAINING: TO KNOW AND TO GROW	68
Capt. Frederick M. Bell, USAF	
In My Opinion	
TACTICAL AIR FORCES IN A PERIOD OF UNCERTAINTY	72
Maj. Gordon A. Laing, USAF	
MANAGEMENT BY OBJECTIVES: CAN IT BE USED TO IMPROVE MANAGEMENT OF AIR FORCE UNITS?	88
Maj. David W. Krahenbuhl, USAF	
Books and Ideas	
SURPRISING VIEWS FROM THE FAR EAST LEFT	94
Brig. Gen. Noel F. Parrish, USAF (Ret)	
From the Editor's Aerie	110
THE CONTRIBUTORS	111

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The cover

General Paul K. Carlton, Commander of the Military Airlift Command, in his article "Strategic Airlift: A Cargo Capability Shortfall" alerts us to the nation's shortage of strategic cargo airlift despite auxiliary airlift services provided by more than 200 turbine-powered commercial carriers, represented in profile on our cover (see to bottom) by the Boeing 747, McDonnell Douglas DC-10, and Lockheed L-1011. Several authors in this issue consider other aspects of air power and strategy.

AIRLIFT is one of our key national assets, like manpower, industrial capacity, technology, even the gold at Fort Knox. The United States faces the most difficult challenges for airlift of any country on earth, in case of a major war.

One of the top-priority programs needed by the armed forces is added muscle for America's strategic airlift force. We are in a period of vexing economic problems that demand employment of the most efficient ways to meet defense requirements effectively. Enhancement of our airlift capability for cargo and equipment is an important step in acquiring that kind of efficient force.

Over half of today's strategic airlift capability is represented by a turbine-powered force of C-5s and C-141s that numbers just over 300, together with about 290 of the smaller C-130 tactical airlifters, some of which could be used in the initial stages of a crisis deployment before converting to their theater airlift role. All are assets of the United States Air Force's Military Airlift Command (MAC), which manages Department of Defense airlift worldwide.

The other—and equally essential—part of our national emergency airlift capability is provided through a contractual arrangement with twenty civil air carriers to provide both peacetime and greatly increased emergency airlift services for DOD personnel and materiel. These nearly 340 turbine-powered commercial airliners, of which about 245 are of the long-range intercontinental variety, can almost double MAC's long-range crisis airlift capability if fully activated as the Civil Reserve Air Fleet (CRAF).


So, at a glance, it appears that the United States possesses the world's greatest strategic airlift armada, *by far*. But, on closer examination, the shocking fact is that this nation does not have enough strategic cargo airlift, *also by far*, especially in terms of

civil augmentation of the military force. Here's why.

One of the cornerstones of the military "right arm" that backs up our diplomats in the conduct of foreign relations is the policy of strategic mobility. This is the capability for the United States to apply its armed forces in the right combinations of men and equipment, wherever they are needed, if diplomacy should fail and armed conflict were to break out.

How do we do this? There would seem to be four choices open to us:

- America can accept the risk of



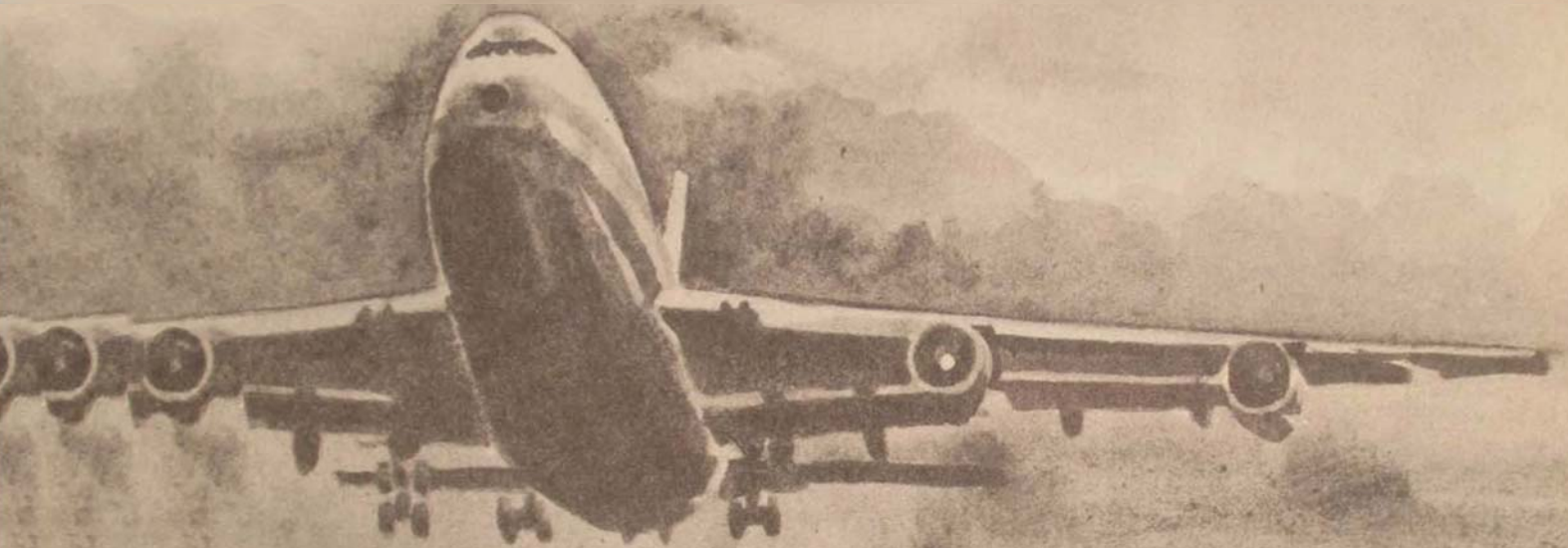
maintaining traditional forward defenses, though deployed in increasingly insufficient numbers. While providing a cadre upon which to build in the event of a crisis, such forces would be vastly outmanned and out-gunned and would be dangerously vulnerable.

- We can build up the manpower and equipment levels of our forward-deployed

STRATEGIC AIRLIFT

a cargo capability shortfall

GENERAL PAUL K. CARLTON

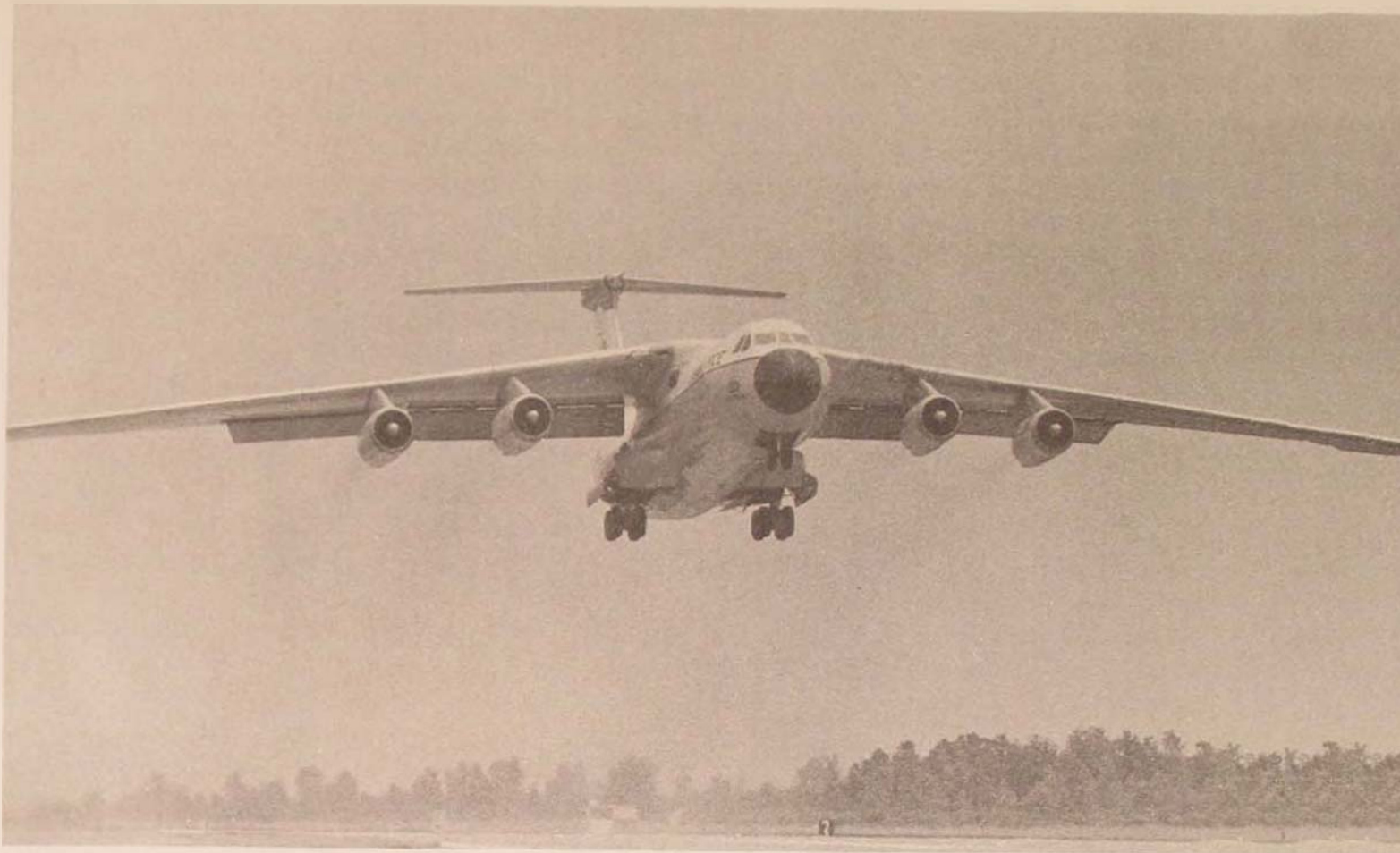


forces. This is directly counter to the expressed desire of the Congress as elected representatives of the American people. It would be extremely costly in terms of the human element, as well as dollars, fuel, and equipment.

- A third choice would be to preposition huge garrisons of equipment and supplies in forward areas, so that only troops

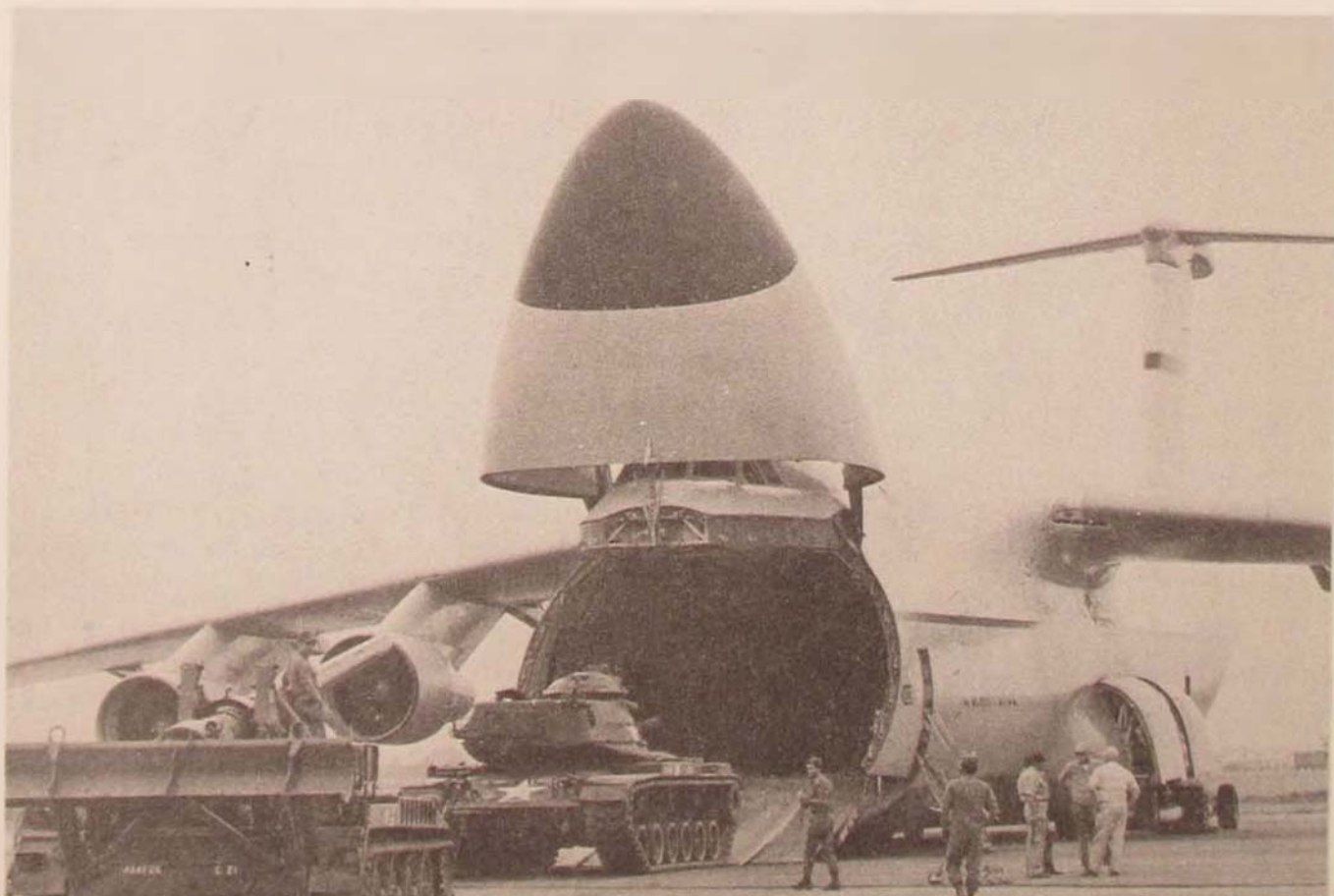
would need to be deployed, picking up their equipment when they landed in the theater of operations.

But there is the obvious point that these caches of American arms would make ideal targets for an attacking enemy. It must also be recognized that this approach would be almost prohibitively expensive in terms of the duplication necessary to keep equip-



C-141

C-5A





C-130

ment stored overseas while providing identical equipment to the fighting units for training purposes at home. In addition, who can say whether the fight will take place in a location reasonably convenient to our storage points?

- What remains is a fourth choice, and seemingly the only practical one: We can measurably increase our capability to deploy crack fighting forces rapidly, directly from the United States, with the equipment and supplies they will need to engage an aggressor immediately after arriving in the theater. The United States would gain the advantage of placing the onus for escalation on the other side. This approach to the problem, which demands a significant increase in strategic cargo airlift capabilities, is the most realistic and the most economical course to follow, and its benefits are many.

Only air power can deliver quickly the reinforcements that can dramatically affect the outcome of an operation. It is in this ability to respond to the initial surge requirements in the early days of an emergency that the nation's strategic airlift capability must be increased. Unfortunately, this surge capability is, at present, a constant

value that has a finite capability to expand in a crisis. While we have an impressive usable capability in our force of military cargo aircraft, economic considerations and Congressional guidelines restrict MAC in aircrew-manning ratios and flying-hour utilization rates, which directly relate to our surge capability duration. Conversely, the commercial carriers have sufficient aircrews and support facilities to expand flying-hour capability, but they do not have the necessary cargo-capable aircraft in sufficient numbers to provide all the augmentation needed.

The most cost-effective and practical solution at this time would be to provide for greater emergency oversize-cargo capability from this country's civil airline fleet. In other words, we need to buy a *standby civil cargo capability*. The need is not to "take over" civilian aircraft but simply to modify existing long-range, wide-bodied passenger aircraft and program the modifications into the newer jumbos that are not yet built, so that they could be quickly and easily converted to military airlifters capable of moving vehicles and large cargo, as well as smaller bulk cargo items.

Some commercial augmentation of the MAC force is already an everyday occurrence. It reached a peak of 3.6 billion ton-miles per year in 1968 and 1969, at the Vietnam war's peak, and today it runs about 900 million ton-miles annually. Even without the modifications we'd like to see in the civil aircraft, the CRAF still represents about half of the nation's wartime strategic airlift capability and can provide up to 14½ million cargo ton-miles and 7½ million passenger ton-miles *a day*.

But that is far short of the capability that is desirable to counter a full-scale European contingency. The majority of the aircraft available to the CRAF today are passenger-only varieties. Though there is plenty of space in their main deck compartments,

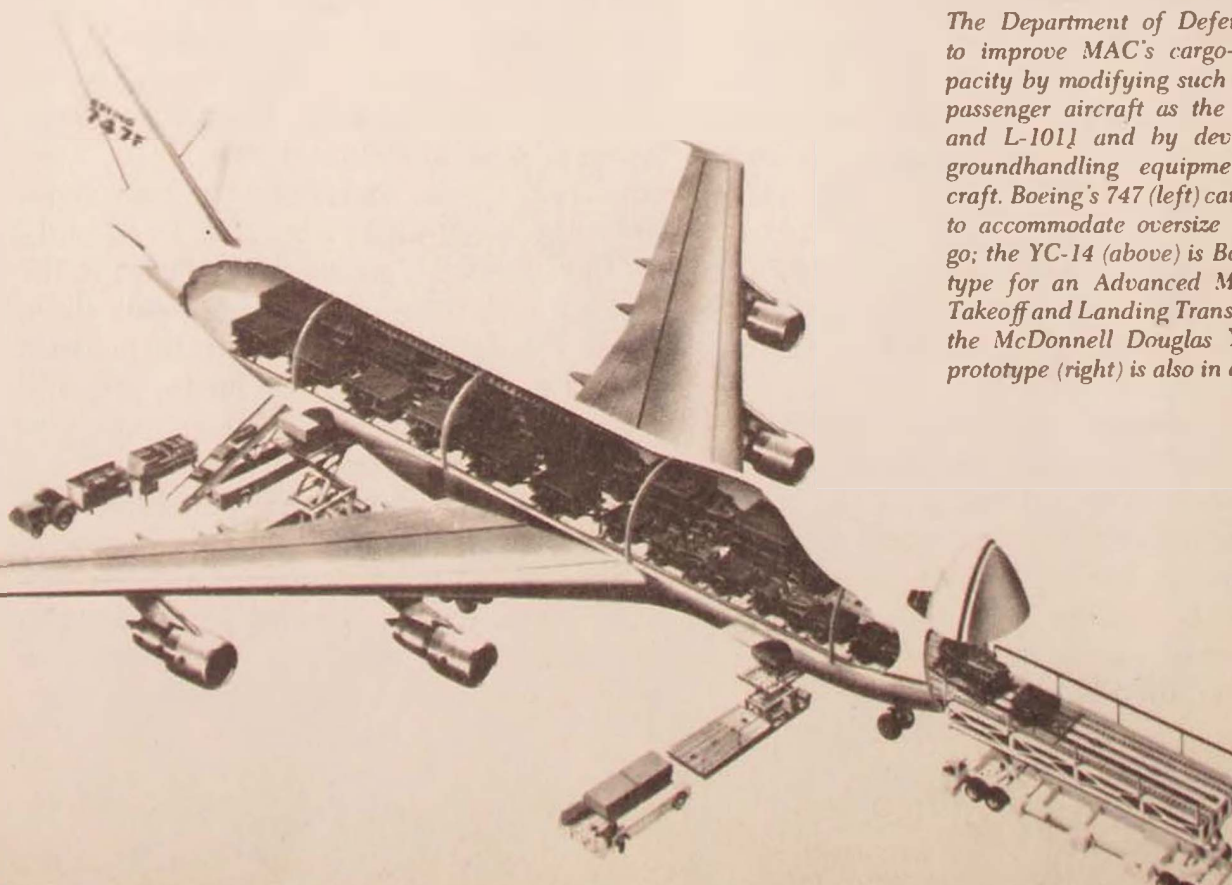
floor strengths and door-size limitations render movement of oversize and outsize items impossible. And that's the crux of the problem.

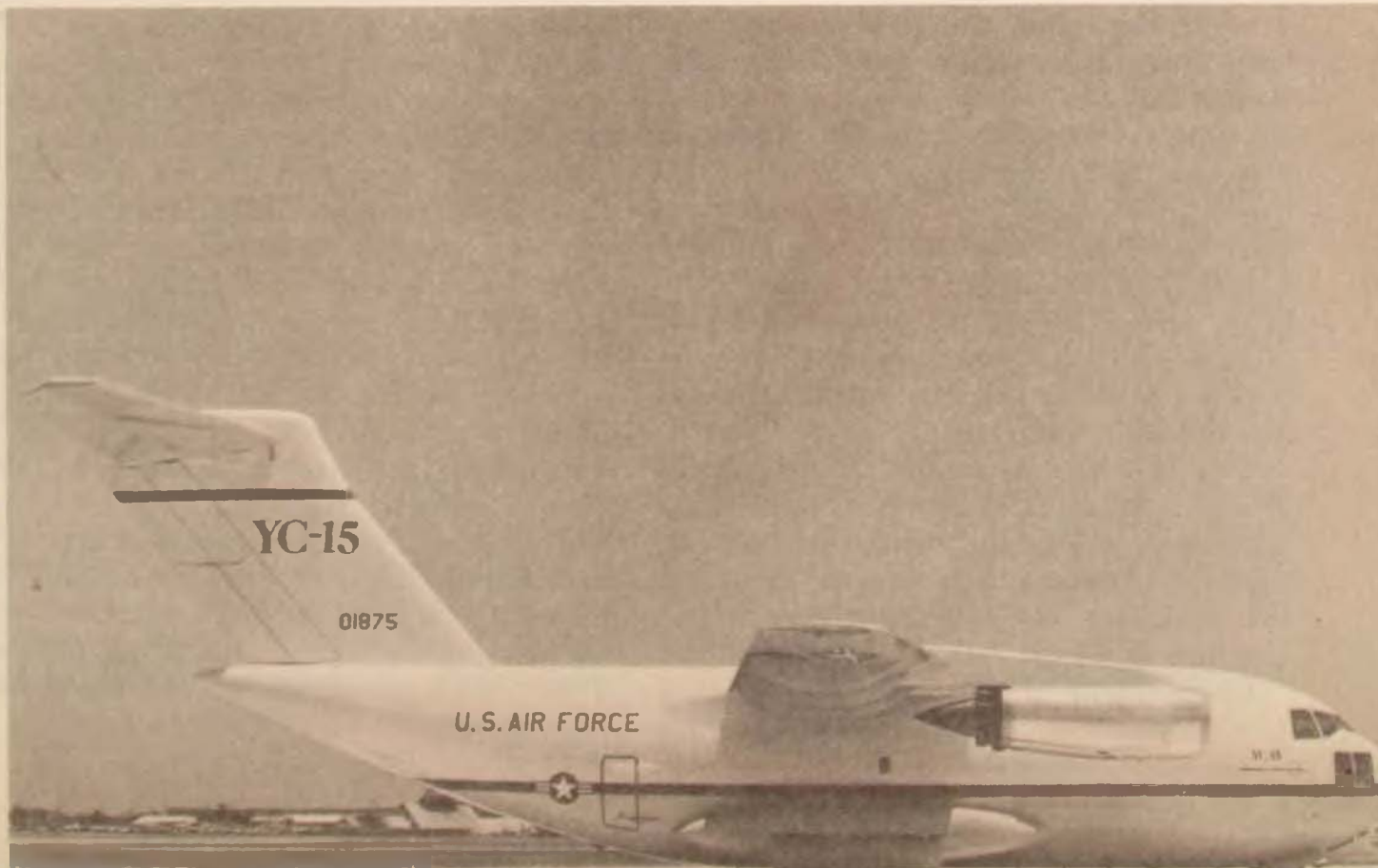
The proposal the Department of Defense is taking to the Congress is to modify the equivalent of 110 or more Boeing 747-type passenger aircraft (the 747, the McDonnell Douglas DC-10, and the Lockheed L-1011) by installing either a nose or side cargo door and a cargo floor or a treadway flooring system to accommodate vehicles. While the DOD must retain its unique airlift capacity and characteristic to deal with strictly military considerations, nonetheless portions of the requirement to meet foreseeable contingencies can be satisfied through judicious application of selected U.S. civil air carrier resources. To date, the civil cargo industry has not generated the requirements for new outsize-capable cargo aircraft suitable to both military and civil use, but such aircraft are on the horizon. In the meantime, the

CRAF modification program remains the most cost-effective manner of acquiring that important reservoir of cargo airlift needed to move ready fighting forces. To more than double our emergency cargo capability within the DOD would require very high dollar expenditures, while the same capability could be obtained at relatively low cost through modification of selected civil aircraft. The savings result from the civil carrier's absorbing the normal peacetime cost of operating aircraft and paying for maintenance, crew, overhead, and system support functions. The government investment includes the price of the modification and the additional operating and maintenance expenses resulting from operating the modified aircraft at a higher gross weight. Conservative estimates are that to produce the same airlift capability through organic Air Force means would cost a minimum of thirteen times the estimated cost of the proposed airlift modification and enhancement pro-

Augmenting Cargo Capability

The Department of Defense proposes to improve MAC's cargo-carrying capacity by modifying such civilian type passenger aircraft as the 747, DC-10, and L-1011 and by developing new groundhandling equipment and aircraft. Boeing's 747 (left) can be modified to accommodate oversize military cargo; the YC-14 (above) is Boeing's prototype for an Advanced Medium Short Takeoff and Landing Transport (AMST); the McDonnell Douglas YC-15 AMST prototype (right) is also in development.





gram. Thus, that program is the most cost-effective way of improving the national strategic cargo airlift capability. It can provide a potentially meaningful improvement in our nation's ability to deploy quickly the military forces and supplies required during an emergency.

Except in time of crisis, the modified airlifters would be operated in their normal civilian role by the commercial carriers. The carrier would retain ownership and would be paid at Civil Aeronautics Board rates for assisting the military during an emergency.

With this added airlift capacity, we would enhance our ability to provide balanced emergency deployments of land or air fighting forces, delivering the right people and the right supplies and equipment on a timely basis to the right place simultaneously. For example, during a 30-day deployment period, we could halve the time to deploy or double the numbers deployed in the same amount of time, or we could provide the capacity to transport high-priority items by air that are now relegated to the slower sea-lift mode, whichever the events of the moment demanded.

Of course, modification of existing aircraft must be viewed as a near-term solution to this airlift enhancement problem.

Complementing the CRAF modification plan are other proposals to increase our cargo airlift capability. These include requirements to modify our existing military strategic airlift aircraft. Also there is the need for acquiring additional advanced ground-handling equipment; rapid response depends on the proper equipment to onload and offload the aircraft.

Two proposed new military aircraft are also key elements of the plan to develop additional cargo capability. They are the Advanced Tanker-Cargo Aircraft (ATCA) and the Advanced Medium Short Takeoff and Landing Transport (AMST).

Procurement of the ATCA will enhance

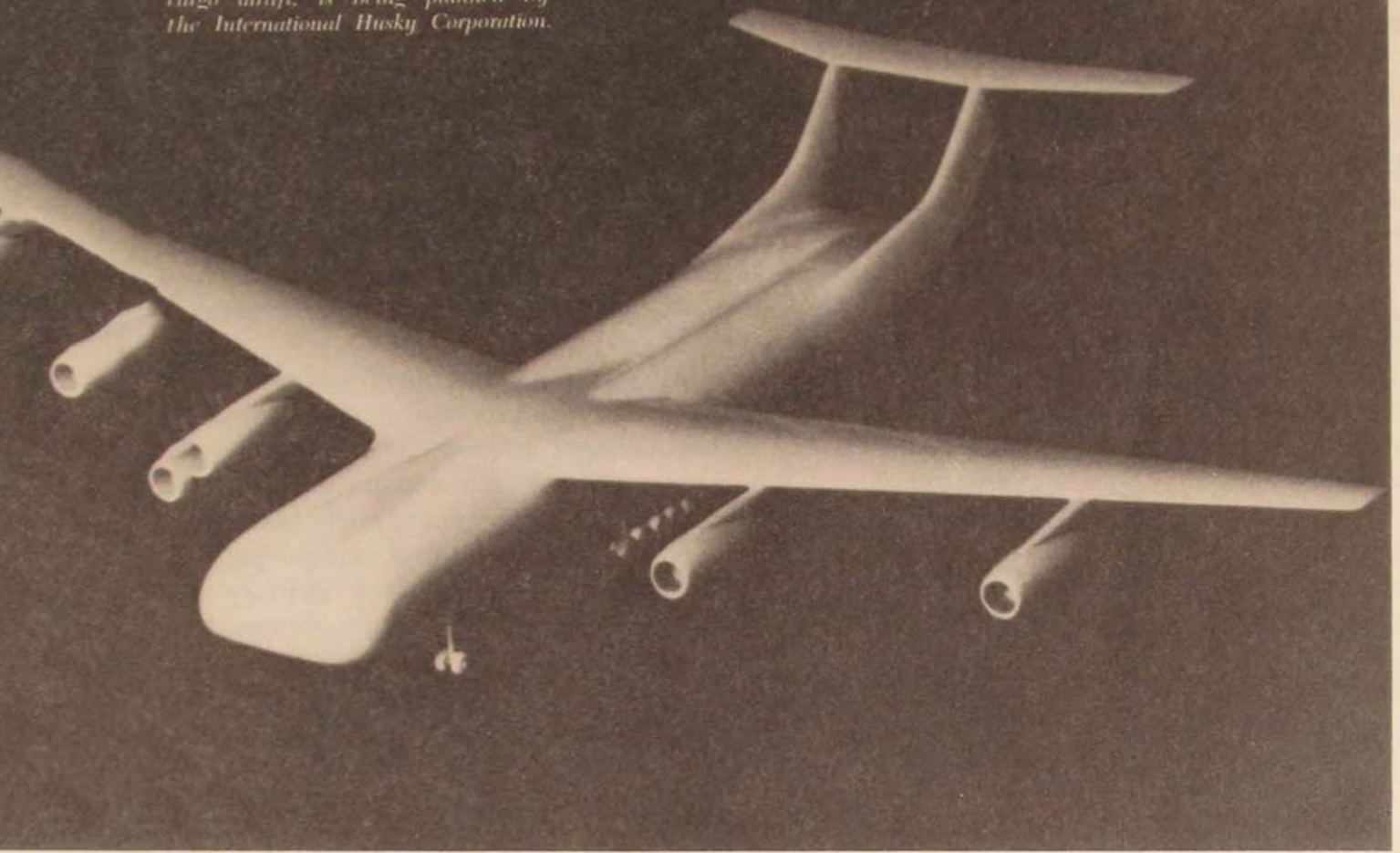
the responsiveness of our strategic military airlift force by making air refueling more readily available. This, in turn, will reduce our reliance on enroute bases and allow us the flexibility to skirt countries that might deny overflight rights. It will also allow us to increase cargo loads in many cases.

The new Advanced Medium Short Takeoff and Landing Transport, currently in prototype development by both Boeing and McDonnell Douglas, is essential to improved cargo airlift capability. The planned capabilities of this new airlifter would feature the ability to operate from runways as short as 2000 feet, with up to 40,000-pound payloads. At reduced load factors, using longer runways, the aircraft will carry outsized cargo weighing more than 60,000 pounds. A production version of the prototype should be able to carry a 50,000-pound payload 2600 nautical miles without refueling. The McDonnell Douglas YC-15 prototype rolled out this August and is in flight test now.

While these new military aircraft are essential for the future, more must also be done in long-term improvements to the civilian air cargo fleet. The most ideal solution for the period ten to 15 years from now, and beyond, is development by industry of a completely new generation of freighters designed exclusively for the cargo market. (Today's civil freighters are no more than passenger aircraft modified to move freight.) This new concept for a cargo aircraft requires considerable mushrooming of the commercial air freight market, an expansion which was forecast for the '60s and '70s but which has failed as yet to reach expectations.

If industry increases its demands for air transportation of goods sufficiently to inspire development of the new aircraft—it appears inevitable that that time will come—and if the military's requirements are taken into consideration during the early design phases of the development, an aircraft could be

A proposed new generation of air freighters, designed exclusively for cargo airlift, is being planned by the International Husky Corporation.



built that would satisfy the needs of both the armed forces and industry, at little additional cost.

MAC has made information available to the aircraft industry as to those characteristics and requirements needed and desired in order for such an advanced aircraft to perform both the military and civil cargo roles most effectively.

One interesting and potentially effective idea in the civilian domain is embodied in the International Husky Corporation's concept for air freighters. One of these pure freighter aircraft is envisioned as capable of airlifting a 200,000-pound payload over

intercontinental routes. As part of a total air distribution system, the Husky concept involves not only a special freighter aircraft but also automated loading facilities, the supply and control of bimodal containers, support capabilities, a sophisticated service for logistics reservations and control for heavy freight, and a simple and efficient land/sea interface.

Most of the basic research and development necessary to produce this new generation of cargo aircraft has been done. No startling breakthroughs are needed on the technological front.

A breakthrough that *is* needed, however,

lies in the legislative area. Enabling legislation will be required before all aspects of the airlift enhancement program can be realized.

DOD has proposed that airlines be compensated for the downtime of the aircraft during modification and for out-of-pocket expenses incurred because of the added weight of the modified aircraft. In addition, there would be an added payment for each such modified aircraft committed to CRAF. Approval of this program is fundamental to the nation's ability to deter aggression with conventional forces. This approach will exploit existing national assets at a fraction of the cost of acquiring new organic military aircraft.

No one, not even the staunchest air power advocate, would claim that airlift will be able to do it *all* in an emergency. Even at the peak of the Vietnam war, less than ten percent of our supplies and equipment moved by air. But it was this small percentage, which was so highly responsive, that made the important difference in the conduct of operations. During the much-publicized Israeli airlift of late 1973, sealift actually transported three-quarters of the total tonnage America supplied the Israelis. However, airlift provided the crucial supplies and equipment that were needed in hours, not days. In fact, the airlift was virtually complete when the cease fire was signed, but sealift had scarcely begun.

Presumably, over the long run, the same would be true in a future contingency, with sealift moving the overwhelming majority of the cargo but with airlift bearing the initial brunt. (Control of the seas would still be vital, and its loss would immensely increase the reliance on airlift.)

The Middle East example also provides dramatic evidence that airlift can allow us to affect the outcome of some wars without involving American combat troops.

EFFICIENT, RESPONSIVE airlift is a national asset upon which we must be able to count fully in times of crisis. We have a fine military airlift force in MAC. But the aircraft of our civil carriers must be able to convert to a military role effectively, if we are to meet the demands that may be placed upon us.

Thus, support of our airlift enhancement efforts, both military and civil, is essential to our national interest.

The problems are complex and time-consuming, but the steps already taken plus support of those proposed, should provide for a better balance between military and civil capabilities. To achieve this important balance, we need better understanding by all those involved; we need legislation that will enable future progress to insure our continuing leadership in global air mobility; and finally, we need the Civil Reserve Air Fleet modifications as an important near-term solution to our cargo airlift shortfall.

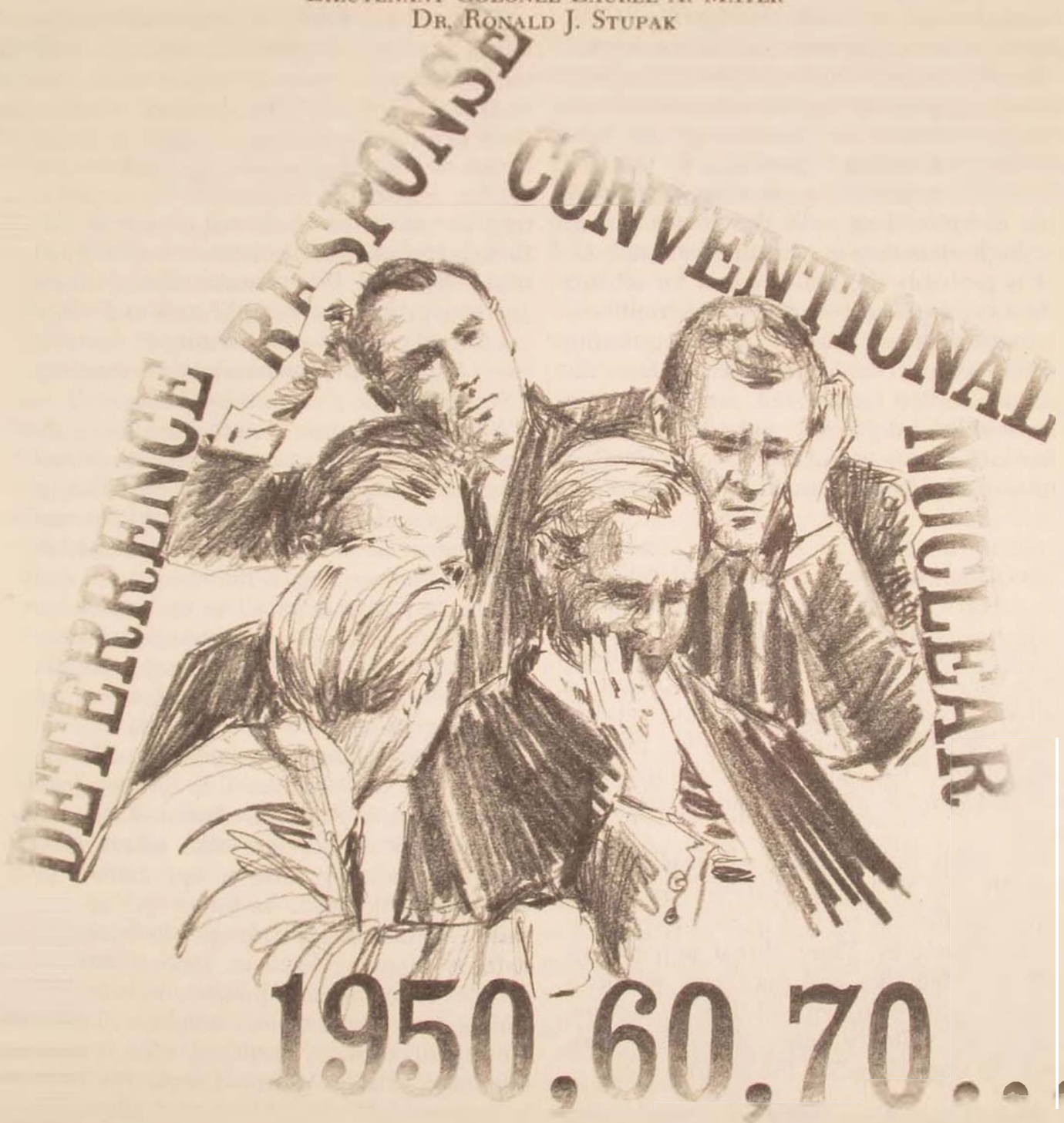
The military's requirement is only a portion of the total national need for airlift. Every facet of our economy, and numerous official agencies, must become involved if our country is to overcome this problem. The national deficit in cargo airlift capability requires a broad solution, and government and industry must cooperate in reaching that solution if our nation is to maintain its industrial and military punch. Indeed, we must maintain that punch if we expect to be able to control our own national destiny.

Hq Military Airlift Command

THE EVOLUTION OF FLEXIBLE RESPONSE IN THE POST-VIETNAM ERA

adjustment or transformation?

LIEUTENANT COLONEL LAUREL A. MAYER
DR. RONALD J. STUPAK



THE expanding military defense budgets since 1950 have caused increasing concern about the formulation and implementation of U.S. strategic doctrine. Civilian scholars, as well as government officials, have intensified their study of military and defense strategies. Particularly noteworthy has been the application of economics models, scientific management techniques, and social-psychological concepts.

In addition, the United States Congress and the American public have shown increasing interest in questioning the how and why of military spending. In this era of rapidly expanding technology and arms-race complications with the Soviet Union, the high monetary cost of the defense budget is probably the main reason for all this attention, especially during the current economic inflation. Yet the questions being asked include the desire to know how requirements are formulated, how and when forces will be deployed, and what strategic alternatives are available to the United States in the post-Vietnam environment.

Requirements and Formulation of National Strategic Doctrine

These increased concerns appear to have been major factors in the development of national security policies. "Massive retaliation," "flexible response," and other phrases have become the jargon of the discussion of national defense planning and strategy formulation.

Obviously one basis for national defense strategy has to be the nation's perceived potential threats to the pursuit of its national objectives. These threat perceptions will be subjective and may vary within a nation's leadership, and yet they do become one of the primary bases of defense planning. As one writer on the subject notes:

Threats to the security of a state make their

impact on doctrine in the form that they are perceived by the leaders who control the state's destiny. Threat perceptions will vary from group to group and from individual to individual, but a viable state presupposes a consensus, or at least an effective accommodation of individual and group perceptions of national threat.¹

To meet the threat, a nation will formulate a strategic doctrine as a basis for military structure, weapons deployment, and resource allocation. The doctrine provides guidelines for the military, at least in broad terms, so that they can in turn inform the civilian leadership responsible for committing resources of their requirements. Although the political processes, institutional trade-offs, and bureaucratic deliberations are generally very complicated and often confusing, the overall strategic doctrine (with its concomitant parameters) does significantly shape the military posture.

Yet there are other factors that affect military posture and strategic planning. Any attempts to meet all the perceived threats to national security must take into account the resources (or lack of them) available for defense spending. It has been noted that U.S. policy is committed to the somewhat ambivalent (though not necessarily inconsistent) policies of safety through military superiority while trying to decrease armaments significantly.²

The government planners are also restrained by multifarious U.S. foreign commitments. And finally, institutional interests of the military services that affect their morale, efficiency, and power cannot be completely ignored. As James Schlesinger stated in discussing strategic doctrine and defense planning back in 1965: "National security is too broad a problem to be solved by any single professional insight. . . . After all, organizationally speaking, what is more irrational than a Marine Corps, yet what is more useful?"³

In the end, a good deal of military planning is subjective and relative, sometimes lacking firm criteria. When policy is formulated, it must consider other national objectives and priorities in the division of national resources. Primarily on the basis of total national objectives, perceived threats, and institutional considerations, national strategic doctrines are theoretically formulated and operationally implemented.

Deterrence under Massive Retaliation

As President Eisenhower assumed office in 1953, he was committed to reducing defense expenditures with the conclusion of the Korean War. Despite a significant build-up of the North Atlantic Treaty Organization (NATO), the defense budget fell by no less than \$16.5 billion (27 percent) in the two years immediately following General Eisenhower's assumption of office.⁴ Because the military posture was primarily based upon nuclear weapons and retaliation at places and times of our choosing, it removed many of the requirements for large-scale conventional capabilities and sophisticated counterinsurgency forces.

On 12 January 1954 Secretary of State John Foster Dulles made a policy speech in which he stated that the United States would respond to future challenges "at places and with means of its own choosing."⁵ He argued that the United States must rely more heavily on its "massive retaliatory power." The doctrine of "massive retaliation," already put into practice, then became the strategic doctrine of the Eisenhower administration.

The massive retaliation strategy assumed that sufficient nuclear forces in-being could deter any adversary from launching a direct nuclear attack on the United States and that additionally they could deter any lesser ag-

gression against U.S. interests throughout the world. It was based on the maintenance of a large nuclear force capable of destroying most of the enemy's residual strategic forces and industry with a single massive strike. It was directed primarily toward the Soviet Union, in what was defined as a bipolar, zero-sum international system.

The U.S. military services carried on a conspicuous debate concerning strategy and force posture throughout the fifties. Reliance on massive retaliation gave strong emphasis to the mission of the Air Force (particularly SAC) and the Navy at the expense of the Army. It is generally predictable that proposals for national force postures will reflect interservice rivalries and mission competitions.

Such rivalry can become parochial and confusing, but it does give government policy-makers an awareness of available military options. "Early in 1956 General Maxwell D. Taylor, then Chief of Staff of the Army, formally urged the Joint Chiefs of Staff to endorse a strategy of flexible response rather than massive retaliation."⁶ The Air Force and Navy (led by Admiral Arthur Radford) continued to favor reliance on strategic nuclear weaponry.

Civilian scholars, strategic intellectuals, and the "whiz kids" also began to articulate criticism of the reliance on massive retaliation doctrine as announced by Dulles. One of the more important early attacks was that written by William Kaufmann in a 1956 book entitled *The Requirements of Deterrence*. The basis of his criticism was that general nuclear war could benefit nobody (in later parlance, the first-strike advantage was alleged to be close to zero).⁷ He perceived a Russian-American nuclear war as suicide (literally the negation of policy), giving massive retaliation the semblance of credibility only under the most dire circumstances.

As time went on, more and more strate-

gists called for additional alternatives and options. In his conclusions to a RAND study in 1957, N. C. Peterson noted: "The pursuit of these goals [Communist conquests] seems likely to take the form of local war in many situations. We should not create situations of military weakness which are an invitation for the enemy to move."⁸ There was growing advocacy for increasing our tactical capabilities in a framework of multiple, flexible strategic design.

Although primary doctrine in the 1950s continued to emphasize massive retaliation, there was some modification in the later Eisenhower years. In 1957 Secretary of Defense Charles E. Wilson told Congress that American defense policy "is based on the use of atomic weapons in a major war and is based on the use of such atomic weapons as would be militarily feasible and usable in a smaller war, if such a war should be forced upon us. In other words, the smaller atomic weapons, the tactical weapons, in a sense have now become the conventional weapons."⁹ Still, even this modification emphasized nuclear weapons, rather than "conventional" conventional. It is interesting to note that Henry Kissinger, after advocating tactical nuclear weapons in his 1957 book, changed his emphasis and argued that a massive effort had to be made to keep conflict "below the nuclear threshold."¹⁰

The argument continued throughout this period. The critics' chief rallying point was that unlimited nuclear warfare should not be treated as the sole possible outcome of a direct confrontation with the Soviet Union. As early as November 1954 Secretary Dulles reportedly explained that "no such single course had been implied by the positions he and Admiral Radford had earlier taken."¹¹ Yet most of the critics felt alternatives would not be available until additional resources were devoted to nonnuclear conventional forces.

Deterrence through Flexible Response

General Maxwell Taylor, discussing his years as Army Chief of Staff, explained: ". . . we had a division over massive retaliation versus what we now call a strategy of flexible response. By 1958 it was a clean split right in the middle of the Joint Chiefs of Staff, crying for a decision."¹² He further noted that, although it was never formally brought before the National Security Council, it implicitly appeared before them twice annually, at both national policy and budget reviews.

With President Kennedy's administration, the concept of greater and more diverse capabilities for a "flexible response" became the cornerstone of defense policy in the sixties, as General Taylor and most of the earlier strategic intellectuals had been advocating. While continuing to strengthen and increase the protection of strategic forces, Kennedy also initiated programs to enlarge and manipulate nonnuclear forces.

Brush-fire wars and/or "wars of national liberation" were now becoming a primary Communist strategy. Such aggression was now perceived as the most serious threat in the cold war. It was therefore announced that the U.S. intended to have "a wider choice than humiliation or an all-out nuclear action."¹³ Capabilities to deter Communist aggression with conventional forces and counterinsurgency tactics became a part of U.S. strategic doctrine as the Kennedy people saw more and more of the Communist threats emanating from the areas of the third world.

Secretary of Defense Robert McNamara became the primary architect and director of this new flexible response strategy. It called for a balance of forces that would enable the U.S. to be highly selective as to the type and intensity of forces and weapons it could deploy under different circumstances

and in diverse situations. President Kennedy, in a special message to Congress in March 1961, described the policy:

Our defense posture must be both flexible and determined. Any potential aggressor contemplating an attack on any part of the free world with any kind of weapons . . . must know that our response will be suitable, selective, swift, and effective . . . We must be able to make deliberate choices in weapons and strategy, shift the tempo of our productions, and alter the direction of our forces to meet rapidly changing conditions or objectives at very short notice and under any circumstances.¹⁴

Thus, Secretary McNamara quickly implemented force conversions to accommodate the required options of flexible response. This new emphasis on building up truly conventional forces included a de-emphasis of tactical nuclear weapons. In emphasizing the separation between nuclear warfare and "other kinds of wars," he later noted:

Careful analysis revealed two important facts on this point: One was that strategic nuclear forces in themselves no longer constituted a credible deterrent to the broad range of aggression, if indeed they ever had in the past. The other was that we could not substitute tactical nuclear weapons for conventional forces in the types of conflicts that were most likely to involve us in the period of the 1960's.¹⁵

Flexible response also became a part of the Air Force's strategic nuclear planning. William Kaufmann, in discussing the McNamara years, states:

Accordingly, the proponents of the strategy of flexible response, led by General Thomas D. White, Air Force Chief of Staff, recommended a posture which would be so designed and controlled that it could attack enemy bomber and missile sites, retaliate with reserve forces against enemy cities, if that should prove necessary, and exert pressure on the enemy to end the war on terms acceptable to the United States.¹⁶

As such, this new doctrine specifically called for retaliatory strikes. The new policy, with its constraints and options, became known as "controlled (nuclear) response."

There is evidence that there was not unanimous agreement on the application of controlled response by all the military leaders in the 1960s. It seems reasonable to assume that at least some of the top military leaders perceived the difficulty of introducing flexibility into plans for general nuclear war. General Earle G. Wheeler, when questioned in 1968 about Secretary McNamara's famous 1962 Ann Arbor declaration about military objectives in the event of nuclear war, succinctly replied: "That is McNamara speaking. Speaking for the Joint Chiefs of Staff, we *still* have adhered to *our concept*."¹⁷ Yet, from 1961 on, flexible response remained the dominant concept for allocating military resources and formulating U.S. defense policy.

The Berlin Crisis provided the Kennedy administration with a preliminary application of flexible response deterrence. Although McNamara felt that the outcome of this crisis had provided early justification for the capabilities of flexible response, there was still criticism. Senator Margaret Chase Smith, from the floor of the Senate, charged that the administration had practically told Nikita Khrushchev: "We do not have the will to use that one power with which we can stop him; in short, we have the nuclear capability but not the credibility."¹⁸ What kind of results might have been achieved by a different response is speculative, but in this case the capability for selective flexible response to Communist aggression seemed to work as a deterrent.

The 1961 new look of increased forces to implement the concepts of flexible response (with multiple options) called for increased military expenditures, yet high expenditures for nonnuclear forces did not dominate the military budget. Commenting on this phe-

nomenon, Malcolm Hoag says: "The seemingly budgetary austerity of the McNamara era reflects a capitalization upon some multiple-option capabilities that, despite professed Eisenhower doctrine, had been preserved."¹⁹ He notes that restoring conventional bomb racks to existing airplanes was cheaper than re-creating a tactical air force. Additionally, the hardening and mobilizing of strategic missiles had already begun and only needed to be speeded up.

The introduction of new concepts and forces to fight guerrilla wars ("counterinsurgency" and "nation-building") also brought in new training requirements. New training courses and additional ground troops were required. Yet in the initial planning, prior to the large deployments to Southeast Asia, the programmed increase in manpower was relatively small.²⁰

The doctrine of flexible response during the McNamara era is well summarized by Morton Halperin as "... the creation of a military force which would remain under tight civilian control at all times and which could be used in a variety of different ways to meet a variety of different threats."²¹ In effect, flexible response was seen as a strategic doctrine for deterrence and defense and also as a technique for controlling the military and military instrumentalities within a civilian-dominated, political-oriented diplomacy of coercion.

The Vietnam Experience

The U.S. military experience in Vietnam has caused many people to question the fundamental assumptions and operational techniques of the flexible response doctrine. Probably the essential questioning has been aimed at the application of the doctrine.

The Southeast Asian situation was debated at the highest levels in the Kennedy administration in 1961. Within the context of flexible response it can be demonstrated that

"President Kennedy and his brother Robert were ardent advocates of coping with 'wars of national liberation' by imaginative C-I techniques, . . . One of the new President's first acts was to approve the CIP and allocate \$42 million more in U.S. aid for ARVN and the civil guard."²²

In his book *The Essence of Security*, McNamara noted that the U.S. force structure under the doctrine of flexible response allowed for the deployment of more troops to Vietnam:

I should emphasize that we have considerable flexibility in meeting other possible contingencies which require smaller forces, or those requiring so rapid a build up. For example, in the Vietnam conflict we used the forces earmarked for a major Asian contingency to meet the immediate needs in the summer of 1965 and then activated temporary forces to meet the longer range needs. The very stability of our own NATO contribution during that period is a significant example of the flexibility we developed.²³

Was it possible we had too much flexibility, too many capabilities, and too many options?

Some strategists say we should have concentrated more on localized security in specific areas with dense local populations. This was tried at various times and places throughout the conflict, but it can be demonstrated that in an objective assessment it was not found to be very effective or successful. Strategic hamlets, search and destroy, supply interdiction, selective bombing in the North, and many other tactics were employed, but all generated very limited results in the long run in thwarting the insurgents in Vietnam.

Some critics seem to say that our application of flexible response was not flexible enough. Bernard Jenkins of the RAND Corporation made this assessment: "The Army's doctrine, its tactics, its organization, its weapons—its entire repertoire of warfare was designed for conventional war in Europe.

In Vietnam, the Army simply performed its repertoire even though it was frequently irrelevant to the situation."²⁴ Although this argument has merit, it is not an adequate comprehensive explanation. Certainly the Special Forces camps and strategic hamlets were not designed for war in Europe. Similar tactics might be included in fighting conventional war in Europe, but these were certainly designed for SEA counterinsurgency. Jenkins goes on to suggest that Vietnamization is not the solution, as it simply transfers our organization and our mistakes to the Vietnamese.

Still one RAND analyst, R. W. Komer, does make a fairly strong case that the often emphasized "pacification" program was never fully carried out. "There was an immense gap between this policy emphasis and what was actually done in Vietnam. Counterinsurgency (or pacification) did not fail in Vietnam. Whatever policy called for, it simply was never tried on any major scale until 1967-1971."²⁵ He feels that 1967 was too late, but it is hypothetical whether it would have worked earlier.

The use of tactical nuclear weapons in Vietnam was another possible alternative in deterring North Vietnam. Some might argue that such weapons could have destroyed key targets more precisely with less loss of human life and civilian property. Yet there is not sufficient evidence that this is true; and to take a giant (qualitative) step in escalation without any strong probability of military gain seems strategically foolish. As George Reinhardt of RAND states: "Such logic ignores reality, [and] Washington's intense fear of triggering nuclear war, . . ."²⁶

State Department Adviser Raymond J. Barrett largely attributes the "graduated response" portion of flexible response to our failures in Vietnam. The general theme of his assessment is that controlled "gradualism" will not work in a counterinsurgency situation in an underdeveloped society,

utilizing primitive logistics and guerrilla war tactics.²⁷ He, like some others, feels that the tactics utilized were more suitable to a European type of conflict or to a conflict of protagonists with similar power bases.

General Victor Krulak, USMC (Retired), feels that allowing U.S. combat troops to become directly involved in combat roles in Vietnam was the mistake.²⁸ He notes that in 1965, when we started sending combat troops into the countryside, the Vietnamese leaders warned us that we did not understand the complexity of the war. He feels that we could have established the same puppet-puppeteer relationship that worked for the Communists; in fact, he quotes Sun Tzu: "The battle of the puppets is for the puppets to fight. A puppeteer enters the active conflict only at his peril."

It is interesting to note that General Matthew Ridgway, Army Chief of Staff in 1954, warned President Eisenhower about military involvement in Southeast Asia. As he later noted in his *Memoirs*, upon reviewing the possible use of U.S. air and naval power to help the French in Indochina:

In Korea we had learned that air and naval power alone cannot win a war and that inadequate ground forces cannot win one either. I lost no time in having (such a report) pass up the chain of command. It reached President Eisenhower. To a man of his military experience, its implications were clear. The idea of intervening was abandoned.²⁹

Flexible response as a doctrine included not only the maintenance of large conventional forces so that the U.S. could deter any large-scale Sino-Soviet aggression but also tactical readiness in order to deter insurgency and limited wars all around the world. As Arthur Waskow put it: "For the presence of the fleet showing the flag all across the globe, the availability of airlifted infantrymen, and the existence of powerful indigenous armies, all were thought to work against the possibility of internal Communist

Revolutions.”³⁰ Under the concept of flexible response, such forces came into being in the 1960s. They, of course, had their major test in Vietnam; and though we apparently won many battles, we never could deter or defeat the enemy. As Reinhardt stated (in 1967): “Our arms, at peak efficiency in 1965, undefeated in land, sea, or air battle, are still mixed in an attrition war with no discernible end.”³¹

There is growing agreement that the major problem in trying to fight a counterinsurgency war in Vietnam was that we did not ever fully understand the more significant political dimensions of the conflict. As Bernard Brodie put it: “Classical systems analysis, despite the yeoman’s work done by Alain Enthoven’s office, has had just about zero relevance to everything concerned with Vietnam. Our failures there have been at least 95% due to our incomprehension and inability to cope with the political dimensions of the problem.”³²

Again, “flexible response” as a concept is logical, sound, and reasonable, but it may not be able to dictate how, when, and where to deploy forces. Obviously we learned from Vietnam that we cannot send U.S. conventional forces to fight every insurgency and automatically achieve rapid success with more firepower. As Brodie says: “When we recall how we discussed methods for demonstrating ‘our superior resolve’ without even questioning whether we would indeed have or deserve to have superiority in that commodity, we realize how puerile was our whole approach to our art.”³³

In sum, the lessons to be learned from our flexible response experience in Vietnam can be summarized within several major categories:

(1) The “implementation of flexible response” was generally imprecise. We had developed extensive military capabilities, and there was often difficulty in choosing means of escalation to deter the Viet Cong

and North Vietnamese. We may have let our broad flexible response capabilities dictate our strategy and tactics in what might be called “capability overload.”

(2) There was a failure to understand the political situation in this limited war. We repeatedly underestimated the resolve and motivations of the VC/NVA versus the South Vietnamese nation. While our strategic planning called for graduated responses under a limited-war concept, North Vietnam was engaged in a total war right from the very beginnings of the conflict.

(3) There was some ambiguity as to our overarching objectives. Were we denying SEA to the U.S.S.R. and/or China or North Vietnam; or were we nation-building in South Vietnam; or were we fighting Communism; or was it a combination of these? As time went on, this ambiguity caused decreasing domestic support for our military efforts in SEA, as well as confusion among military men who had to effect the doctrine in a shifting, ambiguous goal-framework.

(4) There existed considerable “management overload.” Even as additional “combat” units were added, the headquarters/support forces often grew by even greater numbers. Moreover, the best combat troops were often rotated into headquarters areas. This rotation pattern often led to subsidized inexperience, ticket punching, and revolving amateurism among both enlisted men and officers.

(5) We opted for “scientific” measures to determine how the war was going. Numbers of hamlets pacified, body counts, and kill ratios became measures of how we were doing, without adequate evidence as to whether they were valid (or in some cases reliable) indicators of the “success” of our endeavors.

(6) Finally, many of the strategic intellectuals who championed and structured the concept of flexible response in the halls of academe blamed much of the failure of the

doctrine on the military's implementing of the strategy. Hence, it may mean that strategic doctrine should never again be formulated without the direct involvement of military professionals in the initial stages of theoretical designing and cognitive mapping—theory and practice, it seems, cannot be separated in the formulation of strategic doctrine.³⁴

It is, of course, much easier to cite these problems in retrospect, but this is no reason for us to dismiss the lessons as hindsight. The military and other strategic planners must attack and adjust the problems of national defense and not the critics themselves.

Strategic Policy in the 1970s

We think it is reasonable to assume that our current strategic and military planning continues to be based on the Nixon Doctrine:

First, the United States will keep all of its treaty commitments. . . . Second, we shall provide a shield if a nuclear power threatens the freedom of a nation allied with us or of a nation whose survival we consider vital to our security. Third, in cases involving other types of aggression we shall furnish military and economic assistance when requested in accordance with our treaty commitments. But we shall look to the nation directly threatened to assume the primary responsibility of providing the manpower for defense.³⁵

Obviously, the third statement was specifically adopted for Vietnam and any similar future conflicts. Such a statement is basically consistent with the concept of flexible response and no doubt was one of the options the early advocates envisioned. Yet it is reasonable to assume that the U.S. will be much more concerned with providing "assistance" incrementally, for fear that it might mushroom into primary combat responsibility for U.S. combat troops.³⁶

The second tenet refers to a "shield if a

nuclear power threatens," but this does not mean that there has been a return to massive retaliation; rather, it is a statement of restraint and rethinking in the use of tactical forces. In fact, Secretary of Defense James R. Schlesinger has been trying to put more flexibility into our strategic nuclear policy, as stated in *Air Force Magazine*: "Schlesinger [re] introduced the concept of nuclear flexibility."³⁷ Unlike the U.S. concept of assured destruction, which emphasizes the capability to inflict damage on major Soviet urban-industrial-population areas, this new flexible strategy aims to maintain the ability to selectively destroy an enemy's essential military targets and/or industrial "choke points."³⁸

The apparent reluctance of the United States to become directly involved in counterinsurgency fighting does not mean we cannot fulfill treaty commitments. Military force can be deployed utilizing options that are favorable to our interests. Support can be given to allies who are firmly committed to their defense. We have continued to support NATO, as well as provide military supplies to Israel, Latin America, etc. However, it is clear that we will no longer do other people's fighting for them, unless they demonstrate some signs of being able and willing to fend for themselves.

During the last two decades U.S. strategic doctrine lent itself to such conceptual aspects as deterrence, massive retaliation, limited war, arms control, flexible response, nation-building/counterinsurgency, controlled response, and escalation. Although the 1950s were dominated by massive retaliation and the 1960s by flexible response, most of the other interrelated concepts were significant in the evolution of and debates over U.S. strategic doctrine.

We have not developed a new all-encompassing "strategic phrase" for the 1970s, but we must continue to pursue policies that will eliminate the horrors of general

nuclear war while allowing ourselves to pursue our national interests in a world of nation-states. Since World War II, the United States and the Soviet Union have together spent more than \$2 trillion,³⁹ with the static result that "neither side can expect to attack the other without receiving a retaliatory strike that would destroy the attacker as a modern nation-state."⁴⁰

Morton Halperin, in his book *Contemporary Military Strategy*, made a statement in 1967 that we believe is still an accurate assessment in the 1970s:

Whatever we may choose to call it, we are doomed to peaceful coexistence with our enemies because we live in a world in which war cannot be abolished, because there is no other means to settle issues that men feel are worth fighting for. But war—at least war in the sense of general nuclear war—can only lead to such complete destruction that in the final analysis, the war could not have been worth fighting. It is this central paradox which provides the challenge and the setting for discussion of the role of military strategy in the current era.⁴¹

Whatever strategic adjustments, transformations, and/or revolutions occur in the 1970s and beyond will require an awareness of past successes and failures. We must continue to be in a position to protect our national interests while avoiding nuclear confrontation, and we must protect ourselves against the overextension of our resources. All policies and strategies must be analyzed in terms of our objectives. Miscalculations and errors must be recognized; but successful programs must also be identified, analyzed, and continued.

Additionally, we must remember not to allow capabilities to dictate policy. We must not accept every conflict on the adversaries' terms. And it is essential that we understand

our adversaries' motivations and objectives. In Vietnam, under the concept of flexible response, we fought a "limited war" with "graduated responses" to deter the adversary. It now appears that the adversary, North Vietnam, was not using parallel concepts in its calculations. One might say that North Vietnam was fighting a general total war right from the start.

In essence, despite all the dialogue devoted to a re-evaluation of strategic theory, especially massive retaliation and the literature dealing with limited war and coercive diplomacy, we believe that American strategic thinking must come to realize the uniqueness, complexities, and dangers of engaging in limited conflicts. Much of strategic thinking has failed to keep pace with the rapidly changing international situation. Whereas independent and indigenous revolutionary forces were rising to challenge what were many times corrupt, illegitimate, and ineffective governments, strategic thinking seemed unable to accept an opponent that was not the Soviet Union or Communist China, or at least controlled by these Communist superpowers.

For these and other reasons, strategic theory—and theories more specifically of limited war and coercive diplomacy—focused too exclusively on situations of superpower confrontation. The United States has been too prone to apply these scenarios formulated for superpower conflict to situations where they may not be applicable. This gap between perceptions and reality has resulted in the problems cited in our analysis. Therefore, a fundamental re-evaluation of strategic doctrine in general, and flexible response and limited war in particular, seems essential as we move beyond the Vietnam experience.

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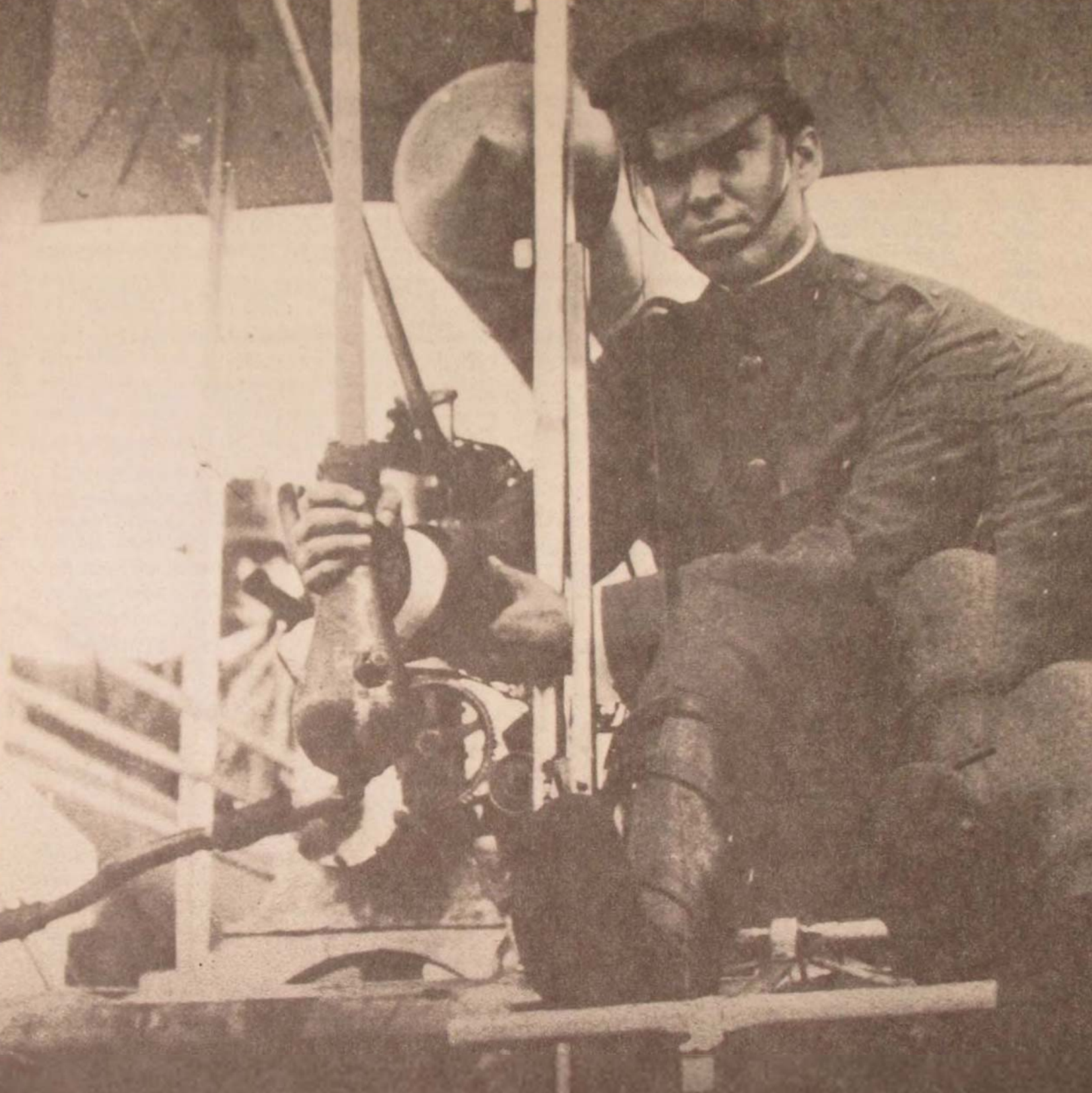
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THE EVOLVING LAW OF AERIAL WARFARE

COLONEL JAY D. TERRY

... The high contracting parties solemnly . . . condemn recourse to war for the solution of international controversies, and renounce it as an instrument of national policy in their relations with one another. They agree that the settlement or solution of disputes or conflicts . . . shall never be sought except by pacific means. . . . ("Peace Pact," signed at Paris August 27, 1928.)¹

SINCE man's first powered aircraft flight, the international community twice has negotiated solemn compacts that were to deny military violence as a means of settling disputes between nations. In the Nuremberg and Tokyo International Military Tribunals, the Paris Peace Pact was the basis for charges of waging aggressive war, and the thirty years since the signing of the Charter of the United Nations² have passed without a general war. However, these agreements have not prevented a wide range of localized but devastating armed conflicts in which air power has played a significant role.

The intent of this article is to review the legal regulation of aerial warfare within the historical process. Thus, while an analysis of the right of nations to wage war (*jus ad bellum*) is inappropriate, it is important to bear in mind a twentieth century paradox that today leaves the law of aerial warfare in an extremely nebulous and inchoate condition.

Simultaneously with the development of a burgeoning technological cornucopia of aerial weapons and delivery systems, the international community, horror-stricken by the ravages of two world wars, has twice declared an end to violent settlement of international disputes. But at the same time, during both postwar periods, there has been a marked distaste—even fear—of further attempts to regulate the tactics and instruments of purportedly unthinkable conflicts.³ As a result, the regulation of belligerent conduct during war (*jus in bello*) remains

substantially as in 1907, with the exception of the Geneva Gas Protocol of 1925⁴ and the series of Geneva humanitarian conventions⁵ relating to the treatment of persons in protected status, rather than to the means and techniques of inflicting violence.

Despite the stark absence of specific rules on aerial warfare, the airman is bound by the general principles of customary international law, from which were drawn the detailed regulatory regimes applicable to land and naval warfare. However, if there is to be meaningful observance of these general principles during the conduct of aerial warfare, it will depend only in small part on the individual's fear of legal sanction. He must be convinced that observance makes a direct and realistic contribution to the effective waging of armed conflict, and he must be inculcated with an understanding and acceptance of the basic practicality of moral and humane restraints on the infliction of violence.

Exactly the same considerations apply to the rule-makers in the current conferences at Geneva and Lucerne under the auspices of the International Committee of the Red Cross. Otherwise, any agreements reached by those conferences may have as little likelihood of acceptance and observance by nations and combatants as did the Pact of Paris.

Rule-Making Prior to World War I

By the end of the Thirty Years War in 1648, the nations of Europe were beginning

to maintain armed forces of far greater size than the traditional armies of the Middle Ages, which were raised by and owed allegiance to individual lords and knights. Those later forces and their conflicts had been largely regulated by complex and formalized codes of conduct socially structured around the caste concepts of chivalry. The future effect of those concepts on what we today consider the laws of warfare has perhaps been overemphasized in the past.⁶ The early days of aerial combat during World War I may have seen the final appearance of chivalrous practices on a broad scale in the midst of conflict.⁷



Notwithstanding the lessening influence of individual obligations of honor and gentility, nations in the seventeenth century began to adopt, on isolated occasions and subsequently as a matter of custom, practices of humanity and restraint based on quite practical considerations. Perhaps most overriding was the realization that peace followed upon war, and a continuing balance of power during peaceful relations could not be based on a "Carthaginian" peace, that is to say, absolute devastation of the enemy's land and people.⁸ It is a moot question whether this basic principle remains viable in the wake of the "total war" and "unconditional surrender" standards of the Second World War and in today's possible scenario of massive nuclear exchanges.

Of more immediate concern to the combatants in the field was the fact that moderation and humaneness brought real

dividends, such as reciprocal treatment rather than reprisal and retaliation, economy of force as in the case of surrender in expectation of a grant of quarter, and protection of those not directly involved in combat, both neutrals and inhabitants of belligerent or occupied nations.

Lieber Code (1863)

The first formal rules of military conduct in wartime were promulgated on a national basis in 1863 as "Instructions for the Government of Armies of the United States in the Field,"⁹ based on a draft by Dr. Francis Lieber of Columbia University in conjunction with a board of Army officers. This document provided the impetus for various military manuals in other countries; such manuals had been generally adopted by the eventual combatants prior to World War I.

St. Petersburg (1868)

Banning of specific weaponry first occurred in the Declaration of St. Petersburg,¹⁰ wherein the signatory powers renounced the employment of explosive or incendiary projectiles weighing less than 400 grams (about 14 ounces). Laudable though this effort may have been, it did little to limit weapon technology. The practice of nations quickly adopted explosive and tracer ammunition, which proved highly successful in use other than directly against enemy personnel, e.g., against aircraft or for sighting on targets.

More interesting for our purposes is the preambulatory language of the declaration that succinctly stated an international consensus of that period which would motivate future efforts to construct a *jus in bello*:

[The signatories] . . . having by common agreement fixed the technical limits at which the necessities of war ought to yield to the

requirements of humanity . . . declare as follows: Considering that the progress of civilization should have the effect of alleviating as much as possible the calamities of war; That the only legitimate object which States should endeavor to accomplish during war is to weaken the military forces of the enemy; That for this purpose it is sufficient to disable the greatest possible number of men; That this object would be exceeded by the employment of arms which uselessly aggravate the sufferings of disabled men, or render their death inevitable; That the employment of such arms would, therefore, be contrary to the laws of humanity. . . .¹¹

Although the actual objectives of nations at war have obviously far exceeded the norms of the quoted text, it is this continuing attempt to reconcile military requirements and the laws of humanity that concerns the diplomatic and expert conferees at Geneva and Lucerne today.

Hague Declarations (1899 and 1907)

Again, at the initiative of the Russian government, further efforts to codify weapon limitations were made at The Hague in 1899 and 1907. One of the Hague Declarations of 1899 barred "the use of bullets with a hard envelope which does not entirely cover the core, or is pierced with incisions."¹² This prohibition of dum-dum bullets has through practice become a customary limitation.¹³ Whether the ammunition was ever militarily significant is questionable.

A second Hague Declaration of 1899 forbade projectiles solely for the diffusion of asphyxiating and deleterious gases.¹⁴ The mode of delivery has likely become irrelevant in view of the broader provisions and practices regarding these substances, which will be discussed later.

Finally, the Hague Declaration of 1907 renounced "the discharge of projectiles and

explosives from balloons or by other new methods of similar nature."¹⁵ The likely inhibiting effect of this provision on the nascent instruments of aerial warfare was not lost on the conferees. In fact, the provision had first been adopted for a period of five years in 1899. The 1907 declaration was to extend to the termination of the Third Peace Conference, which was never held. During World War I the declaration rapidly became ineffective through desuetude. Application of the declaration had been conditioned by a "general participation" clause, and, since the declaration had not been ratified by various belligerents in that war, it was binding on none.

Hague Regulations (1907)

As already noted, the Lieber Code had begun a formalization of regulating the conduct of a nation's armed forces during wartime. At Brussels in 1874 and The Hague in 1899 there were efforts to draft a generally acceptable code of regulations to apply throughout the international community. The 1899 conference produced a convention that was revised at the 1907 Second Peace Conference and remains effective as Hague Convention No. IV and Annexed Regulations Respecting the Laws and Customs of War on Land.¹⁶

Although Hague Convention IV of 1907 also contained a general participation clause, which was invoked by Germany in 1914, both the intent of the contracting parties and the subsequent practice of nations indicate that the regulations were generally a codifying declaration of existing customary rules of international law, which then and now apply to all nations whether or not technically bound by the convention and regulations themselves.

Realizing it would be impossible to draft all-inclusive regulations and affirming the existence of a prevailing body of law, the

signatories stated in the preamble of Hague Convention No. IV that:

. . . in cases not included in the Regulations adopted by [the High Contracting Parties], the inhabitants and the belligerents remain under the protection and the rule of the principles of the law of nations, as they result from the usages established among civilized peoples, from the laws of humanity, and from the dictates of the public conscience.

Despite the regulations' titular application to land warfare, the parties were not blind to the emerging possibilities of aerial warfare. Specifically, four articles of the regulations should be noted that either were generally applicable to all modes of conflict or were specifically intended to apply to air operations. Later I shall discuss at greater length how these four articles quoted here regulate or have been modified by practice to affect the two major problems involved in aerial warfare—the targets and the weapons of air bombardment.

Article 22. The right of belligerents to adopt means of injuring the enemy is not unlimited.

This article is a simplified statement of the fundamental norm that supports the entire body of the law of war: the principle of limited military necessity allows a belligerent nation to use in armed conflict only those means and amounts of force *which are not forbidden by international law* and which are indispensable to compel the complete submission of the enemy with the least expenditure of life and resources.¹⁷ As the rule indicates, the law of war is basically prohibitive law in that certain measures of force are forbidden, rather than positive law which authorizes certain measures of force.¹⁸ It follows that what is not forbidden by specific rule or general principle is permitted.¹⁹ On the other hand, it will be emphasized *infra* that any rule that acts as a restraint on measures of force cannot

be overridden by claims of military necessity unless the rule itself so provides.

Article 23.e. [. . . it is especially forbidden] to employ arms, projectiles, or material calculated to cause unnecessary suffering;

The English translation of Article 23.e. of the 1899 regulations had read "of a nature" instead of the later version "calculated." The French text of each provision is "*propres.*" In any event, it is clear that illegality can arise either from the inherent characteristics of a specific weapon or from the use to which a basically lawful weapon is put.²⁰

Article 25. The attack or bombardment, by whatever means, of towns, villages, dwellings or buildings which are undefended is prohibited.

The "undefended" standard of Article 25 represents a middle stage in the evolutionary process of the law as it sought a generally acceptable test for legitimacy of bombardment targets. Although the conference record makes clear that "by whatever means" was added to earlier drafts to give the provision plain application to aerial operations,²¹ the article was grounded on historic concepts of static or fixed battlefields. In that traditional milieu of warfare, "undefended" or "unfortified" (as in a similar 1874 draft article) areas referred to those in the immediate locale of ground operations, which were therefore subject to uncontested seizure and occupation, techniques unavailable to the airman. When those standards were found impractical in aerial operations during World War I, belligerent use rapidly changed to a standard of "military objective," which had already been substantially adopted in a separate 1907 convention on naval warfare.²² I shall return to this issue of military objective.

Article 26. The officer in command of an attacking force must, before commencing a

bombardment, except in cases of assault, do all in his power to warn the authorities.

This article represented another effort to apply directly to aerial warfare a principle of land operations. Again, a similar article in the 1907 naval warfare convention had been qualified by the phrase "if the military situation permits."²³ In practice, this latter criterion was soon transferred to aerial warfare to the extent that no warning would be required if it would derogate from the success of an aerial mission.²⁴ Article 26 presumes land warfare conditions of *unopposed* artillery preparing to bombard areas from which noncombatants could be removed upon warning. If the same two conditions applied to an aerial mission, the fundamental norm of avoiding unnecessary injury to noncombatants would require a warning; however, lack of defenses against aircraft has obviously become an exceptional situation. In addition, if a warning would allow the enemy to disperse or relocate legitimate military objectives, no warning would be required even if those objectives were undefended.



The Great Wars and Their Aftermaths

practice during World War I

Despite their efforts to adjust conventional rules to the new modalities of aerial warfare, particularly in Article 25, the drafters of the 1907 Hague Regulations were unable

to stem the inevitable exploitation of the aircraft's potential against the enemy hinterland, nor could they foresee the inherent problems in collateral damage caused by the delivery of munitions at increasing heights and speeds.

World War I, although a pale forecast of the devastating carnage wrought by air operations in the Second World War, soon proved that innovative uses of air power would surface in direct proportion to the prodigious growth of the air services themselves; e.g., Great Britain's Royal Air Force grew from less than 100 aircraft fit for war use in August 1914 to over 22,000 aircraft by the end of the war.²⁵

The First World War saw a continual expansion in both target practices and munitions. Initially, air operations were limited to the immediate theater of land operations. Progressively, bombing was extended to objectives well behind the enemy's lines. Although these objectives, such as factories, utilities, and communications, became less and less directly related to traditional military targets, the attackers early showed a regard for minimizing injury to the civilian population. But by the end of the war it was apparent that weakening of civilian morale had become a primary purpose of city bombing. However, even at that stage, no belligerent ever contended that direct attacks on the civilian population were lawful, except perhaps in the form of reprisals for alleged illegal acts.

the draft Hague Rules of Aerial Warfare (1923)

Since the "undefended" concept in air operations had been generally disregarded by belligerents, the First World War left no comprehensive or authoritative body of legal rules to regulate the conduct of aerial warfare with anything approaching the specificity by which land warfare is governed

by the 1907 Hague Regulations. In response to that vacuum, a commission of jurists from Great Britain, France, Italy, Japan, the Netherlands, and the United States met at The Hague in 1923 and drafted a 62-article code covering in detail such diverse matters as aircraft markings, the status of neutral and private aircraft, and the status of occupants of disabled aircraft.²⁶ The draft Hague Rules of Aerial Warfare were never ratified by any nation.

Although the rules were never adopted, it may be unwise today to disregard the rules totally or ignore the possibility that a similar drafting effort in the future might gain significant support within the international community. The most complex article, and the one which most directly led to the nonacceptance of the rules, pertained to the selection of targets for aerial bombardment. It merits detailed reading.

Article 24

1) Aerial bombardment is legitimate only when directed at a military objective, that is to say, an object of which the destruction or injury would constitute a distinct military advantage to the belligerent.

2) Such bombardment is legitimate only when directed at the following objectives: military forces; military works; military establishments or depots; factories constituting important and well-known centers engaged in the manufacture of arms, ammunition, or distinctly military supplies; lines of communication or transportation used for military purposes.

3) The bombardment of cities, towns, villages, dwellings or buildings not in the immediate neighborhood of the operations of land forces is prohibited. In cases where the objectives specified in paragraph 2 are so situated, that they cannot be bombarded without the indiscriminate bombardment of the civilian population, the aircraft must abstain from bombardment.

4) In the neighborhood of operations of land forces, the bombardment of cities, towns, vil-

lages, dwellings or buildings is legitimate provided that the military concentration is sufficiently important to justify such bombardment, having regard to the danger thus caused to the civilian population.

5) A belligerent State is liable to pay compensation for injuries to person or property caused by the violation by any of its officers or forces of the provisions of this Article.



The drafters, in recognition of World War I practice, discarded the "undefended" rule of the 1907 regulations and adopted the principle that aerial bombardment is authorized when directed at a military objective. At this point, it is enough to suggest that any exclusive listing of legitimate objectives as in paragraph 2) may necessarily be self-defeating in view of the constantly changing nature and importance of objectives and the unlikelihood that potential belligerents will ever agree to possible immunization of large sectors of a foe's area and economy. With respect to paragraph 3), it seems obvious from our vantage of hindsight that aerial powers were not going to divest themselves of the opportunity to strike at the enemy's hinterland simply to avoid incidental civilian injury or damage occurring during attacks on legitimate military objectives.

Nevertheless, the draft Hague Rules of 1923 were contemporarily regarded as the most authoritative statement of restraints on aerial warfare. Further, despite the subsequent substantial disregard for the limitations of Article 24 during the "total warfare" of World War II, it may be said that

Article 22 of the rules was declaratory of a fundamental customary norm of all warfare:

Aerial bombardment *for the purpose of terrorizing the civilian population, or destroying or damaging private property not of a military character, or of injuring non-combatants is prohibited.* (Emphasis supplied.)

What is forbidden, of course, is the intentional direct attack of persons and property that are not legitimate military objectives. Thus this customary norm does not reach the problem of collateral or incidental damage caused to otherwise protected persons or objects during bombardment of a lawful military objective. As we shall see, this latter issue must be judged by a test of proportionality. In addition, the obvious difficulty with Article 22, particularly in view of the inherent disassociation of airmen from their targets, is to establish the criteria and identification of noncombatants and "property not of a military character."

Geneva Gas Protocol (1925)

Despite Article 23.a. of the 1907 Hague Regulations, which specifically proscribed the employment of poison or poisoned weapons, the First World War witnessed extensive use of toxic gases having blistering and choking effects. Consequently, after an abortive attempt in 1922 to affirm the illegality of such substances, the Geneva Gas Protocol of 1925 was adopted by a large portion of the world community.²⁷ The protocol incorporated language from a draft 1922 treaty confirming the prohibited use in war of asphyxiating, poisonous, or other gases and analogous substances or objects; it went on to extend this prohibition to bacteriological substances and techniques.

Although the United States was an original signatory, the United States Senate did not consent to ratification of the agreement

until December 1974.²⁸ That delay had long been the subject of an enormous body of discussion and criticism both within and outside the United States. The issue, of course, has now been largely mooted by this nation's ratification of both the 1925 protocol and the more recent convention banning the development, production, and stockpiling of biological and toxic weapons.²⁹

Whether the prohibition on lethal gases and biological/bacteriological substances arises from customary law or general adherence to international agreements, the fact remains that no nation since the First World War has asserted a right to make first use of those substances during a conflict. A number of parties to the 1925 protocol have reserved a right to respond in kind to first use by another belligerent.

With respect to nonlethal gases and herbicides, the President of the United States has asserted a policy that herbicides would be used first in war only for clearing of vegetation within and on the perimeter of military bases and under standards set for their use inside the United States, and that nonlethal gases would not be used first except for riot control, to reduce civilian casualties, for rescue missions, and to protect rear-area convoys.³⁰ Advance Presidential approval will be required for any such use.

practice during World War II

The conduct of belligerent air operations during World War II has been too well documented to warrant repetition. Suffice it to recall that an enemy's entire territory came to be considered a theater of hostilities. As Hersch Lauterpacht has stated:

. . . the practice of the Second World War reduced to the vanishing point the protection of the civilian population from aerial bombardment. That practice cannot be explained solely by reference to reprisals adopted by the Allies against Germany, on account either

of her own practice of aerial warfare or the unprecedented lawlessness of her conduct in relation to the civilian population in occupied territory. . . .³¹

After a comprehensive study of the reports of all military tribunals convened following World War II, the United Nations War Crimes Commission stated that no trials had been convened on allegations of illegitimate aerial warfare, and the judgments of the military tribunals contained no rulings on the lawful limits of air warfare.³²

In any event, it is clear that, regardless of each belligerent's claim that he bombed only military objectives while his opponent directly attacked civilians, there came to be general acceptance by all that entire cities and their populations were lawfully subject to complete devastation. This practice of "target area" bombing will be discussed more fully in connection with the military objective standard.

Geneva Conventions of 1949

The four Geneva Conventions for the Protection of War Victims of 12 August 1949³³ are binding on some 140 parties, many of whom have entered reservations as to certain of the provisions. The purpose of the conventions is the humanitarian protection of persons who, by virtue of inherent or acquired noncombatant status, are to be spared to the maximum extent from the ravages of war.

With two exceptions, the provisions of these conventions do not go beyond the scope of the 1907 Hague Regulations in directly regulating the conduct of aerial warfare. Articles 14 and 15 of the convention pertaining to civilians contain procedures by which the belligerents may enter into agreements establishing "safety zones" and "neutralized zones," respectively, in which protected persons would have safe-

haven. At least three serious problems with such zones seem apparent: whether they could be of sufficient dimensions to accommodate the tens or scores of millions of designated noncombatants, whether any nation could politically survive the segregation of its civilian populace into groups that are immune and those that are presumably fair game, and whether adversaries could rest assured that the immunized areas would remain free of legitimate military objectives. Articles 14 and 15 have never been implemented.

Current Status of the Laws of Aerial Warfare

rules and principles

The efforts in the 1907 Hague Regulations and the 1923 draft Hague Rules to apply to aerial warfare, directly or by analogy, the comprehensively delineated rules of land and naval warfare must be deemed failures. The traditional rules had evolved through usage and accommodation over several centuries, and nations generally have been loath to proscribe broad modes of operations in advance of their natural development during periods of conflict.

Even more detrimental to the adoption of limitations on air operations have been the incredibly accelerated technological breakthroughs of the twentieth century. The last seventy years have essentially constituted a continual arms race in the development and exploitation of weaponry and delivery systems. Within such an environment, no nation has felt so secure technologically that it could forswear certain tactics, usages, or weapons, since it could not predict how potential adversaries, by unpredictable technical advances, might take highly destructive advantage of such forbearance.

Nevertheless, it must be emphasized that there is not a legal vacuum in regard to

aerial warfare. All the specific and concrete rules applicable to land and naval warfare derive from the fundamental customary norm of limited military necessity: the amount and kind of force necessary for a belligerent to compel the submission of the enemy with the least possible expenditure of time, life, and resources must not include acts or means that can or should be *foreseen* to cause suffering, injury, and destruction *unnecessary* to the accomplishment of legitimate military purposes or *disproportionate* to the military advantage reasonably expected to be gained.³⁴

It is these three criteria which act as the restraining limits on military necessity. Foreseeable consequences causing unnecessary or disproportionate injury or damage are the root of all illegal acts under the law of war, whether they be violations of specific humanitarian rules or violations of the three standards explicit in the basic norm of limited military necessity.

Reconciling military necessity and humanitarian efforts to limit the effects of international violence remains a difficult and frustrating task, particularly within the flux of the technologically evolving environment of aerial warfare. Such reconciliation in the form of specific regulation amenable to observance by aviators will come only by realistic application of the standards of limited military necessity to the unique capabilities and potentialities of air operations.

It should be noted that the judgments of the post-World War II International Military Tribunals and national courts, although they are binding only on the cases heard and do not constitute a certain precedent for the future, rejected three concepts which the defendants had advanced as legal excuses or defenses for acts alleged to be violations of the law of war:

(1) The decisions at Nuremberg and Tokyo declared invalid the principle of absolute

military necessity that would justify violation of the laws of war if required by a specific military situation.³⁵ The court in *Re Krupp and Others* said:

. . . The contention that the rules and customs of warfare can be violated if either party is hard pressed in any way must be rejected on other grounds. War is by definition a risky and hazardous business. . . . It is an essence of war that one or the other side must lose, and the experienced generals and statesmen knew this when they drafted the rules and customs of land warfare. In short, these rules and customs of warfare are designed specifically for all phases of war. They comprise the law for such emergency. To claim that they can be wantonly—and at the sole discretion of any one belligerent—disregarded when he considers his own situation to be critical, means nothing more or less than to abrogate the laws and customs of war entirely. . . .³⁶



(2) The war crimes judgments appear to have resolved earlier unsettled rules as to the defense of superior orders. It is now established both in national military law and in the international law of war that a mere claim of obedience to the order of a superior, either military or civilian, will not constitute a defense to a war crime allegation.³⁷ An order to commit an offense is an illegal order, and the actor is not excused unless he did not know or could not reasonably be expected to know that the ordered act was unlawful. However, his general obligation to accomplish the orders of his superior may serve to mitigate his punishment.

(3) One of the general principles under which the war crimes trials were convened declared that the official position of a defendant may not be asserted as freeing him from responsibility for an unlawful act on grounds that the deed was an Act of State in that he was performing solely in furtherance of his officiality.³⁸

the problems: targets and weaponry

We have, then, the two broad principles of minimizing unnecessary suffering and applying only that force which is proportionate to the resultant military advantage. What is the relevance of these standards to the persisting problems of aerial warfare: the selection of targets and the nature and use of weapons? These are immensely difficult dilemmas that have frustrated practically all efforts in this century to specifically regulate aerial warfare.

The historical criteria of bombing only "fortified" or "defended" areas were logically inapplicable to air attacks behind the lines of land engagement. No targets behind the enemy's engaged lines are subject to immediate seizure and occupation; hence they are defended by those very lines of combat engagement. By the time of the draft Hague Rules of 1923, it was clear from practice that the international community had adopted the military objective test. In Article 24 the drafters of those rules fairly defined a military objective as "an object of which the destruction or injury would constitute a distinct military advantage to the belligerent."³⁹

Can we be more specific about military objectives? It will be recalled that the 1923 Rules enumerated a somewhat vague list of objects and excluded all others.⁴⁰ A similar approach was drafted in 1956 by a group of jurists under the sponsorship of the International Committee of the Red Cross.⁴¹ It would appear that such drafting efforts

are in direct opposition to the fundamental nature of the laws of war as prohibitory law. The rules that have been adopted by custom or agreement have said, "This is forbidden, but you may do anything else." Rules that attempt to list exhaustively all legitimate military objectives declare, "This is allowed, all else is forbidden." It is unlikely such a standard will be adopted



uniquely in the case of military objectives.

A more fruitful approach may be to seek agreement on persons and objects that are *not* legitimate military objectives. And here we come to the classic distinction of persons that permeates the humanitarian law of war: the categorization of combatants and noncombatants. In the St. Petersburg Declaration, the legitimate object of warfare was narrowly defined as the military forces of the enemy.⁴² That was likely an unrealistic assertion even in 1868. Modern warfare has been characterized by a general weakening of the immunization of the noncombatant populace from the immediate consequences of war. But, as Lauterpacht indicates:

. . . it is in that prohibition, which is a clear rule of law, of intentional terrorization—or destruction—of the civilian population as an avowed or obvious object of attack that lies the last vestige of the claim that war can be legally regulated at all. Without that irreducible principle of restraint there is no limit to the license and depravity of force. . . .⁴³

That "irreducible principle" was stretched to the limits by the accepted practice of

"target-area" bombing in World War II. Massive pattern bombing of extensive areas containing widespread industrial or military complexes resulted in near obliteration of numerous cities and general urban areas. The consequent indiscriminate death and destruction to noncombatant persons and property has been justified on grounds that the areas attacked were so dominated by legitimate military objectives that the entire areas assumed the character of a military objective, that massive and complex defenses against air attack made discriminate bombing impossible, and that injury or damage to noncombatant persons and property was never the result of forbidden direct attack but only regrettably, yet necessarily, incidental due to their proximity to legitimate military objectives.⁴⁴

Whether target-area bombing has become an accepted and indispensable adjunct of modern warfare or an anomaly of a particular kind of war, it is clear that when an airman is able to discriminate between lawful and unlawful targets, he must do so; and he must exercise all reasonable efforts to minimize collateral damage to noncombatants and their property. To complain that such a requirement tends to expose the tactical airman unduly to charges of unlawful behavior while insulating the strategic aviator overlooks the somewhat analogous situation between the infantryman, who most frequently comes in contact with enemy combatants and noncombatants, and the artilleryman, who is generally both physically and sensorily remote from the objects of his barrage.

Unlawfulness in the case of weapons may stem from either their inherent characteristics or the manner of their use. As already discussed, few weapons have been accepted as illegal *per se*, whether by agreement, as with gas and biological/bacteriological materials, or by custom, as in the case of barbed-headed lances, irregularly shaped

bullets, projectiles filled with glass, bullets coated with aggravating substances, and dumdum bullets.⁴⁵

But the use of an inherently lawful weapon violates the law of war if that use results in suffering and destruction that is unnecessary or grossly disproportionate to the expected military advantage. Conversely, a weapon designed for the destruction of legitimate military objectives is not illegal *per se* if such use causes incidental injury or damage to noncombatants or protected property, unless the weapon is designed or used so as to violate the necessary and proportional standards. Thus, weapons that cause indiscriminate destruction of nonmilitary targets during an attack on lawful military targets are necessarily illegal by either nature or use.

This point of indiscriminate weapons deserves further comment. The inability of a weapon to discriminate among its victims may arise from inaccurate delivery, such as "blind" rockets and ballistic aerial ordnance dropped at high altitude or under stressful conditions, or from random and widespread damage upon detonation. Ironically, modern technology is now producing, primarily for the purposes of attaining assured and economical target destruction, numerous weapons that will lessen significantly indiscriminate destruction resulting from inaccurate delivery. These precision-guided munitions could presage beneficial consequences for the humanitarian protection of noncombatant persons and property.

Finally on the subject of weapons, this article intentionally has not raised the issue of nuclear weapons, principally because it is far too complex an issue for a worthwhile discussion in such limited space. There is now no specific rule making unlawful the employment of nuclear weapons. Further, during the thirty years since their first use, technology has enabled development of many types of nuclear weapons with a wide

spectrum of yields and consequences, many only theoretical. Whatever may be concluded legally about the two essentially countervalue atomic detonations that have occurred in war, it is extremely risky to make absolute statements about the application of general rules such as unnecessary suffering, proportionality, and discrimination to all nuclear weapons regardless of variations in intended uses or foreseeable consequences. However, it is clear that the some half-dozen nations presently possessing nuclear weapons do not accept the traditional law of war as adequate to control such armaments safely without a new regime of law having specific application. Consequently, nuclear weapon employment is now subject only to social and political controls rather than legal. The course of further development of controls is purely speculative.

*developing humanitarian rules
for armed conflicts*

The past decade has witnessed an accelerated program within the international community to strengthen humanitarian objectives in the waging of armed conflict. The most significant aspect of this program has been the confluence of efforts between the United Nations and the International Committee of the Red Cross (ICRC).

The ICRC has traditionally exerted a unique influence in humanitarian law through the expertise of its member organizations. But the major culminations of its work, the 1949 Geneva Conventions, have never received effective implementation, and nations gave little attention in 1956 to the ICRC Draft Rules for the Limitation of Dangers Incurred by the Civilian Population in Time of War.⁴⁶ Nevertheless, subsequent international conferences of the Red Cross urged the ICRC to continue the development of international humanitarian law by drafting new rules to

supplement existing conventions, by inviting governmental and other experts to meet for consultations, and by recommending diplomatic conferences to produce appropriate new agreements.⁴⁷

Meanwhile, the 1968 International Conference on Human Rights in Teheran had focused the interest of the United Nations on human rights in armed conflicts. At the request of the General Assembly, the Secretary-General conducted broad studies on the status of the entire subject and recommended courses of action in reports to the General Assembly in 1969 and 1970.⁴⁸ Those recommendations included emphasis on the protection of civilians in international conflicts; strengthened application of humanitarian law to conflicts not of an international character; development of a system of refuges or sanctuaries for the protection of civilians; measures to insure that the ICRC or other international organ can serve in a supervisory protective capacity during conflicts; and, in regard to the methods of warfare, identification and prohibition of weapons and tactics that are unnecessarily cruel, excessively destructive, or unduly treacherous.

During the next three years, the ICRC prepared and revised two draft protocols to the 1949 Geneva Conventions. Each protocol is directed toward the protection of victims of armed conflict, but the first relates to international conflicts while the second extends only to conflicts not of an international character. Two conferences of governmental experts during 1971 and 1972 had studied and commented on the original drafts. Based on those comments, in 1973 the ICRC presented the two revised draft protocols for formal consideration by the international community.⁴⁹

With regard to aerial warfare, it is important to note that the protocols extend to many matters that formerly were controlled only by the 1907 Hague Regulations

or by customary law, if any. Various of the draft articles cover effects of weapons,⁵⁰ forbidden perfidious acts,⁵¹ protection of the occupants of distressed aircraft,⁵² prohibition of direct attacks on the civilian population and objects that either are indispensable to the civilian population or harness dangerous forces (as dams, dikes, or nuclear power stations),⁵³ prohibition of target-area or disproportionate bombardments,⁵⁴ and creation of nondefended (in a combat zone) or neutralized (outside a combat zone) localities that would be immune from attack.⁵⁵



recent conferences (1974-1975)

The first session of the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts met in Geneva during February and March 1974.⁵⁶ One hundred twenty-five nations participated in the conference. Although the session lasted nearly six weeks, more than half of the session was devoted to organizational and representational issues. The three main committees of the conference adopted five revised articles out of more than 150 in the two draft protocols, but none was adopted by the plenary conference. In addition, a technical annex on medical and civil defense personnel, transports, and installations was adopted by a subcommittee but not by its parent committee.

Subsequently, representatives of 49 nations, several national liberation movements, and various humanitarian organizations met

in Lucerne during the fall of 1974 for the Conference of Government Experts on Weapons that May Cause Unnecessary Suffering or Have Indiscriminate Effects.⁵⁷ The conference received and discussed medical data and legal criteria relating to five categories of conventional weapons: incendiary, small caliber projectiles, blast and fragmentation, delayed action and treacherous, and future weapons. A report was prepared for the Diplomatic Conference, and a second session of the Weapons Conference is planned early in 1976.

A ten-week second session of the Diplomatic Conference concluded on 18 April 1975.⁵⁸ Extensive progress was made during Working Group sessions, and the three main committees ultimately adopted agreed language for the majority of the articles in the two draft protocols. Although the committee reports were adopted by the plenary conference, no final action was taken on specific articles pending committee agreement on consensus texts for the complete protocols. The third session of the Diplomatic Conference will convene in April 1976, upon completion of the second session of the Conference of Government Experts on Weapons.

THIS ARTICLE has broadly delineated the fundamental concepts and forces that have influenced the law of warfare since the advent of military aviation. It has been impossible to discuss various important subjects that have major relevance to all military personnel but are not directly connected to the conduct of air operations, such as the duty and procedures to instruct military personnel in the laws of war, the enforcement of the laws of war by either international or national sanctions, and the role of the senior military officer in the process of formulating new or revised regulation of armed conflict.

The international community has come to realize that the regulation of warfare is not the condonation of war. Today's professional airman must accept a serious challenge if mankind is to be spared any of the horrific consequences of modern warfare. While it is useless for the law to wave anachronistic limitations in the face of inexorable technological developments, the airman should expect and be prepared to assist in practical and humanely reasoned

legal review of weapons and tactics. In the final analysis, he must be amenable to realistic legal regulations that have the potential to benefit noncombatants and their property without unacceptable impairment of military effectiveness.

It is not what a lawyer tells me I *may* do; but what humanity, reason and justice tell me I ought to do.—EDMUND BURKE

Air War College

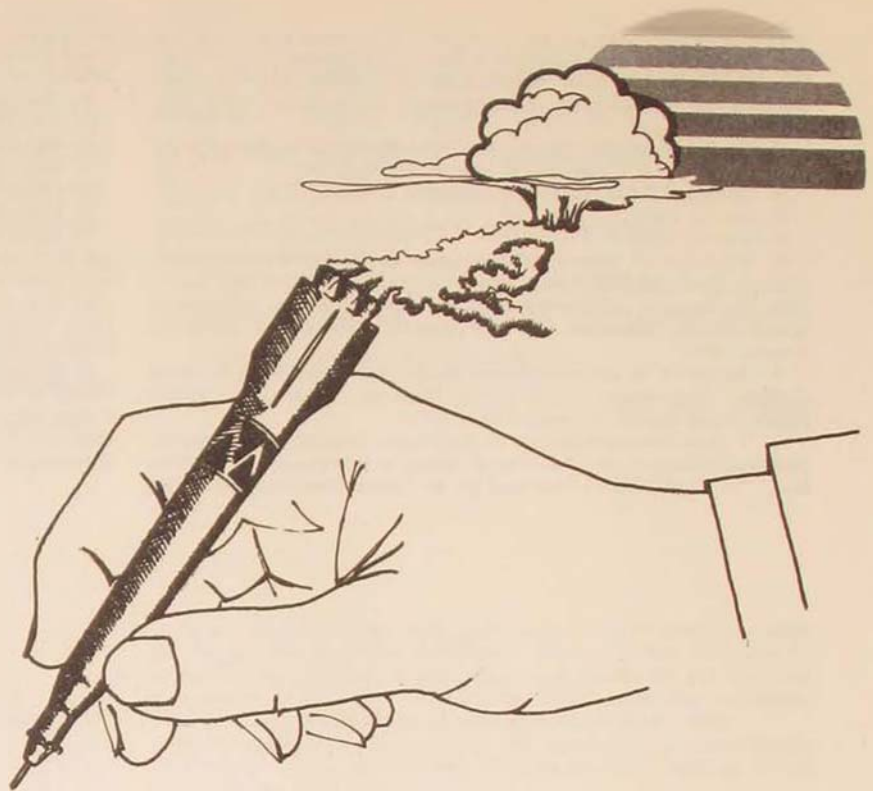
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ASPECTS OF AIR FORCE STRATEGY TODAY



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IN the weeks during which this study was being prepared, several events took place that received major public notice and pertain specifically to the subject at hand: (1) on 24 November 1974 President Ford and General Secretary Brezhnev reached a historic arms limitation agreement at Vladivostok; (2) in the first week of December, the U.S. Air Force accepted delivery of its first operational F-15 fighter at Luke Air Force Base, Arizona; and (3) on 23 December the B-1 bomber made its maiden flight from Palmdale, California, to Edwards AFB.

These pages will examine U.S. military strategy for limited and general war. The examination will be conducted in the contexts of both arms inventory, epitomized by the Air Force's new tactical fighter and strategic bomber, and arms limitation, reflected in the growing spirit of détente that precipitated the Vladivostok accords. The range and depth of the questions involved in any consideration of military strategy today are staggering. In this brief analysis no pretense is made of resolving any of these questions. The objective, rather, is to attain, as clearly and directly as possible, a reasonable projection of Air Force strategy based on an analysis of some of the salient characteristics of limited and general war. If in the process of this study some insights are provided into these complex and varied questions, it will have served a useful purpose.

Strategies for the Future

In their meeting last November, President Ford and General Secretary Brezhnev reached an understanding that could have profound and lasting influence on future U.S. military strategy. In essence, the Ford-Brezhnev agreement places limits—both qualitative and quantitative—on future strategic arms production and deployment in the United States and the Soviet Union. It accomplishes this with two arms “caps”: (1) a ceiling of “somewhat less than 2500” on the total number of missile launchers that each nation can deploy over the next ten years, this “cap” applying to every element of the Triad: land- and sea-based missiles as well as strategic bombers; and (2) a ceiling of 1300 on the number of missiles fitted with multiple independently targetable re-entry vehicle (MIRV) warheads.¹

The celebrated Vladivostok agreement has had predictably mixed reaction. Representative George Mahon, chairman of the House Appropriations Committee, called the agreement “of considerable, but not monumental significance, . . . the best that could be done at this time.” Senator Mike Mansfield said that “an equal reduction” in arms would have been better, though he recognized the improbability of accomplishing it. Paul Nitze, a former SALT adviser, was “disappointed.” He feared that the Soviets would deploy “a new family of missiles.”² Political analyst John Osborne summarizes objections to the agreement thus:

The major argument against the projected agreement that Senator Henry Jackson and other critics are already making derives from the unquestioned fact that the Soviet Union presently has *no* MIRVed missiles deployed. This agreement, if concluded, would sanction a Soviet build-up from zero to 1320 MIRVed missiles with several thousand warheads on them. . . . A related argument against the Vladivostok prospect is that the U.S. should

be negotiating a reduction from present levels of strategic armament and expenditure rather than limited increases to higher levels. The counter-argument comes down to the bald assertion that the Soviet Union simply and certainly is not prepared to negotiate reduction from present levels. It would be bound by the projected agreement, along with the U.S., to begin negotiation of some reduction from the agreed levels no later than 1980–81. That is held to be a gain of sorts, however tenuous.³

The tenuous gain is in favor of the growing spirit of *détente*, which itself might be suspect, according to James N. Wallace, Moscow bureau chief for a U.S. newsweekly: “. . . the ‘spirit of *détente*’ is still the official line—and it is being strongly pushed. Russia very much wants access to Western credits, equipment and technology. . . . But analysts warn that the U.S. would be making a serious mistake if it thinks the lure of trade and technology can buy either *détente* or any important restructuring of the Soviet system. What Kremlin planners hope to get from the U.S. and what they can get by on if they have to are far different things.”⁴

Although many regard *détente* with seasoned apprehension, fearing the tendency of being “lulled into a false sense of security,” the fact is that *détente* is without doubt the most powerful single factor influencing U.S. global planning today, in both limited and general war strategy.

What direction will future strategy take? Without extravagant predictions, some practical and realistic projections are possible, based on evidence that will be presented in this article.

limited war

Future U.S. military strategy in limited war will undoubtedly be guided by patterns that are evident today in international relations. It would be pleasant to contemplate the

prospect of continually easing tensions in international affairs, but all evidence suggests that, though the settings may vary, the tensions will remain. The Middle East, which has been the scene of sporadic limited-war action for the past 25 years, will probably continue to be explosive for the foreseeable future. The shocking events in Ethiopia could trigger new crises involving not only the Middle East but even the Indian Ocean power crucible. A recent newspaper article considers the growing significance of the African Horn:

There are those who believe that all the talk about the "Indian Ocean confrontation" has nothing to do with that ocean, but centers on who can get the most firepower quickest to the Arabian boot. . . . It has been said that the only advantage soldiers hold over civilians, when it comes to ruling, is the power to kill. The world is watching Ethiopia, as the Horn of Africa becomes important in the power moves of the East, West and Arab states. What happens there may well depend on one thing: Can the dirgue [provisional military council] rule, as well as kill? ⁵

In the continuing presence of such crises—in South America, in Southeast Asia, in Europe, as well as in the Middle East—the need is evident for ever more refined and sophisticated limited-war strategies, not only to meet but also, if possible, to anticipate and prevent the outbreak of hostilities.

In recent military-political reassessments, the emphasis in limited-war strategy has gradually shifted away from dependency on tactical nuclear weapons, though the inventory and personnel skills are maintained at a high degree of efficiency (as will be indicated shortly). There is no reason to expect a change in this tendency in future strategic planning. Also, as will be shown, limited-war strategy has been focusing more and more on effective use of counterinsurgency. Much has been learned in this area in the last two decades, and much more expertise will

no doubt be acquired in the future. A review of current strategy, however, provides indices for gauging the direction of future counterinsurgent activity. For example, it is evident that insurgency can be more expeditiously countered with timely exercise of intelligent statesmanship and skillful diplomatic maneuvering than with direct military activity, whether overt or covert. But if need dictates military involvement, in either air or Special Forces action, it is certain that future counterinsurgent strategies will reap enormous benefits from the lessons of the immediate past.

general war

The "spirit of détente," nourished by the cold war arms standoff and sharpened in the Vladivostok accords, pertains to limited-war threats in some very specific respects; but the obvious preoccupying concern of President Ford and Secretary Brezhnev was in response to the continuing threat of general thermonuclear war. From the present perspective, then, U.S. general-war strategy for the next quarter-century would seem to be primarily influenced by two factors: (1) maintenance of the Triad arsenal: Minuteman-MIRV, B-1 bomber, and Trident-Poseidon-MIRV, but modified according to the terms of the Vladivostok and any forthcoming agreements; and (2) the spirit of détente: increasing focus on diplomatic rather than military persuasion.

In regard to the future of the arsenal, several intriguing speculations present themselves. First, the development of the Maneuverable Re-entry Vehicle (MARV) will almost certainly result in broad, sophisticated refinements in the application of missile strategy. The MARV, commonly referred to as Evader, would have immense advantages over the fixed-target MIRV, in that it can be guided to selected targets and can evade interdiction.⁶ The amplified versatility

provided by Evader will thus increase the formidability of the Minuteman arsenal without jeopardizing the terms of the Vladivostok agreement.

A second important consideration is the practical limitation on arms development and production imposed by current inflation. The cost of the B-1 bomber, for example, has escalated from the planned \$12.2 billion to the present \$18.6 billion. Because of inflation, the Air Force is considering a reduction in F-15 purchases from the original contract of 72 (over the next year) to a more modest procurement of 69.⁷ Moreover, the economic outlook will, in all likelihood, become worse before it becomes better.

Finally, the pressure of technological progress in arms sophistication may itself accelerate arms limitation. At a meeting in Moscow, Secretary Kissinger asked these vital rhetorical questions:

If we have not reached an agreement well before 1977, then I believe you will see an explosion of technology and an explosion of numbers at the end of which we will be lucky if we have the present stability—in which it will be impossible to describe what strategic superiority means. And one of the questions which we have to ask ourselves as a country is what, in the name of God, is strategic superiority? What is the significance of it, politically, militarily, and operationally, at these levels of numbers? What do you do with it?⁸

From almost any conceivable perspective today, future strategy centers in détente. But precisely what détente entails is widely argued and enormously complex. Many students of Soviet and international affairs view it as merely a form of “peaceful co-existence,” long a Marxist euphemism for nonviolent ideological aggression. William R. Kintner, noting that “Brezhnev last spring [1973] assured East European leaders that his policy of détente was a tactic designed

to permit Moscow to achieve economic and military superiority over the West in the next decade,” arrives at the conclusion that if the U.S.S.R. can destroy the Atlantic Community in future negotiations without opening its own society, “the present détente may not endure for long.”⁹

On the positive side, many influential statesmen endorse Secretary Kissinger’s view of détente as a worthy and workable relationship. Senator Edward Kennedy goes further. Looking “beyond détente,” he calls for a broader-based collegiality of negotiation, “involving all facets of American society in public debate,” providing extensive visibility for nuclear programs, and relating U.S.–Soviet needs to broader world problems. Of this last aspect of the proposal he says:

... the true test will lie in our mutual ability and willingness to face the truly great challenges to mankind for the balance of this century: challenges of food, of fuel, of population, of sharing resources, and of the need for a broader sense of social justice toward the poor countries. This will be more likely if and when superpower relations reach a point where managing them no longer absorbs the primary attention of our statesmen, thus liberating energies to concentrate on the more basic problems for mankind. Here is President Ford’s greatest challenge.¹⁰

So the controversy over the virtues of détente continues. To some, Senator Kennedy’s formula may appear Utopian, naïve, and unrealistic. To others, it envisions a promising strategy for the future, the soundness of which may have met its first crucial test last November at Vladivostok. If the mutual respect bred of mutual destructive power can, indeed, force a cessation of arms proliferation and thereby usher in an era of peace, it will be the most extraordinary achievement that any future strategy could accomplish.

Through specific definition of terms and

some elaboration of example, let us now consider several aspects of current U.S. strategy as they relate to the broader imperatives of limited-war and general-war situations and particularly as they respond with increasing persistence to the growing influence of *détente*.

Limited and General War

There seem to be as many definitions of the term "limited war" as there are theorists to debate and analyze the subject. In all the efforts to narrow and qualify it, however, some common elements are discernible. Robert E. Osgood's definition will serve as a useful example: a limited war, he writes, is one "in which the belligerents restrict the purposes for which they fight to concrete, well-defined objectives that do not demand the utmost military effort of which the belligerents are capable and that can be accommodated in a negotiated settlement." In Osgood's definition, as in most, the key features are "concrete, well-defined objectives," restricted military effort, and accommodation to "negotiated settlement."¹¹

Another essential factor is the special political orientation of the conflict. Theorists agree that military operations in limited war are subordinated to political objectives. Certainly one of the lessons the United States learned from the Vietnam war was that such conflict could become protracted and end in stalemate. This particular potential in the limited-war formula provided an attractive incentive to the North Vietnamese and resulted in a severe handicap for the United States. General Giap was aware of the vulnerability of the United States in limited war, and he dramatically exploited it. As one article observed, prolongation merely compounded the U.S. dilemma: "Even if peace talks begin, war costs would not come to an im-

mediate end. The prolongation of hostilities would in itself become a bargaining lever."¹²

Another significant consequence of the Vietnam lesson for the United States was the realization of gradual erosion of public support for this kind of protracted conflict. In his influential book *Nuclear Weapons and Foreign Policy*, Henry Kissinger foresaw this dilemma: "Limited war is not simply a question of appropriate military forces and doctrines. It also places heavy demands on the discipline and subtlety of the political leadership and on the confidence of the society in it."¹³ The dilemma, as posed by Kissinger, clearly demands effective, direct, and timely solutions to any future involvements of the United States in limited conflicts. The American people will have little confidence in a government that does not take aggressive measures to anticipate and cope with any insurgent action that provokes limited war. A brief examination of insurgency and counterinsurgency, as primary complementary characteristics of limited war, may be useful, then, in understanding the nature of limited war.

insurgency

The history of insurgency reflects a complex, often contradictory, pattern of political activity, but, as a number of observers have noted, many basic similarities prevail. What Osgood says about limited war in general applies as well to the specific aspect of insurgency. He points out that the basic techniques "can be combined in countless permutations and combinations and implemented by a great variety of means, but we shall still recognize trip wires, pauses, reprisals, denials, thresholds, sanctuaries, bargaining, demonstrations, escalation, Mao's three stages, enclaves, seize-and-hold, search-and-destroy, and all the rest."¹⁴

What kind of environment generates insurgency? A typical ready market is provided by an underdeveloped country threatened by social unrest and economic deprivation. The many philosophical divisions and political hostilities in such an environment offer attractive potential for insurgent exploitation.¹⁵

While many examples of this insurgency environment exist in the world today, it may be well to focus briefly on a specific one—insurgency in Latin America—in order to clarify some of the principal factors involved. In a perceptive summary of the “new radicalism” of Latin America, Alistair Hennessy reviews crucial aspects such as Third World influences, university reform, anti-Americanism, Cuban influence, Chinese influence, urban guerrilla activity, and the role of the Church.¹⁶ Though Hennessy convincingly depicts the ascendancy of urban guerrilla activity in Latin America today, its relationship to—and ultimate dependence on—the celebrated rural movement of Castro and Guevara cannot be overlooked. It was Che Guevara who, perhaps more than any other single individual, charted the course of insurgent activity for Latin America and for much of the rest of the Third World as well. It was Guevara who refined and codified the techniques of guerrilla warfare tactics that have been employed with devastating effect in conflicts from Vietnam to Palestine. His description of the elusive guerrilla tactic, with its analogy to choreography, is especially illuminating:

Characteristic of this war of mobility is the so-called minuet, named from the analogy with the dance: the guerrilla bands encircle an enemy position, an advancing column for example; they encircle it completely from the four points of the compass, with five or six men in each place, far enough away to avoid being encircled themselves; the fight is started at any one of the points, and the army moves

toward it; the guerrilla band then retreats, always maintaining visual contact, and initiates its attack from another point. The army will repeat its action and the guerrilla band the same. Thus, successively, it is possible to keep an enemy column immobilized, forcing it to expend large quantities of ammunition and weakening the morale of its troops without incurring great dangers.¹⁷

It is this seemingly ubiquitous and ephemeral quality of the guerrilla that has so eloquently frustrated many of the most sophisticated stratagems of modern warfare. Today, urban guerrilla activity, along with associated acts of kidnapping, assassination, and random terrorism, merely complicates the ambiguities of insurgency. Recent events in Uruguay, Guatemala, Panama, and—perhaps most notably—Chile give vivid testimony to the variegated nature of contemporary Latin American insurrection. Indeed, the example of the overthrow of the Allende government in Chile provides one of the fine ironies of national revolution: the local insurgent forces, who were not altogether sympathetic with the Allende regime, were dramatically revitalized by the martyr quality of the assassination, as is evidenced by such reactions as this one from a member of Chile’s Communist party:

The expressions of solidarity are like an avalanche. They are like a stormy sea driving the ship of the junta on the rocks. The movement in support of the Chilean people has helped arouse the consciousness of large sections of Western Europe, on all five continents. People of varying creeds are united by the outrage they feel against imperialist and neofascist crimes. The movement encompasses forces that had never before acted in unison: Marxist-Leninists and Social Democrats, Christians, and countless people of different views and faiths.¹⁸

Though the tone of this is charged with familiar Communist hyperbole, the essential message is one that mirrors the many facets

of Latin American unrest. All the volatile ingredients are present. With few exceptions, the countries of Central and South America possess a ready market for insurgent action. Throughout Latin America, threatened local governments are becoming increasingly aware of the need to maintain order through the application of effective counterinsurgent measures.

Equally serious, highly organized movements are reported to be in operation in scattered locations throughout much of the rest of the world:

In Thailand

In 1967 some 1700 guerrillas, aided by 15,000 "sympathizers," were operating in northeastern Thailand. By the end of 1972 they had reportedly grown to "about 7,700 full-time armed guerrillas" (representing a 10 percent increase over the previous year), plus "three or four times that many" supporters in the villages.¹⁹

In the Philippines (a Leftist view)

No one acquainted with conditions in the Philippines would contest the need for a revolution of some sort. The contrast between the sterile luxury of Manila's wealthy suburbs and the stinking poverty of the ubiquitous squatters' settlements invariably shocks the Western visitor. Repression, intimidation, land-grabbing, and the perversion of justice have been familiar features in many areas of the Philippines for decades. An annual inflation rate of 20 percent from 1969 to 1972 had brought public resentment to the boiling point.²⁰

In Ethiopia

Ethiopia has been a politically repressed society. Moreover, Ethiopians are, in Western psychological terms, a repressed people—partly due to the nature of their Christianity and partly due to traditional cultural forms.

The lid is now off. Should the killing begin, there will be no end to it. The principal constraint on civil war is the Ethiopian appreciation and fear of its own pent-up frustration and its perception that a precipitate release of that energy will destroy the nation.²¹

And of course there are many other areas of incipient or advanced activity: Mozambique, Korea, India, Indochina (still), and, perhaps most notably at the moment, Palestine and the Middle East. The governments opposing these movements represent a kaleidoscope of ideologies. Whether U.S. foreign policy is sympathetic with a particular government or not is beside the point, since the U.S. does not assume the role of international policeman. The point is that these are unstable communities—political "hot spots"—and it is a widely accepted fact that, regardless of the particular political climate in the U.S., specific circumstances may combine to compel response to appeals that are certain to come in the future. In such circumstances, the U.S. military has a clear obligation to be prepared to assist, if necessary, in counterinsurgent action.

counterinsurgency

All U.S. counterinsurgent operation is under the supervision of the National Security Council and its Interdepartmental Groups, with the active participation of the chiefs of diplomatic missions in the countries involved. The role of the military in general—particularly indigenous military—is to "deny the insurgents their base of support." Though U.S. policy is to "refrain from outright military intervention by U.S. combatant forces in the internal affairs of newly emerging nations," the Military Assistance Advisory Groups and their mobile assistance teams aid indigenous military units in such fields as intelligence, counterintelligence, and psychological warfare.²²

One analyst, noting the essential reactionary role of counterinsurgency, stresses the specific classic rudiments of strategy in present and foreseeable future operation. "Traditional, conventional field campaigns," he asserts, "are not enough. If the guerrillas possess mobility, concealment, firepower, popular support (or acquiescence), and similar tactical advantages, the government must overcome and cancel these advantages." In order to accomplish this, the counterinsurgent strategy must strive to "achieve superior mobility, superior firepower, better communications," and, in general, eclipse the insurgent tactics.²³

Though it is imperative that the U.S. military keep an efficient counterinsurgent force in-being, it is equally imperative that the overall strategy adapt to the changing roles in international relations. A recent Air University publication, reviewing these aspects of the U.S. military role in counterinsurgency strategy, sums it up this way: "U.S. special forces have been given the overall mission of counterinsurgency training. But, it cannot be stressed too strongly, effective counterinsurgency must be an across-the-board operation involving all Americans, military and otherwise, in a host country."²⁴

tactical nuclear weapons

One other aspect of limited war that merits consideration involves the use of nuclear weapons on a "tactical" or limited level. Using the Vietnam experience again as an example, the clear reluctance of both sides to employ tactical nuclear weapons is noteworthy. This engagement serves as a strong precedent for the design of strategic policy today. Controversy continues, of course, on the subject of tactical nuclear force employment. Samuel T. Cohen, for example, argues that despite domestic objection to it, the NATO tactical weapon

stockpile is necessary in the face of a formidable Soviet buildup of similar weapons. He notes former British Defense Secretary Denis Healey's admonition: "I don't think it would, in fact, make sense for NATO to aim at an all-out conventional defense against an all-out Warsaw Pact conventional attack because all Soviet exercises and training assume the use of nuclear weapons from the word 'go,' so I think an all-out conventional attack is very unlikely . . ." ²⁵

Air Force Manual 1-1, *United States Air Force Basic Doctrine*, published in 1971, describes the employment of aerospace forces in low-intensity nuclear operations. According to that manual, these operations, in a limited-war situation, "may be conducted integrally with, and as an outgrowth of, conventional warfare. The employment of nuclear weapons in a tactical situation is not expected to alter the basic tasks assigned to aerospace forces."²⁶

Though AFM 1-1 is simply articulating standard Air Force contingency planning, it must be recognized that many theorists today would construe this thinking, and that of Mr. Cohen and Mr. Healey, as "unthinkable" strategy.²⁷ In a 1972 Air War College address, Seymour J. Deitchman presented a knowledgeable analysis of the constraints that apply in current defense planning in regard to employment of tactical nuclear weapons and delivery systems. Though Mr. Deitchman ultimately accepts the necessity of maintaining parity in U.S. inventories, he stresses the severe constraints imposed by today's pragmatic concerns: "The decision to use [tactical nuclear weapons] is inhibited by a number of factors, some political and some military. Underlying them all is the 'threshold' problem: the uncertainty about where nuclear escalation will stop once the first such weapon, however small, is used. The political impact is immediately obvious."²⁸

Finally, Robert Osgood's sentiments on

this question, as on others discussed previously, are generally representative of the prevailing view today: "The difficulty of settling upon a convincing strategy for integrating tactical nuclear weapons into limited warfare in Europe evidently remains overwhelming, and the interest in doing so has declined as the credibility of the West using any kind of nuclear weapons first, except in circumstances warranting the risks of general war, has declined."²⁹

general war

The drift toward modern total warfare had been evident from the beginning of the twentieth century. Looking back from our present point of vantage, we can see that everything was moving relentlessly in that direction. However, to contemporaries that trend was not always clear, and, when the nations came to grips in World War II, events served at first to obscure the fact that the conflict was total.³⁰

Thus begins a chapter of *Men in Arms*, the incisive yet comprehensive account of the history of warfare by Richard A. Preston and Sydney F. Wise. Total war in our present nuclear age could begin this way, as inhabitants of this planet are well aware. For this reason total (or general) war is seldom evaluated in specific terms by the layman but rather is rejected as a subject too horrible to contemplate. For all the horror of war, however, the reality of it is inescapable. "War, not peace, has been mankind's most faithful companion," says a provocative newsweekly commentary. It goes on to remind us that "in 35 centuries of recorded history, only one out of 15 has not been drenched by the blood of the battlefield. Today, a world that presumably cherishes peace as fervently as ever nevertheless keeps 22 million men under arms."³¹

Hopefully, whatever inevitable conflicts the future has in store will be resolvable

either in diplomatic negotiation or, if necessary, in limited-war action. But because of the inescapable historical evidence, it might be therapeutic, as well as realistic, to consider some of the characteristics of general war in the nuclear age.

In his skillful analysis of nuclear war, Colonel Donald S. Bussey defines general war as "armed conflict between major powers in which the total resources of the belligerents are employed, and the national survival of a major belligerent is in jeopardy." He emphasizes that the key terms of his definition are "total resources" and "national survival."³²

The strategic objectives of general warfare remain today essentially as Secretary of Defense Robert S. McNamara once described them: "first, to deter a deliberate attack on the United States and its allies by maintaining a clear and convincing capability to inflict unacceptable damage on the attacker; second, in the event such a war should nevertheless occur, to limit damage to our population and industrial capacities."³³

The current U.S. military strategy for general war continues under the guidance of the Nixon Doctrine of 1969. Under the terms of this doctrine, the United States promises

to keep its treaty commitments; to provide a shield should a nuclear power threaten the freedom of a nation allied to the United States or of a nation whose survival the U.S. considers vital to its security, or to the security of the region as a whole; and to furnish aid and economic assistance in cases involving other types of aggression when requested and appropriate.³⁴

The Nixon Doctrine has been amplified by the promulgation, in 1971, of the concepts of "realistic deterrence" and "strategic sufficiency." "Realistic deterrence" refers to the "shield" that this country promises to provide nonnuclear nations as insurance

against nuclear blackmail. "Strategic sufficiency" is partly a realistic prognosis of the causes and conduct of general war and partly a consideration of the degree to which national interests would be jeopardized by this projected military environment. "Strategic sufficiency" has two specific meanings: "In its narrow military sense, it means enough force to inflict a level of damage on a potential aggressor sufficient to deter him from attacking first. In its broader sense sufficiency means the maintenance of forces adequate to prevent the United States and its allies from being coerced."³⁵

Colonel Bussey, in his discussion of the deterrent value of our general nuclear forces, observes that "if strategic forces are ever employed, they have failed to fulfill their most essential purpose," i.e., to "restrict, to our own advantage, the freedom of action" of adversary powers. This, asserts Colonel Bussey, is the real test of strategic sufficiency:

No one can know, with respect to strategic forces, "how much is enough," without first answering the question, "What role are you assigning to strategic forces in your overall strategy?" For simple deterrence, a relatively low level of capability may suffice. For extended deterrence, sufficiency demands a much higher level.³⁶

In his 1971 Foreign Policy Report, President Nixon placed strong emphasis on flexibility and the provision of practical alternative action—what he described as "a full range of options." Commenting on the statements of Secretary of Defense Melvin R. Laird's 1971 Defense Report and the President's Foreign Policy Report, Colonel Kenneth L. Moll summarizes their significance in regard to current military strategy:

With reduced resources, the U.S. must emphasize (as Mr. Laird has said) advanced technology, nuclear-capable forces, highly skilled but limited manpower, and (as Mr. Nixon has urged) flexible Presidential options. Also, to provide deterrence in the upper two-thirds of the spectrum, U.S. forces must emphasize multimission capability to operate efficiently and broadly within this range. To support such operations, the U.S. command and control structure must be able to guarantee the essential worldwide information and responsiveness so that the President could select and confidently order any one of the variety of options at his command.³⁷

As has previously been noted, the variety of options in strategic planning today is represented in the concept of the Triad: land-based ICBM's, manned bombers, and submarine-launched Polaris missiles. From the perspective of the Air Force, the primary weapons are the Minuteman ICBM, with its multiple independently targetable re-entry vehicles (MIRV's) and the possible future Evader modifications, and the current inventory of B-52 strategic bombers, soon to be replaced by the B-1. As fundamental hardware for accomplishing "realistic deterrence," this equipment has withstood the test not only in that general war has not erupted but also, perhaps more to the point, in that sensational scares such as the Cuban missile crisis have not recurred. The chilling implications of the current Middle East situation are vivid testimony, however, that global crises continue and must be dealt with in practical and realistic terms. Certainly, then, it is in the perspective of present realities such as this, and others suggested in this brief survey, that any strategies of the future must be considered.

Pomona, California

Notes

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AIR POWER

a new look from an old rooftop

MAJOR DENNIS W. STILES



The Air Force is stepping onto a new plateau of technological sophistication just as U.S. foreign policy finds its footing unusually slippery. It is a time for reappraisal and a detached look at assumptions that have been swept quietly along in the clutter of events.

"Air power" is a term worn smooth by years of friction. Notions about its employment have loosened and tangled. This review of the most evident characteristics of air forces suggests that surprise, shock, and concentration of force are the principles to which they continue to be best attuned. Some recent employment patterns, however, have wandered from these principles, and there is an attendant danger that they will wander still further or wear comfortable grooves of bad habit.

This article does not pretend to be a final word in any way. Much is left unsaid. Gaps and barbs in the treatment will, hopefully, attract counterideas and help to excite both energy and imagination in thinking that addresses the long-range questions facing today's Air Force.

D.W.S.

THIS article has been written in the belief that the mid-1970s represent an unusually steep divide for military power, and for air power in particular. New concerns and new perspectives challenge, trouble, and in some cases haunt the West. Soviet power grows relentlessly. Terrorism wanders like a disease. Military spending is a mix of relative shrinkage with awesome absolute costs. We have tasted but have not yet digested new weapons technologies. The sense that pressures are great

and the outlook confusing, which typifies every view from present to future, is especially strong in 1975.

One possible response, one that may be valuable and stabilizing, is for the Air Force to take a step back and examine its basic beliefs about air power. Paradoxically, this can best be done by lively debate over its future forms. Why, after all, do we have an Air Force? Are there some fundamental principles that still apply to the application of air power? If basic principles can

be identified, what are the employment concepts and forms of organization that best express them? In short, is there a framework that can guide Air Force decision-makers and give them something solid to hold onto as they cope with the trade-offs and challenges ahead?

The contrast between early and contemporary thought on the application of air power is interesting and instructive. The giants of theory before World War I and in the colorful decade just after the war were positive and imaginative. Some

Books on the theory of air power went out of fashion not long after World War II.

of their writing was visionary, some of it was polemic. The stance was confident, and the ideas in book after book projected the inherent characteristics of air forces into an open-ended future. Billy Mitchell wrote in 1925: "In the development of air power, one has to look ahead and not backward and figure out what is going to happen, not too much what has happened. That is why the older services have been psychologically unfit to develop this new arm to the fullest extent practicable with the methods and means at hand."¹ He was brash, admittedly, but full of energy and promise. Major General Orvil Anderson echoed Mitchell's sentiments after World War II: "If you will only let experience be your teacher," he warned, "you can have any damn lesson you want. Progress in the development of military science and strategy is vitally dependent upon the soundness of the evaluations of past battle experience and upon the boldness, inspiration and depth of the projected thinking which

creates the solution for the future."²

The early thinkers had faced a virgin conceptual landscape, a new open flank in a new dimension, and they faced it with the confidence of adolescence. They had more to say because less had been said before. They could dream because there were few facts and little experience to muddy their visions.

Books on the *theory* of air power went out of fashion not long after World War II. Since then the subject has been treated most often in historical summaries or woven into broader studies on national strategy. The character of the writing has shifted from energy and advocacy to detachment and appraisal.

The initial turn from forward-looking enthusiasm was healthy and appropriate. The war was over. Its lessons had to be distilled and digested. By 1947 the Air Force had won its independence and could muse over those lessons, while developing its internal structure, in some comfort.

One part of the digestion process was the interest and effort given to doctrine in the years after the war. The Air War College Evaluation Staff, under General (then Colonel) William W. Momyer's direction after June 1951, produced a series of valuable manuals on basic doctrine and its functional elaborations. Because these manuals were to be a blend of outlook and definition, the tension between law and imagination was constant. As General Momyer commented,

We have found from this past year of research that the writing of manuals is perhaps one of the most difficult tasks in the field of military writing. It is creative and yet it must be exact. These requirements dictate thorough research and imagination on the part of the author in translating the research into a manuscript that is easily understood and yet is complete in context. Unfortunately, there are very few individuals who possess this particular talent. . . . For the most part our

greatest difficulty has been a lack of precedent in this field of writing. . . . In this attempt to strike out on our own, we have encountered many obstacles that were certainly anticipated, and others that could not be foreseen. Of course, we had encountered the additional prejudice in respect to what constitutes doctrine, tactics, techniques, and procedures. Thus, we have been seeking for a level of writing that has no definition and is not always apparent when one thinks it has been obtained.³

The manuals, furthermore, were official documents requiring official acceptance and sanction. That meant filters and compromise and a general withdrawal from the precarious forward edges of thought. Writing to Lieutenant General Thomas D. White in early 1951 on the frustrations of producing doctrine, Major General John Barker commented: "It has taken the Air Force five tedious years to get an approved manual on basic air force doctrine." The many rewritings of the manual had resulted "in no change of importance in the doctrine. The changes were in what to include or exclude, how to express an idea, arrangement of subject matter."⁴

. . . the broad function of doctrine is to crystallize, not energize, to incorporate compacted complexities, not slice through them to provocative visions.

Although the borders between ideas, concepts, principles, and doctrine are vague, the broad function of doctrine is to crystallize, not energize, to incorporate compacted complexities, not slice through them to provocative visions. In spite of the attention to doctrine, visionary energy in the Air Force declined after World War II.

On a broader scale, the American experience in and after 1945 has pushed conceptual thinkers at all levels into deeper

In the field of concepts the Air Force has become a status-quo institution, feeling middle age and inclined to rephrase proven formulas.

and wider thickets of complexity. The atomic spectacle rightfully attracted the best strategic minds and shifted strategic speculation both up and around, to a grander perspective and to a preventive cast of mind. These nuclear shadows have steadily darkened and multiplied. The peculiar use of forces in Vietnam developed habits of experimentation and transient expediency. Few thinkers at any level pretend to understand all the implications of the accelerating and ghostly electronic technologies. As Alvin Toffler has pointed out with convincing impact, the pace of change itself and the deluge of information with which we are flooded evoke a kind of intellectual vertigo.⁵

One upshot of the limitations of doctrine joined with a perpetually stronger appreciation for complexity, nuance, and interrelationship is a marked erosion of prophetic conceptual thinking. Nowhere in the Air Force do we see a bold, bubbling fountain of fresh ideas. In the field of concepts the Air Force has become a status-quo institution, feeling middle age and inclined to rephrase proven formulas.

The following conclusion from an article titled, "Aerospace Doctrine in Modern Conflict," is typical and represents the product of the forces we have noted:

The guiding principle in pursuing national objectives is to limit military force to those

systems and intensities appropriate for the specific issues at stake. Military forces must be used in a manner that denies the aggressor his objectives—through persuasion or by destroying only those forces necessary to achieve satisfactory war termination. In some instances, it may be necessary to increase the intensity of conflict to signal our national resolve to prevent the success of an act or a threat of aggression. This buildup requires superior, usable capabilities to provide the graduated escalation necessary to convince an enemy that each escalatory step moves him toward an increasingly critical disadvantage. In sum, we must have controllable forces which can provide a flexible response to any level of aggression, supported by strategic superiority at the highest level of conflict, if we are to ensure a credible deterrent posture for the future.⁶

This may be true but is not very useful. The intellectual product resembles a cotton ball. It can absorb, but it cannot direct.

Somewhere on the fringes of Air Force thought there should be a continuous, lively dialogue based on the fundamental characteristics, capabilities, and limitations of

Somewhere on the fringes of Air Force thought there should be a continuous, lively dialogue based on the fundamental characteristics, capabilities, and limitations of air forces.

air forces. The focus of this dialogue should be future strength. It should be grand in scope and incisive in tone. Its principal value should lie in stimulation and conceptual energy.

SINCE WORLD WAR II there have been fundamental shifts in perspective

that are important to understanding the present conceptual tenor. The simplest shift was from forecast to review. Where once there were theories to test, there were now lessons to formalize. The war was cataclysmic. The impressions it left were varied and deep. The role and value of air power in its conduct became subject to fascination and debate which continues today.

More important is a shift from projecting conceptual notions out of the fundamental characteristics of the weapons possessed to deriving these notions from the nature of the war envisioned. Obviously, there is a relationship between these poles. The shift is incomplete and hard to define.

There are, however, identifiable reasons for this shift, which may clarify its nature and extent. Military thinkers and strategists in general since 1945 have been fascinated by the upper and lower ends of the conflict spectrum. With the first nuclear detonation, Polyphemus appeared in the cave.^o Until awe had had time to settle down to a more experienced and relaxed mood of respect, it was difficult for strategists to think about anything else. Avoiding use of the bomb became dominant, but avoidance itself required initiatives. What should they be? And what if the initiatives should fail? What would the character of the battle field become? Was Douhet suddenly valid? What kinds of forces could sustain combat? Would an exchange be spasmodic or incremental? Is there emotional room for serious thought at all on the subject of nuclear war? Questions and speculation about the nature of war itself drove strategic thought to a rarefied plane.

Gradually, confidence in the various umbrella theories and events in such scattered places as Indochina, Algeria, Angola, and

^oPolyphemus is a Cyclops, one of a race of one-eyed giants encountered by Homer's Odysseus on his voyage from Troy to Ithaca. Polyphemus surprised Odysseus's band of men in his cave and devoured several of them before they blinded him in his sleep and escaped by hiding under the bellies of his sheep.

Guatemala diverted a major portion of military theory to guerrilla warfare and People's War. Although the techniques thus employed had been a part of war through virtually all its known history, they had not been employed so systematically. More important, they had not been postulated so poetically as they were in Chairman Mao's small red books. Again, from the strategist's perspective, there were new questions with which to wrestle and tinker. Where exactly is the battlefield? Is it geographic or psychological, or both? What forms should force take to be efficient, or even relevant? The nature of war was crucial.

A key point is that specific, detailed application concepts tended to become derivative, to grow exclusively downward out of visions of the nature of conflict. This is perfectly appropriate as one approach to research and development, one approach to strategy, one approach to the employment of forces. The early thinkers in air power theory used this perspective, working backward from a vision of future war—to possible objectives—to force recipes. But they balanced this pole of perspective with constant concern over the inherent characteristics of the aerial dimension and air forces. What does the new dimension mean? Where are the opportunities it opens? Where are the quicksands? What principles can we distill? This desire to identify inherent qualities in air power and project them gave strength and clarity to early theoretical work.

It was partially the rejection of this angle of vision that led to an unorthodox use of air forces in Vietnam and a tendency to wedge square weapon systems into round holes, with experimentation and economy the liveliest of bedfellows and with the whole drift of the war an inching antithesis of the shock theory of air power. Tactical and strategic results in Vietnam should serve as a caution against the notion that

air forces are incrementally efficient or that any weapon system can be rationally applied across the entire spectrum of conflict. Flexibility, interpreted in this way, eventually makes a noodle out of a sword.

We are nearing a significant watershed in both our international concerns and our technological opportunities, and we should get a grasp of our central convictions about air power and the Air Force before we pass that watershed.

The period between World War II and the present has contained as many cross-currents and logjams as any other. Any casual reader will be able to point out political influences, personalities, countering themes, and complicating examples. The arterial channels in strategic thought, however, show a tendency to ignore the relationship between categorical characteristics of weapons and their employment.

Hopefully, a fresh look from an old direction will bring new energy and clarity to Air Force conceptual thinking. There are some hard, reliable maxims about the application of air power—Have we defended old maxims or sought new ones with sufficient determination? We are nearing a significant watershed in both our international concerns and our technological opportunities, and we should get a grasp of our central convictions about air power and the Air Force before we pass that watershed. Speculation and debate cut the best trail to useful convictions, and speculation about the future is most useful when it is most concrete. The contemporary Air Force

will gain both balance and energy from a reconsideration of the emerging nature of its weapon systems.

AT LEAST FOUR questions need direct, reasoned response to maintain the Air Force on a confident, theoretical footing with a forward outlook: (1) Do we need an independent Air Force? (2) What are the emerging fundamental characteristics of Air Force systems? (3) What forms of utilization are most appropriate to systems with these characteristics? (4) What are the organizational implications of the emerging force structure?

1. Do we need an independent Air Force?

That we may not need independence is suggested by duplication of equipment and roles among the services, the increasingly evident convergence of weapons toward a common electronic character, the tendency to think and exercise in joint-force packages, budgetary pressures, and a tantalizing element of common sense.

The requirement for an independent Air Force, however, is sustained by more fundamental arguments. In one sense, the environmental consideration is crucial. Somewhere, under some name, there must be a team of thinkers, managers, and operators steeped in the air environment who understand the risks and returns from great speed, distance, and height from the surface of the earth to the depths of space with a sensory and intelligent appreciation for the aerospace *experience*. We can expect service roles to spill over and mingle at the fringes, that infantry officers will fly and pilots will swim, and that many military operations will be joint. This convergence at the points of application makes specialization in the preparation of military forces all the more important, to achieve the most realistic

appraisals and the last ounces of performance. Aerospace forces have a special role because the aerospace environment offers special opportunities and demands special respect. The perspective is unique. Increasing speed and the special opportunities and vulnerabilities of forces in space promise to intensify that singularity. In a healthy military establishment, pragmatism may smear the wiring diagrams, but the core areas of force application will be under the direction of environmental expertise. For as far as we can see from the 1975 platform, the broadest natural boundaries in the military will be defined, as in the past, in environmental terms: land forces, sea forces, and air forces.

Mission effectiveness is further reason for independence and unity of command. The arguments here are nearly as old as the airplane and need little embellishment. Air Force striking power ranges freely in its geographic focus, intensity, and concentration. It is a form of power that cuts but does not squeeze. The ability to direct and shift this cutting force from the highest, most informed, and cognizant level is one of the central lessons of twentieth century warfare. General Eisenhower summarized the case at the end of World War II, saying that the employment of air forces under a single command "assured a maximum of flexibility, providing a command structure

. . . the risk in falling behind in a major technological lag is obvious. It would be like facing falcons with a flock of pigeons.

under which all forms of available air power could be concentrated on tactical support missions or on strategic missions, as the situation demanded—in other words, it per-

mitted the maximum concentration of combat air power at the decisive point at the decisive time." 7

Unity and independence allow the perceptive concentrations of force at critical points that are the hallmark of air power. Localized control leads to localized perception and application, with a warlording tendency to hoard and spend for limited, local gains.

2. *What are the emerging fundamental characteristics of Air Force systems?*

At the bone, these characteristics have not changed greatly from the introduction of the airplane into war. On the other hand, there are important trends that affect the application of air power.

—Aerospace forces can exploit the *freedom of maneuver* inherent in their medium to reach and influence virtually any spot on or above the surface of the earth. They can do this visually or physically; that is, they can extract information or they can deliver firepower, manpower, and material. They can act or react, assemble and disassemble, with great and *increasing speed*. Their responsiveness creates a continuous, stabilizing psychological pressure that is active even when unfocused.

—They are *increasingly diverse* systems, ranging in application from rescue and disaster relief to nuclear delivery.

—They are *increasingly visible*. The sky and ground are full of unblinking electronic eyes. The technological dynamics of recognition will outrun the dynamics of disguise.

—They are *increasingly indirect* systems, with standoff weapons and detached target acquisition allowing tangential delivery.

—In application, they are *not persistent* systems. They can recycle and restrike with exhausting effect, but they cannot grind or squeeze or hold tight. They come and go, with a high percentage of time and energy

consumed in the coming and going.

—They enjoy *increasing indifference to weather and nightfall*, the traditional suppressors of air operations.

—They are, on the other hand, *increasingly dependent* systems, with a large appetite for fuels and a continuing need to be pampered with maintenance, supply, and guidance. They crave communications and require a roost.

—They are *increasingly expensive*, both to purchase and to operate. Materials, labor, and the dynamics of technological sophistication will continue to push unit costs upward, inciting abrasive displeasure. Force sizes will become smaller, which will in turn strengthen the imperative to sophisticate. Sophistication brings new anxieties with its new powers, but the risk in falling behind in a major technological lag is obvious. It would be like facing falcons with a flock of pigeons.

3. *What forms of utilization are most appropriate to systems with these characteristics?*

—The most effective way to use air power both now and for the future is to eliminate key targets through *concentration of force, surprise, and shock*. Air forces are an offensive arm, more effective when used

The air battle will be more and more a matter of electronic acuity and avoidance, less and less a matter of pilot skill and ferocity. It will be important to be aggressive, but more important to be sly.

with initiative and advance planning than in a reactive role or on missions of opportunity. Merging forces of cost and kill con-

fidence will reinforce this offensive bias.

—Through quick reaction, speed, and diversity, there will be an increase in the *ability of air forces to interpose themselves* with a specifically preventive aim and to interject a potential for immediate supporting or resisting actions. This interposition, with actual and symbolic impact, will range from rescue to airlift to firing across the bow. The quick erection or bolstering of emotional and physical barriers against aggression will increase in value. Kill con-

A central lesson of the Vietnam experience is that the acquisition, digestion, and relay of intelligence trails the reactive capability of weapons by an enormous gap. This gap should be closed.

fidence and discretion reinforce this argument. Focus itself will be an important deterrent, while readiness across the force spectrum will continue to gain in value.

—*Air superiority will become increasingly problematic*, with the continuing refinement of electronic acquisition and guidance. Air superiority missions will take on an increasingly point-oriented character, scouring airspace around key command and control terminals, bases, and force concentrations. The most lucrative targets will be on the ground. The air battle will be more and more a matter of electronic acuity and avoidance, less and less a matter of pilot skill and ferocity. It will be important to be aggressive, but more important to be sly.

—*The character of close air support will change*. Small, accurate antiair weapons will limit access to the battlefield and the approaches to the battlefield for both combatants. The battlefield itself will be in-

creasingly fluid and hard to define. The primary concern of air forces, once the battle is joined, will be disruption across a wide band of enemy activities beyond the battle zone. The distinction between interdiction and close air support will fade.

—As weapons technology moves toward a 99 percent kill probability, *wide-ranging, near real-time intelligence will become essential*. Without virtually spontaneous intelligence, the force elements themselves will be like muscles moving ahead of the senses. A central lesson of the Vietnam experience is that the acquisition, digestion, and relay of intelligence trails the reactive capability of weapons by an enormous gap. This gap should be closed. For the future, intelligence technologies should be emphasized, and intelligence links should be considered vital. Blind firepower is pathetic.

—As reliance on command and control, delicacy of equipment, and costs increase, *the security of key nodes in the support system will take on greater importance*. Readiness, initiative, and effect of air forces will rest on converging flows of intelligence, control, maintenance, and supply. Blockage of any one of these streams can quickly become disastrous.

—*Persistence will not characterize air power* in the foreseeable future. Its effects can be cumulative, but air power is by nature more like lightning than rain: it is least effective when applied in dribbles across a broad front. Its most useful role in war is traumatic disruption to inspire collapse or to allow other kinds of forces to move, enter, and consolidate. Air forces should not hustle targets.

—The nuclear question lies like a fog over the entire discussion. The unknowns are overwhelming, but one certainty is that strategic deterrence in the form of a power reserve and perceived determination will look closely over the shoulder of any conflict short of a convulsive strategic exchange.

4. *What are the organizational implications of the emerging force structure?*

—Air forces should be organized for quick reaction. Preparation is vital, in terms of both training and readiness posture. Communications must be open and assured.

—Rising kill probabilities cut two ways. They suggest that a smaller, more refined force may be feasible. They also imply that attrition rates, especially in the early stages of conflict, will be high. For a re-

In future war, decisiveness should be the governing principle for the management of aerospace forces.

laxed or poorly trained force, they could be catastrophic. Lively intelligence, wide dispersal, a taut posture, and sophisticated disguise for both the force elements and key points in the support entourage will be increasingly important. Training for air forces should incorporate as much realism, particularly as much of combat's extemporaneousness, as possible.

—The inward stream of intelligence and the outward stream of command and control communications must be organized and guarded as carefully as the weapon systems themselves. In future war, decisiveness should be the governing principle for the management of aerospace forces. This will require hard, free-flowing intelligence and virtually instant, secure communications.

GIVEN THE TRENDS and implications identified, there are fundamental internal dangers that must be addressed:

- Security and confidence in the arterial command and control channels must be absolute. There is a tendency to link these channels with nodes that could

be shattered with minimal effort. Without effective command and control, the finely honed forces of the future will be like a blind man with a scalpel at one extreme, a puppet with cut strings at the other.

- Centralization of communications centers, supply stocks, and armaments themselves offers targets that will be increasingly tempting as lethality and kill confidence grow.

- Prevalent views of air superiority and sanctuary are distorted. We tend on the one hand to overstate the importance of pervasive air superiority. The North Vietnamese and Viet Cong have operated in South Vietnam for years with obvious air inferiority, and the war of the tunnels survived the war of the air. On the other hand, we are habituated to secure bases, our own form of sanctuary, which reinforces the enthusiasm for centralization and ignores the disruptive potential of opposing strikes.

- We exercise our resources as a healthy, integral whole rather than a crippled sum of crippled parts. This amounts to self-deception in some scenarios. In future wars, the ability to regain balance may be the critical factor in success.

- There was a marked tendency in Vietnam to use air power in the widest possible range of roles and to apply it with low-intensity repetitiveness, like a suppression weapon. A utility-of-air-power curve, measuring effectiveness against the prin-

The airplane, as a strike instrument, is not an extension of artillery or the M-16.

ciples of surprise, concentration of force, and shock, would show a rapid plummet away from an optimum implementation peak. The airplane, as a strike instrument,

is not an extension of artillery or the M-16. Its focus is too fleeting, and it costs too much for that form of application.

• Overall, the vulnerabilities and trade-offs associated with peacetime convenience in organizing and managing the emerging force—impulses to centralize, to

consolidate, to let training intensity slacken, and to trade investment in the support structure for hardware numbers—constitute a question that is as important as any individual weapons imbalance vis-à-vis any nation, or the sum of such imbalances.

Hq United States Air Force

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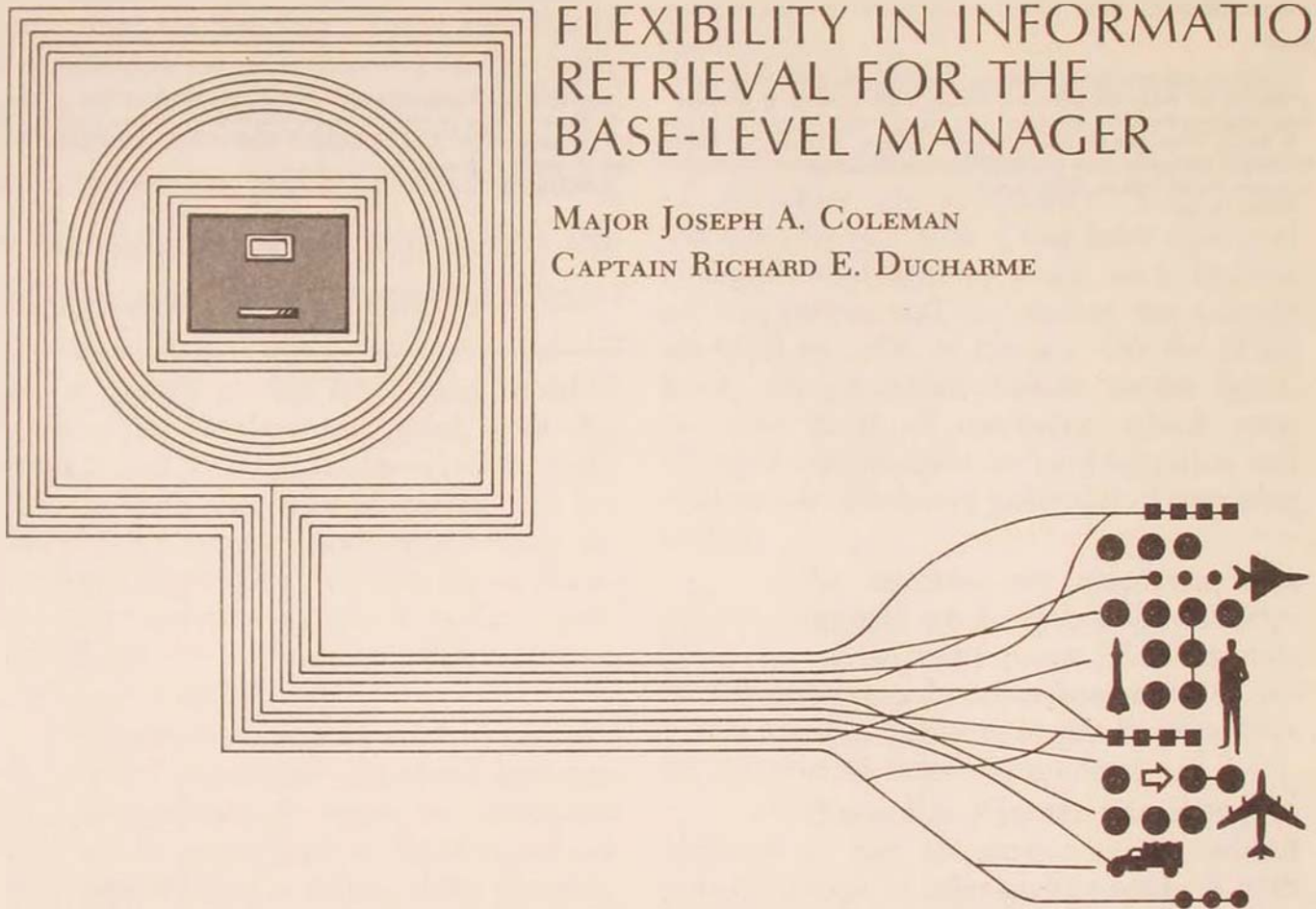
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FLEXIBILITY IN INFORMATION RETRIEVAL FOR THE BASE-LEVEL MANAGER

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IN THIS era of decreasing defense expenditures, there is a need to make Air Force operations more efficient. Management information systems contribute to efficient management by providing managers with the information they need to make decisions on the use of the Air Force resources under their control. Information systems should provide specific information, in the format desired, to any manager with a valid need for that information. However, the standard automated data systems (ADS), which are widely used within the Air Force, are inflexible in response to the special information needs of individual base-level managers.

Information *retrieval systems* were designed to provide flexibility in obtaining special information from the standardized systems. However, the diversity in the characteristics possessed by the four major information

retrieval systems currently in use at base level allows only limited degrees of flexibility. The diversity also results in confusion on the part of base-level managers regarding what information they can obtain with a particular retrieval system. The confusion could be resolved by developing a single set of characteristics to be included in each base-level retrieval system. This would simplify the procedure that base-level managers must follow to obtain the individually tailored reports they need to manage Air Force resources more efficiently.

This article is a synthesis of research performed at the School of Systems and Logistics, AFIT, to identify retrieval characteristics that should be included in any information system and to measure the degree to which current Air Force base-level retrieval systems possess these desired characteristics.¹ Flexibility of information retrieval in standardized base-level management information systems may not be a familiar topic to many Air Force managers; therefore, we will present a brief overview of management information systems, system standardization, the need for flexibility, evolution of base-level retrieval systems, and current base-level retrieval systems. A separate discussion of each of these areas will provide a background and understanding of the problem.

management information systems

The Air Force acquired its first general-purpose computer in 1952. Since then its inventory has grown to over 1300 general-purpose computers supported by 23,000 people.² A general-purpose computer is defined as one that is designed to handle a wide variety of problems. Within the Air Force this definition is fulfilled in terms of the massive role computers have played in support of the information requirements of almost every base-level manager. Thus, the

computer's role is to provide information to be used in decision-making. The vehicle for providing this information is commonly referred to as a management information system (MIS).

Definitions of a management information system are as numerous as the authors writing on the subject. A synthesis of definitions indicates that an MIS is simply "a system that collects, processes, and provides management information needed for decisions." But regardless of the definition used, the key element of an MIS is output. This output is in terms of management information. Within the Air Force, the bulk of MIS output is produced by *standard* automated data systems.

system standardization

Current USAF data automation planning concepts have the stated goal of enhancing the accomplishment of mission objectives through the effective and efficient exploitation of computer capability.³ Specifically, one of the data automation planning objectives is to provide ". . . data systems which are responsive under all conditions to the dynamic needs of commanders and managers. . . ." ⁴ In order to take full advantage of the capabilities of modern electronic computers and provide a common understanding of base-level management systems, the Air Force has undertaken the major project of standardizing computerized data systems.

A standard automated data system is defined as "an automated data system common to two or more commands and possessing *uniform* inputs, file content, processing logic, and outputs." ⁵ Standardization in the Air Force means that each user of a standard system will receive basically identically formatted output products. To ensure this standardization, functional systems (e.g., supply, procurement, transportation)

are centrally designed, programmed, and maintained, but they are applied at each Air Force installation that possesses the functional activity for which the system was designed.⁶

"The Secretary [of Defense] emphasized that in the future the development and installation of standard data systems must go far beyond current practices and applied to a much wider range of systems."⁷ The basic assumption is, then, that standardization will be applied increasingly within the Air Force. While the benefits of standardization are high, there is still a need for flexibility in order to satisfy the unique information needs of base-level managers.

need for flexibility

The Air Force Audit Agency has stated:

Both auditors and managers make extensive use of the standard system products to obtain needed information; however, the standard products do not always provide the information needed in a timely and efficient manner. As a result, various utility, inquiry, and selection programs must be available to provide the necessary flexibility in extracting information from the data base.⁸

The key term in this statement is *flexibility*. If the manager has available for his use only those output products (reports and listings) which the centralized design team found to be justified for inclusion in the standard ADS, he may not be able to satisfy nonrecurring information requirements. Flexibility is needed in information retrieval. This flexibility can be provided in the form of utility, inquiry, or selection programs. In this article, these programs collectively will be referred to as a retrieval system. Retrieval systems are thus defined as *computer programs or routines which have the capability to extract specified data from computer storage, reformat or manipulate these data, and output the data*

*in the format specified by the requestor.*⁹

The use of a retrieval system provides the flexibility needed to supplement standard products in rendering nonrecurring management information in a format suitable to the user.¹⁰ In the past, this flexibility has been provided in varying degrees by base-level retrieval systems.

base-level retrieval systems

In the early 1960s, the only method available to the base-level manager to obtain specific management information produced by a given computer system was to search through the reports (listings) produced by that particular computer system. In 1966 the Air Force Audit Agency recognized the computer as an audit tool and developed two retrieval systems for use by auditors in their reviews of the Standard Base Supply System, which used the UNIVAC 1050-II computer system. The two retrieval systems were relatively simple, compared to current programming standards, and they were used almost exclusively by auditors, but they did serve to lay the groundwork for the more sophisticated retrieval systems currently in use by base-level operating managers within the Air Force.

In 1968 the Air Force-wide implementation of the Burroughs 3500 computer system (B3500) brought renewed emphasis to flexibility in information retrieval. The Base Level Military Personnel System incorporated the Direct English Statement Information Retrieval System (DESIRE), a highly sophisticated one, into the standard system for military personnel management. However, this retrieval system could be used only by personnel managers. There still was no single retrieval system, nor was one planned, that could be used to extract information from the data bases of the other systems using the B3500, e.g., transportation, procurement, maintenance, etc.¹¹

In 1970 the Air Force Audit Agency undertook the project of evaluating the retrieval systems used by some of the major public accounting firms in the United States. Their objective was to determine if the retrieval systems used by the public accountants could be economically adapted to Air Force usage. The Air Force procured the Arthur Young Audit Management System in 1971 and reprogrammed it for use as a retrieval system on the B3500. This retrieval system is currently in use and is known as the Air Force Audit Management System (AFAMS).¹²

In the meantime the Air Force Data Systems Design Center was proceeding with the development of the Base Level Inquiry System (BLIS), which could also be used to retrieve information selectively from any system on the B3500 computer. In 1972 the early systems used by auditors were superseded by the more powerful Report Program Generator (RPG) as the flexible retrieval system for use on the UNIVAC 1050-II supply computer. Thus, four retrieval systems were in use by the base-level managers: DESIRE, AFAMS, BLIS, and RPG, each of which we will explain.

- The Base Level Inquiry System (BLIS) is a retrieval system that can extract information from any functional data system which uses the B3500 computer system. A functional system is a management information system that applies to a specific area of management, e.g., aircraft maintenance, transportation, procurement. The B3500 is the general-purpose computer used to process information and produce management reports for most base-level functions with the exception of Base Supply.

- The Air Force Audit Management System (AFAMS) is identical to BLIS in its scope of applications. It too can retrieve information from any data base on the B3500. Although the scope of application

is identical, the rules for use (syntax) and the capabilities of AFAMS and BLIS are quite different.

- Somewhat similar to BLIS in syntax is the Direct English Statement Information Retrieval System (DESIRE), which is also a part of the overall B3500 system. However, DESIRE can only be used to retrieve information from the personnel system. It cannot be used to retrieve management information from any of the other functional systems that use the B3500.

- The Report Program Generator (RPG), also known as Program 009, offers the capability to extract information from the supply system that utilizes the UNIVAC 1050-II computer. Its syntax is considerably different from that of BLIS, AFAMS, and DESIRE, but its capabilities are somewhat similar to all three systems.

Each of these retrieval systems was independently designed, resulting in a diversity of characteristics among the systems. Because of the wide range of characteristics possessed by these four base-level retrieval systems, base-level managers often become frustrated and confused in their efforts to use the systems to satisfy specific information requirements.¹³ A single set of retrieval system characteristics familiar to all managers could simplify the retrieval process and improve the decision process.

the AFIT study

The study performed at AFIT to address the problem was divided into two stages. The first stage of research addressed the question: What characteristics should be included in an Air Force base-level retrieval system? The answer to this question was developed from a review of the literature specifically pertaining to management information systems, information retrieval systems, and audit retrieval systems. Each

potential characteristic identified was evaluated on two basic criteria: (1) the frequency of occurrence in the literature and (2) sound logical argument in terms of relevance to the information needs of base-level managers.

The second stage of research addressed the question: To what extent are the desired characteristics included in each of the four Air Force base-level retrieval systems? This question was answered by reviewing the Air Force manuals that documented the four Air Force base-level retrieval systems. This documentation review was supplemented by an analysis of actual computer outputs of each of the four retrieval systems.

characteristics

Based on the results of the extensive literature review, eight characteristics were found to be desirable for inclusion in an Air Force base-level retrieval system. These eight characteristics are summarized and discussed in turn.

(1) Access each file stored within a computer system as well as the capability to make comparisons simultaneously between two or more files.

File Access. Access is defined as the ability to retrieve data from a computerized storage medium. Data are normally subdivided into files in a given automated data system. These files are maintained on a magnetic storage medium such as magnetic tape, disk, or drum. These media serve much the same purpose as a standard office filing cabinet except that, instead of a clerk removing a file manually from a filing cabinet, computer programs remove the file from the mechanized storage media. In terms of a retrieval system, maximum flexibility can be achieved if the given retrieval system has the capability to access

all files contained on the storage media of a given computer system.

(2) Specify record selection based on these comparisons: less than, greater than, equal to, greater than or equal to, less than or equal to, and not equal to.

Specific Selection Criteria. In using a retrieval system, a manager is interested in obtaining specific information about certain portions of a file. In the case of a military personnel file, the commander may want to know which of his officers have a master's degree. Assuming a single file of military officers with a single personnel record for each officer and no existing retrieval system, a complete manual search of a print-out of these records would have to be made. A flexible retrieval system could provide the commander with a list of only those officers with a master's degree. More specifically, a certain portion of each officer's record would have an area reserved for a code denoting "academic education level." Assuming this code was a 5 for a master's degree, the educational level of each officer would be compared to a 5. If a 5 was present, the name of the officer would be printed out on a computer listing. If a 5 was not present, the record would be ignored. This process would be repeated by the retrieval system until all officers' records had been checked. The 5 used in this example is called a "selection criterion."

Joseph Wasserman, a noted expert, states that the selection criteria should also permit a record to be selected based on the data's exclusion or inclusion within a range of values or equaling exact values.¹⁴ This is normally accomplished by using such logical expressions as "equal to or greater than." For example, educational level could be compared as being "equal to 5," or perhaps "greater than 4 but less than 6."

(3) Form compound record selection criteria based on the AND and OR Boolean logic connectors.

Boolean Logic. The Boolean logic pertains to the algebraic processes formulated by George Boole. Boolean logic provides the capability to form complex conditions for the selection of a record.¹⁵ Thus, Boolean relationships are actually an extension of the specific selection criteria characteristic. More specifically, the retrieval system, by stating such relationships as *AND* or *OR*, permits the creation of compound selection criteria.¹⁶ This type of logic permits a single retrieval to satisfy combinations of two or more conditions simultaneously.

To extend the example used in the previous section, assume a commander was only interested in knowing which company-grade officers had a master's degree. Assume that the codes for these military grades are 01, 02, and 03 respectively. The desired selection criteria have been compounded. The retrieval system must have the capability to accept these multiple criteria. It must be able to retrieve the records of those officers with an educational level equal to 5 *AND* a military grade equal to 01, 02, or 03.

(4) Perform random and interval sampling.

Statistical Sampling. A sample is defined as "... any subset of elements from the universe or one of its populations."¹⁷ Viewing a computerized file as a population, a group of records can be considered a sample or subset of this population. In performing an analysis of a file, a manager may not be interested in evaluating each record in a file. Instead, he might evaluate a subset or portion of the file. But in order to make a statement about the *entire* file, his analysis would have to be based on some statistical method. Statistical sampling, for example, can be particularly useful at base level. Managers could obtain a point estimate and confidence level on the condition of certain records or the operation of functional systems by using a flexible statistical sampling capability.

(5) Perform the mathematical operations of addition, subtraction, multiplication, and division.

Mathematical Operations. In general, a significant portion of the data contained in base-level functional systems is quantitative data. Examples of quantitative data include unit cost, quantity on hand, quantity due in, accounts receivable, accounts payable, quantity shipped, etc. Quantitative data by their very nature lend themselves to mathematical manipulation. For example, to compute the total value of all type A widgets in an inventory, the following computation would be made:

$$\begin{array}{rcccl} \text{unit cost} & & \text{quantity} & & \text{total value} \\ \text{of type A} & \times & \text{on hand of} & = & \text{of type A} \\ \text{widget} & & \text{type A widget} & & \text{widgets} \\ & & & & \text{on hand} \end{array}$$

Any automated data system that contains quantitative data could be enhanced with the flexibility of a mathematical computation capability included in a retrieval system.

(6) Specify the output format, including sort, control break, line spacing, page ejection, page headings, column headings, sub-totals, and final totals features.

Flexible Output Format. The reader may recall that current Air Force policy is to standardize automated data systems to the maximum extent possible and that standardization implies that each user of a standard system will receive basically identically formatted output products (printed reports). Retrieval systems provide the user with a capability to produce individually tailored outputs without the high cost of programming by conventional methods.¹⁸ The capability to produce individually designed output products is the basic purpose of any retrieval system. The presence of this characteristic provides base-level managers with the capability to obtain management reports suited to their individual needs.

(7) Perform comprehensive edits of the input parameters before processing is begun.

Edits. The precise method of inputting retrieval specifications to the retrieval system is termed the "syntax" of the retrieval system; syntax means, then, rules for using a retrieval system. In order for a retrieval run to be successful, these rules must be followed exactly. A series of edits or syntax checks could be performed by the retrieval system to determine proper syntax. If improper syntax was discovered, the retrieval system should print out a message telling the user exactly what was wrong with the input or what syntax rule was violated. In the absence of such edits, retrieval results would be either nonexistent or unpredictable at best, a process that could waste considerable management time and computer resources.¹⁹

(8) Be used without an extensive knowledge of data processing.

Ease of Use. According to the *EDP Analyzer*, a retrieval system should be designed for use by executive and operating managers, without the need for computer programmers to translate the retrieval request into a computer programming language. Thus, an easily used retrieval system "... is a necessary but not a sufficient condition for the effective use of an MIS by managers."²⁰ Crucial to the effective use of a retrieval system is that the user must understand the contents of the files from which he is retrieving. This knowledge of files does not imply, however, that the user must possess an extensive data processing knowledge. According to Grant McLaughlin, the primary advantage of retrieval systems is the ability of *nonprogrammers* to prepare the retrieval system input parameters.²¹

inclusion in Air Force systems

The extent to which these eight desirable characteristics are included in the four major Air Force base-level retrieval systems

is summarized in the accompanying tabulation. A rating of 1 indicates that the respective retrieval system completely possessed an individual characteristic. Fractional credit was given for partial implementation of a characteristic. The extent to which all eight characteristics are collectively included in each of the four Air Force base-level retrieval systems is indicated by the percentage figure in the last line of the table.

Results of Retrieval System Analysis

Characteristic	BLIS	AFAMS	DESIRE	RPG
File access	.50	.50	0.00	.50
Specific selection criteria	1.00	1.00	1.00	.67
Boolean logic	1.00	1.00	1.00	0.00
Statistical sampling	.50	.50	0.00	0.00
Mathematical operations	1.00	1.00	.50	1.00
Flexible output format	1.00	1.00	1.00	.50
Edits	1.00	1.00	1.00	0.00
Ease of use	1.00	.33	1.00	0.00
Total rating	7.00	6.33	5.50	2.67
Extent of inclusion	87.500%	79.125%	68.750%	33.375%

Thus, the extent to which the eight characteristics are included in the four Air Force base-level retrieval systems is as follows: BLIS—87%, AFAMS—79%, DESIRE—69%, and RPG—33%. These percentage figures represent the degree of flexibility in each of the four retrieval systems for satisfying the unique information needs of base-level managers. Thus, BLIS provides the greatest flexibility, with RPG providing the least. These relative ratings should be viewed with caution because each characteristic was arbitrarily assigned equal weight. The reader should note that while AFAMS received the second-highest overall rating, it was rated relatively low on the ease-of-use scale. Conversely, DESIRE had a lower overall rating than AFAMS but was considered to be ex-

tremely easy to use. Given a choice between AFAMS and DESIRE, a user would probably choose DESIRE, the system that is easier to use. Ease of use, then, could tend to be the overriding characteristic in the selection of a retrieval system.

The comparison of retrieval systems also revealed some redundancy among them. BLIS and AFAMS, for example, are very similar in both capability and scope of application. Exclusive of the ease-of-use characteristic, these two systems had identical ratings. This is not to say that the two systems are identical in every respect, but it does indicate that their capabilities are generally the same. Additionally, both BLIS and AFAMS were implemented to serve the same purpose: to retrieve information selectively from the data base of any system operated on the Burroughs 3500 computer system. Redundancy, of course, can be costly.

AIR FORCE managers need information to make good decisions concerning the allocation of scarce resources. Standard systems do not provide all the information that is

required. Retrieval systems can provide flexibility for Air Force managers, which would help them to become more efficient.

The problem is threefold: (1) The four Air Force systems possess only limited degrees of flexibility; thus the using managers are limited in what they can obtain. (2) The diversity of abilities possessed by individual systems often causes confusion as to what information is available. (3) There is redundancy between systems in capability and scope of application, which results in needless costs.

The retrieval characteristics identified in this research could be used as a basic point for development of a desired set of characteristics to be included in all existing, as well as future, Air Force information systems. The inclusion of this set would provide added flexibility, reduce redundancy, and, perhaps most important, reduce confusion. It would help Air Force managers to use the costly systems that were designed to provide information for making better decisions and using resources more efficiently.

School of Systems and Logistics, AFIT

Notes

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2. Jack B. Robbins, Major General, USAF, "Data Automation—How USAF Is Opening a New Era," *Air Force Magazine*, July 1974, pp. 65-68.
3. Air Force Manual 300-1, *Air Force Data Automation Planning Concepts 1969-1978, 1989*.
4. *Ibid.*, p. 3.
5. Air Force Regulation 300-2, "Management of Automatic Data Processing Systems," 1971.
6. *Ibid.*, p. 4.
7. AFM 300-1, p. 3.
8. AG Pamphlet 171-1, *Guide to Performing System Audit Appraisals*, Air Force Audit Agency, Norton AFB, California, 1971.
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12. Air Force Manual 175-118, *Air Force Audit Management System*, May 1974.
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15. Len J. Cohen, "Data Base Considerations and Implementation Techniques," *Data Management*, September 1972, pp. 40-45.
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19. Donald L. Adams and John F. Mullarkey, "A Survey of Audit Software," *Journal of Accountancy*, September 1972, pp. 39-66.
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SOCIAL ACTIONS TRAINING

To Know and To Grow

CAPTAIN FREDERICK M. BELL

THE USAF Social Actions (SA) program includes a broad range of activities, including training in the control of drug and alcohol abuse. A former director of the Social Actions school made the following remarks at an American Psychological Association convention in Montreal, Canada, in August 1973:

The field of social actions has had a greater growth and development during the past two years than perhaps any career field within the military structure since World War II when science re-created with new dimensions the entire structure in minimum time. New vocabulary, new concerns, new techniques, new reports,—all were part of the new structures created then, and now in social actions. I do not mean to imply that social actions grew from nothing during this period of time. That's not true. It developed from concerns that already existed in fragmented ways. It adapted vocabulary from other military structures and from civilian counterparts. It built on techniques that were available, in and out

of uniform, in and out of social actions kinds of activity. But the integrity of a single career field, the unity of action and concern, the consolidation of programs, energy, and focus came rushing along like a swollen stream headed for surrounding lowlands. Only with the establishment of a permanent career field and new training courses did we begin to catch our breath (not because we had more time, but because we had greater need) and take time to look carefully at the task, or the tasks, that Social Actions personnel in the Air Force are attempting to perform.

One of the primary tasks SA personnel perform is the management of drug/alcohol abuse education and rehabilitation programs, and it is this area of training that this article will describe.

*Department of
Social Actions Training*

The Department of Social Actions Training

is part of the School of Applied Aerospace Sciences, Lackland Air Force Base, Texas. It is accredited by the Southern Association of Colleges and Schools, Vocational Training Division. Its courses are listed with the Community College of the Air Force, Randolph AFB, Texas, and Social Actions personnel may earn up to two years of college credit through their SA courses.

The purpose of the department is to provide training and support for SA programs throughout the USAF. This is accomplished through resident courses at Lackland AFB, through Special Training courses conducted by the department, and through the USAF Resource Center at Lackland. The Resource Center is built around a library of behavioral science books, documents, films, and unpublished papers. It also houses a remote terminal with direct on-line access to the computerized data banks of the National Institute of Mental Health. These include the National Clearinghouse for Drug Abuse Information, the National Clearinghouse for Mental Health Information, and the National Clearinghouse for Alcohol Information. The Resource Center is thus able to provide the latest information to the paraprofessional drug educator or counselor in a timely fashion as both inquiries and replies may be made by telephone, teletype message, or letter.

The school aims to impart a maximum amount of cognitive data in a highly charged, affective learning environment. Although students are required to know facts, it is considered equally (or more) important, because of the nature of SA work, that students be given the opportunity to grow as human beings. This is possibly the only USAF school in which personal emotional/psychological growth is encouraged as part of the program of instruction. Students are expected to examine their own behavior and that of their peers and through structured and unstructured small group experiences

learn patterns of behavior appropriate to the Air Force environment within which they work.

school curriculum

The curriculum will be described in terms of its three aspects: cognitive subjects, small group activities, and practical application. It is noted that SA came into being officially in October 1971 and that the present school curriculum has developed out of the experience of both the school faculty and the SA personnel in the field, who knew, perhaps best of all, what was needed in terms of training.

The following subjects were taught by lecture and/or guided discussion. The presentations were given by school staff and other USAF speakers or by guest speakers serving in consultant status. With few exceptions the caliber of these speakers was excellent, and their professional credentials were excellent as well. Several subjects covered pertain to the human relations aspect of SA work and were presented as supplementary to the core curriculum.

- Administration of Social Actions Offices
- Cross-Cultural Differences
- Women Personnel's Concerns
- Social Actions Interaction with the Judicial System
- Social Actions Interface with Law Enforcement
- Psychological Labeling
- Administration of Drug/Alcohol Education and Rehabilitation Programs
- Drug/Alcohol Pharmacology
- Introduction to Transactional Analysis
- Principles of Instruction
- Values Clarification and Viable Alternatives to Drug Use
- Counseling Principles and Practices

As an adjunct to didactic learning, time was set aside daily for small groups of students to process, with the aid of a faculty

facilitator, the cognitive data presented in the lecture hall. At the onset of the course, small groups of eight to ten members were organized, and they remained together throughout the course. In groups, opportunities were provided to "try out" theories and techniques introduced in the classroom, e.g., values-clarification exercises would follow lectures on that subject. Additionally, much time was spent in groups getting each student to evaluate himself both as an individual and as a group member. The primary means of accomplishing this was through structured experiences taken from the Pfeiffer and Jones series of Handbooks for Group Facilitators and from other sources.

Cognitive and affective learning forms the foundation for the practicum work that climaxes the overall training. There are four areas of practical application:

(1) Practice teaching. When students return to their bases of assignment, they will be required to present drug and alcohol abuse training to all assigned military personnel. Therefore, at the school each student is required to prepare lesson plans and then teach drug/alcohol abuse control to military personnel assigned to Lackland AFB. Students are critiqued both by a faculty member and by the students in the class they taught.

(2) Counseling of drug/alcohol abusers is an everyday task for SA personnel; therefore, emphasis is placed on developing counseling skills while at the school. Students do practice counseling with fellow students on closed-circuit television and are appropriately critiqued. Students are finally given an opportunity to counsel, under supervision, airmen assigned to Lackland AFB who have been identified as drug abusers. These sessions are also critiqued.

(3) SA personnel are frequently asked to give talks on various aspects of drug/alcohol abuse. As an opportunity to develop speak-

ing ability, each student must present a short (15-minute) talk on some aspect of drug/alcohol abuse to his classmates. These talks are recorded on videotape and later critiqued by the student and a faculty member.

(4) Group work is frequently used by SA personnel as one aspect of rehabilitation of drug or alcohol abusers. Therefore, students are provided opportunities to serve as facilitators in their small group. This work is critiqued by faculty members and also by other group members.

student evaluation

While enrolled, students are constantly evaluated to insure that they achieve the highest possible level of professional and military standards before returning to the field. A triangular system of evaluation is used:

- Written examinations on each of the three major blocks of instruction. Students must pass each exam to remain in the school and in the SA career field.

- Performance checklist for speeches, written assignments, behavior in structured experiences, and practicum work.

- Overall performance.

Failure to perform satisfactorily in one or more of these three areas will result in elimination from the school and from SA.

MY OWN REACTION to the course is that of a graduate student in guidance and counseling, a USAF drug/alcohol educator and counselor of twenty months, and a graduate of a four-week version of the course just completed. In general, I believe the school is excellent. Academically it compares very well with other schools I have attended, both military and civilian. It is apparent that a great deal of time and effort has been put into making it an academically sound course. On the affective side, I am a little

awed with this Air Force school and its mandate to bring about changes in student attitudes, values, and maturity levels. My impression is that the school is effective in promoting these changes.

I found the videotaping of speeches and counseling sessions to be a most helpful technique for critiquing. This was particularly helpful in the nonverbal things that transpired during counseling, not only for the client but also for the counselor.

In summary, having worked in the field for some time prior to this school, I can confidently state that the training is definitely job-oriented and will serve students well in their base-level programs. In providing both knowledge and opportunities for personal growth, this school has a uniqueness in keeping with the uniqueness of the Social Actions career field.

Hq Tactical Air Command

Erratum

Our thanks to Colonel William C. Ferguson, Hq PACAF, who called our attention to the incorrect definition of CEP (circular error probable) footnoted on page 40 of the July-August 1975 issue. The definition should have read: "The circular error probable is the *radius* of a circle encompassing 50 percent of the weapons delivered."

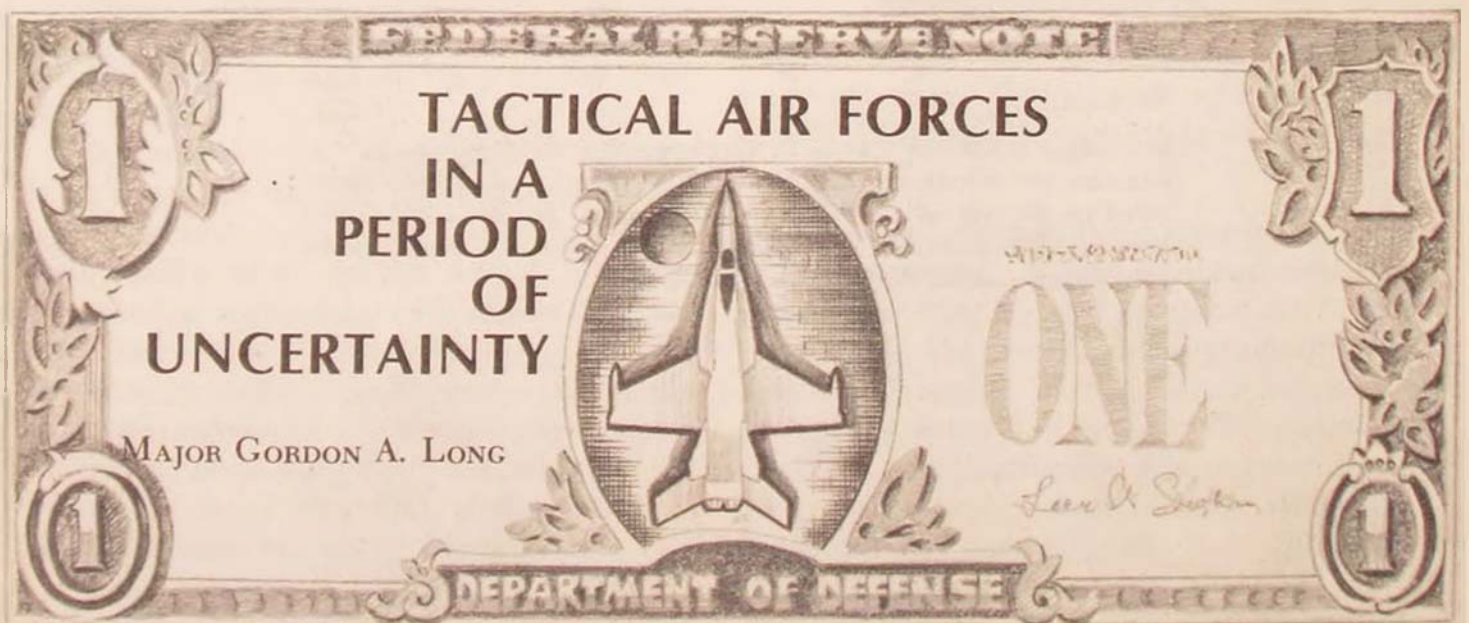
R in my opinion

In both analysis and planning we are too prone to ignore the certainty that things change over time; that a number of years hence national objectives and strategies will be different from what they are today. In planning for the future the

appearance of uncertainty at a given time is perhaps less interesting than the certainty that changes in objectives and strategies will take place over time.

JAMES R. SCHLESINGER
Secretary of Defense

UNITED STATES tactical air forces are presently confronted with a challenging and paradoxical situation. On a global level they constitute a more critically important national resource than ever before. As the events of the past decade have demonstrated, the strategic impasse has driven armed conflict downward into the tactical arena. In recognition of this fact our principal opponent, the Soviet Union, is steadily increasing both the amount and the degree of sophistication of its total military power.¹ Accordingly, the current United States diplomatic posture favoring international détente requires the backing of a strong, credible deterrent capability across



the entire spectrum of conflict in order to be effective.

To United States tactical air forces, therefore, falls the formidable responsibility of sustaining the ability to wage effective warfare on all levels of conflict below general war in the face of a steadily increasing threat. Unfortunately, global concerns tend not to be considered as urgent as domestic problems, and there is the temptation to put them off. This tendency has been accentuated by recent foreign policy reverses, and the United States military involvement in Vietnam has left in its wake a profound national distaste for war and all things military. As a consequence, the United States is currently directing the preponderance of its attention inward, as has been its inclination at the conclusion of past wars, and is becoming increasingly preoccupied with the host of internal problems plaguing the nation, problems that demand an ever growing share of national resources. Moreover, the effects of inflation and the energy crisis daily reduce the total amount of resources available. Under these conditions direct, large-scale United States military involvement overseas seems highly unlikely in the immediate future, and it is only to be expected that budgetary justification for expensive, technically complex, energy-consuming tactical air forces should prove difficult. Thus, with public perception of the need for their employment at a low ebb, the tactical air forces of the United States embark on what promises to be their third period of inaction since World War II in an environment of scarce resources and stringent constraints.

There is a clear contradiction between the need for an expanded tactical air capability to counter the Soviet threat, on the one hand, and the strong possibility of years of inaction and increasing scarcity of resources available to tactical air forces, on the other. It is a contradiction that tends

to become more pronounced with the passage of time and could eventually threaten U.S. national security. The purpose of this article, therefore, is to examine the nature of this contradiction, identify specific problems that derive from it, and offer suggestions for their long-term resolution.

The Dimensions of the Contradiction

The requirement to maintain a tactical air capability during periods of austere funding and military inactivity is not new to the United States Air Force. In the quarter-century since the Air Force became an autonomous service, the problem has arisen twice before, once prior to the Korean War and once prior to Vietnam. In both instances significant deficiencies in Air Force tactical capability were revealed in the opening weeks of the conflict that followed each of the two periods of inaction. The causes of the deficiencies were many, but the primary one was the same each time: failure to anticipate correctly the nature of the conflict that was to come. This failure was due in part to the widely accepted belief that U.S. strategic nuclear forces would provide a deterrent to all types of armed conflict—a belief rendered explicit by former Secretary of State John Foster Dulles's proclamation of the doctrine of massive retaliation.² A corollary to this doctrine was that tactical air forces had become obsolete save as augmentation for the power of Strategic Air Command.³ This doctrinal posture had two primary effects: it greatly reduced the amount of military resources devoted to acquiring and supporting tactical air assets; and it strongly influenced the design characteristics of the few tactical aircraft and systems that were approved for purchase, rendering them largely unsuited for general purpose use.

There were those who detected the fal-

lacy of this single-option strategy, notably the same group of scientists who were primarily responsible for the development of the atomic bomb itself. As early as 1950 this perceptive group maintained that there was a considerable likelihood that the world would respond to the developing nuclear standoff by entering an era of limited war, in which the power of atomic weaponry would be impotent.⁴ In spite of such efforts to correct the nation's conceptual error, it remained unremedied and generally unnoticed until the Korean War provided a practical demonstration of the correctness of the scientists' position.

Even afterward, much credence was given to the idea that Korea was but an anomaly in the larger environment of the cold war and would not recur.⁵ For the Air Force the net results of such thinking were the initial and nearly disastrous reverses of Korea and Vietnam, where defeat was averted by the narrowest of margins through the skill and dedication of men flying a strange assortment of ancient and modern aircraft on missions for which they were never intended. In both locales only the combination of the limited nature of the conflict and the rapid response of America's prodigious industrial capacity enabled national military and political leadership to recover their lost initiative.

Nor can the nation count any longer on its industrial capability to provide more than token assistance after the fact in future situations of this sort; the exponential advance of technology has denied the United States its traditional recourse. Unprecedented increases in the potential efficiency and lethality of tactical weapons require response times that must be reckoned in minutes. At the same time, the increasingly complex design criteria required for practical realization of potential capability result in decade-long production lead times. Such constraints lend new significance to

forces-in-being. Of necessity, we find ourselves deeply involved in a technological chess match on an international scale—one in which we enjoy but scant advantage.⁶

To compound the intractability of the national predicament, we rapidly approach the limits of an industrial capacity that has traditionally been regarded as without limit. National options are constrained by increasing scarcity of resources, energy, and funds. "Silent" problems such as inflation, a depressed economy, and public failure to perceive the need for a strong military in times of peace also take their toll. Closely interwoven with these constraints is the peculiarly relative nature of tactical deterrence. Unlike the forces that support an all-out attack option, the tactical air forces of a major power require an active operational capability suited to both conventional and limited/regional nuclear warfare in order to be credible. This is so because of the relatively less critical stakes involved in limited war. The leaders of other nations may elect to test the tactical capability of the United States without necessarily placing their nation's vital interests at risk. It would be logical, therefore, for them to do so at any time that they perceive a weakness on the part of the United States (either in actual capability or in national will) together with an advantage to be gained by exploiting that weakness. In consequence, tactical air forces must be sufficiently strong to be simultaneously capable of coping with such probing attacks while deterring other potential opponents. The thrust of this argument is to emphasize further the overriding importance of forces-in-being in the tactical air environment. Under such demanding circumstances, a repetition of the unreadiness that has affected tactical air forces of the United States during interwar periods could have disastrous consequences.

Two conclusions may be drawn from this

discussion. First, the problems confronting the architects of tactical air forces today and in the immediate future are not strictly military in nature; rather, they involve a combination of technological, economic, and political considerations. Second, a systematic procedure is needed for anticipating both advances in technology and changes in the tactical environment in order that the scarce resources available to United States tactical air forces can be utilized most effectively. If the design process for tactical air forces is to be realistic, it must be responsive to the total context within which those forces are likely to be employed; and, most important, it must allow for the inevitable alteration of that context over time.

Simplifying Assumptions

If one decides to take this broader view, a way must be found to reduce the resulting composite problem to manageable proportions. One promising method for accomplishing this reduction is being employed by the Air Staff Directorate of Doctrine, Concepts and Objectives. In their long-range planning study, *Alternative Future World Contests*, they identify a small number of possible futures, each with its own major theme and simplifying assumptions.⁷ For the purposes of this discussion the world of the future is assumed generally to follow the "Dissonant" model⁸ with several additional limiting assumptions:

(1) Existence of capable U.S. strategic nuclear forces will continue to deter general nuclear war indefinitely. (If for some reason it should not, the question of the future of U.S. tactical air forces becomes immediately academic.)

(2) The international strategic military stalemate will continue until the present

indefensibility of nuclear weapons is overcome by a technological breakthrough that will serve to negate or considerably restrict their utility.

(3) Throughout the period prior to this breakthrough, priority must be given to the deterrent requirements of strategic forces.⁹ Because the time at which this breakthrough will occur cannot be accurately forecast, some reference time period is required for planning purposes. A convenient interval for this purpose is the production lead time (PLT) required for a new major weapon system to become operational. At present, one PLT is on the close order of ten years.¹⁰

(4) Weapon system development will continue to constitute the critical path for defense planners concerned with tactical air forces.¹¹ Personnel considerations are generally not pertinent in this context except insofar as personnel-related costs consume a growing share of a shrinking defense budget.

(5) During the next PLT, armed conflict will continue to be a prevalent form of international interaction, particularly among the less developed countries and their neighbors. This conflict will be nonnuclear for the most part and, from a United States perspective, will be on a tactical level of operations. It will most probably be subsidized to a great extent by nuclear powers in furtherance of their own political ends.

(6) U.S. military forces are likely to see little action during the next PLT, as a result of widespread resource and energy shortages and a reluctance (generated by the Vietnam experience) on the part of national leadership to commit forces unless vital interests are clearly at stake.

(7) In the absence of legislation fixing the military share of government revenues at some percentage of the U.S. gross national product, resources available to the military at large will be steadily reduced below their present levels during the next PLT. This

⁸ The "Dissonant" world context postulates three poles of nuclear power: the U.S., the U.S.S.R., and the P.R.C., and is interdependent but slightly disintegrative economically.⁸

will be due to a combination of political and economic influences, headed by a growing public perception of the urgency of domestic problems and an accelerating inflationary spiral.

Major Tactical Air Force Problem Areas

Given an environment described by the foregoing assumptions, three major problems facing tactical air forces and force planners can be identified: the problem of long-term planning, the problem of tactical economics, and the problem of continuity of effort.

the long-term planning problem

The innate difficulty of conducting effective long-term planning to meet changing world conditions continually plagues military forces in times of peace. Without the adaptive stimulus provided by actual involvement in combat operations, planners and analysts suffer from a natural tendency to become preoccupied with detail, in the process missing basic changes in the world environment. Consequently strategies and plans tend to diverge increasingly from reality with the passage of time. The resultant fundamental misdirection comprises the heart of the long-term planning problem. The symptoms are many: increased emphasis on that which is traditional, rejection of innovative employment concepts (frequently without trial), inability to distinguish between major problems and minor ones, and so forth. Such tendencies are reinforced by the diminished public and Congressional support for expensive new military programs, which has become almost characteristic of the United States during times of peace.

More critical still is the temptation to revert to a single-option type of defense forecasting, which Defense Secretary James R.

Schlesinger has termed "Cook's-Tour planning," rather than deal with uncertainty in an explicit manner by multioption analysis or "Lewis-and-Clark planning," in recognition of the alternative courses of action that are certain to appear.¹² As Secretary Schlesinger has noted,

Whenever the uncertainties are substantial the balance should shift in the direction of Lewis-and-Clark planning. Despite its messiness, its relative advantage then increases. The appropriate planning concept is one that is conducive to (1) facing uncertainties (not pushing them aside) and (2) hedging against uncertainties (i.e. not biased against hedging). Nevertheless, in all bureaucracies there are strong pressures to go too far in the quest for Cook's-Tour planning. . . . The cost of acquiescence is neglect of uncertainties, lost flexibility, neglected and suppressed options, and less than optimal adjustment to changing opportunities and threats existing in the external environment.¹³ [See Figure 1.]

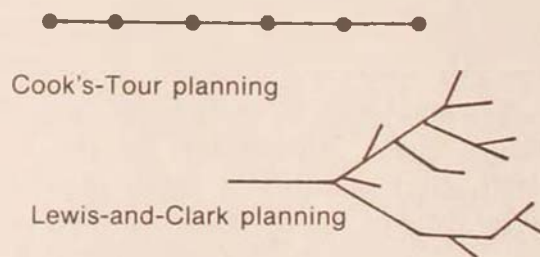


Figure 1. Defense forecasting may range from the single-option method of Cook's-Tour planning to the multioption concept of Lewis-and-Clark planning.

When allowed to persist for even a fraction of one PLT, Cook's-Tour planning adversely impacts on the design of military hardware, usually restricting its usefulness severely. Furthermore, the degree of restriction increases as PLT's grow longer. Extrapolated to a logical conclusion, the ultimate result could be fully as damaging as the French experience with the Maginot Line in World War II.

Because of the extreme flexibility required

of tactical air forces, this tendency toward institutionalization of conceptual rigidity during periods of inaction is particularly detrimental to both their effectiveness as an operational force and their credibility as a deterrent. Because tactical air forces necessarily operate on an "anyplace, anytime" basis, they occupy themselves during interwar periods by updating their capabilities and maintaining proficiency in a wide variety of technical skills. In the absence of the empirical facilities laboratory that active warfare provides, it becomes the responsibility of planners and analysts to anticipate which of these basic skills and capabilities will be pertinent at any given time, and too often in the past this anticipatory function has been found wanting. In view of the stated economic constraints, the United States literally cannot afford failure of this sort in the future.

Understanding the nature of the opposition is another critically important dimension of the long-term planning problem. In the past, forecasting difficulties have been compounded by ignorance or misinterpretation of the nature of the threat, represented primarily at present by the Soviet Union and its allies,¹⁴ a circumstance which, if permitted to occur in today's complex military environment, would probably negate long-term planning efforts altogether. Presently the Soviets appear to be pursuing an integrated grand strategy of gradual erosion of Western power through political, economic, ideological, and military attrition, typified by their activities in the Middle East and Southeast Asia. Such a strategy poses a difficult problem for national and military policy-makers committed to a strategy of deterrence. There is also the question of how much effect United States policy initiatives have on Soviet actions and vice versa. There are indications that this reactive effect is significant.¹⁵ If so, it is imperative that the implications of this

effect be assessed correctly and considered at all levels of United States planning. The assessment and consideration are particularly important in forecasting the evolution of those portions of the military force structure most likely to be affected by enemy reaction, for example, tactical air forces.

the problem of tactical economics

The economic problem confronting the Air Force has two distinct aspects. The first and most obvious is the direct impact of reduced military purchasing power. As noted earlier, inflation, budget cuts, increasing technological costs, general scarcity of raw materials, growth of personnel-related expenditures, and a variety of other factors all contribute to the Air Force's present economic difficulties. In view of the requirement to give priority to strategic forces,¹⁶ it seems likely that tactical air forces will bear the brunt of future force reductions, as has been the case during both earlier postwar periods. The total effects of such reductions are magnified by the diseconomies of reduced production and procurement rates for weapon systems. Fixed production costs must be distributed over a smaller number of finished products when production funds are cut, causing the price per unit to rise. In this manner a given funding reduction can produce a more-than-proportional reduction in net output. Very little of this sort of arithmetic is required to create a destructive impact on the capability of tactical air forces.

But there is another, far more damaging effect that derives from the combination of escalating technological costs and economic inflation. After a weapon system is purchased, its replacement cost increases under these twin pressures until in certain cases it becomes so high that later replacement of destroyed or damaged systems is not economically feasible. Thus the affected systems assume the status of national resources,

in that their unit replacement *costs* become disproportionately high in relation to the system's replacement *value*. Examples of aircraft that have attained this status are the C-141, B-52, and F-106; the F-14, F-15, and C-5 seem likely soon to join them. The net result is a perceptible hesitancy to commit the affected system to any combat situation where the risk of its loss appears high, unless U.S. vital interests are perceived to be at stake. Clearly there are a number of qualifications to this principle. Older systems generally grow to be regarded as expendable as they approach the end of their useful service life spans and follow-on systems take their place. Strategic systems, too, tend not to be affected by this phenomenon because they are, for the most part, expressly intended for use in support of vital interests.⁹

Yet consider the effects on tactical air forces: if the proportions of high- and low-cost systems are not balanced properly, there is a distinct possibility of pricing tactical air forces out of their primary role. Any noticeable reluctance to commit tactical forces in support of less-than-vital national objectives would produce a significant lack of credibility in the U.S. tactical deterrent posture. If suitable alternatives for the affected systems are unavailable for defense of less-than-vital national interests, the resultant gaps in tactical deterrent capability tend to invite coercion.¹⁷

the problem of continuity of effort

Because of the necessarily abstract and conceptual character of force structure design, it is relatively easy to lose track of the central issue in tactical force design: the need for continuity. U.S. tactical forces must be designed to provide a continuous and credible spectrum of military capability in sup-

port of national policy, a spectrum spanning the entire range between national economic sanction and the use of nuclear force. Thus national interests and national military capability can be viewed as parallel continua, related by the concept of deterrence. Theoretically, the primary goals of a policy of deterrence in the nuclear age are (1) to *prevent* conflict altogether; or, failing that, (2) to *contain* conflict at the lowest practicable level (thereby deterring escalation of conflict); or, failing that, (3) to *deter* all-out nuclear war.¹⁸ Deterrence, therefore, is as applicable after initiation of hostilities as before, and it remains an important and active concept along a continuum of conflict that parallels national interests and military capability. Practically speaking, such an argument makes a case for flexible tactical forces able to deter conflict or escalation of conflict on any level.

Gaps in tactical capability, however, may develop in several ways. As noted already, the problem of tactical economics can lead to a discontinuity at the lowest end of the tactical spectrum in the event that the least-expensive tactical options grow too costly. Allowing specific tactical capabilities to degenerate—either in terms of numbers of available systems able to provide a particular capability or in the design of follow-on systems—can produce an equivalent discontinuity at an intermediate level by requiring the use of inappropriate or prohibitively expensive weapon systems as substitutes. At the uppermost end of the tactical spectrum a third type of discontinuity may be caused through failure to match an improved enemy capability or technological breakthrough, thereby placing U.S. tactical forces at a qualitative disadvantage.

Any time such gaps are allowed to develop in U.S. tactical capability, the possibility exists for enemy coercion on corresponding levels of national interest. Lacking a response capability at the level of the coercive at-

⁹ However, the distinction between tactical and strategic air forces is becoming less distinct. A case in point is the use of B-52s in a conventional role when the bombing of Hanoi was resumed in December 1972.

tempt, the nation would be faced with a decidedly unpleasant choice: either accept the additional costs involved in escalating national military response to the next higher level of capability available in the national tactical inventory or simply allow the coercion to proceed. The grim relevance of tactical economics in this regard has recently been demonstrated in the fall of Cambodia. A significant factor in the decision to terminate U.S. military aid to the Khmer Republic was the expense involved. Saigon suffered the same fate for similar reasons. As for these latter types of gap, the Arab-Israeli war of October 1973 is perhaps the best recent example. The air arm of the Israeli Defense Forces (IDF), although vastly superior to its opposition by virtually every qualitative measure, was nonetheless limited in the total quantity of its resources. Faced with a numerically overwhelming Soviet-assisted Arab attack, Israeli Air Force leadership deliberately and characteristically chose largely to ignore Arab counterair efforts in favor of providing close air support to the Israeli army.¹⁹

Furthermore, the IDF had been slow to develop countersystems for Arab/Soviet (air defense) weapon systems which, as a result, proved so successful during this latest war.²⁰

The IDF lost a total of 115 aircraft during the 18-day war, including nearly one quarter of their tactical strike forces—losses they could ill afford.²¹ The Arabs, on the other hand, with the help of massive Soviet aid and materiel assistance, felt nowhere near the same proportional impact, although they suffered an exchange ratio that would make a rational man cringe.²²

From the Israeli point of view, of course, the October War involved national survival; accordingly, the decision to accept whatever losses would be necessary was a foregone conclusion. From the United States' position, however, the question of whether

or not to provide replacement airframes from among its own resources must have represented a far more difficult choice. More to the point, consider the United States' dilemma had it been the primary actor in an equivalent tactical situation where the issues at stake were less than vital. In either situation the resulting proposition is uncompromisingly straightforward: any time an enemy elects to test a discontinuity that has been allowed to develop in the spectrum of United States tactical deterrence, that nation must choose whether deliberately to escalate its response to compensate or to abandon whatever interests are involved.²³ An austere environment tends further to compound this sort of dilemma. It is conceivable that the element of choice may be taken away entirely; lead time/response time ratios are presently so great that the misjudgments and miscalculations of today may well prove impossible to recoup tomorrow. Such missteps must be anticipated early, so that timely action may be taken to prevent them. For tactical air forces in times of peace, this anticipatory responsibility logically devolves upon the long-term planning function.

So the argument has come full circle, from long-term planning through tactical economics to continuity of effort and back to long-term planning again. What seems to be required is an approach to tactical air force development that is at once broad enough in scope to include all three problems simultaneously and carefully balanced so that each is maintained in proper perspective relative to the other two.

Some Suggestions

Although the following considerations involved in the design of capable and effective tactical air forces are necessarily presented as relatively distinct sets of recommendations, each set interacts with the others to a

considerable degree. One must therefore take care to keep in mind that, like the problems to which they relate, these sets of suggestions constitute a system in the sense that a change in any one area affects the remaining two.

long-term planning considerations

In peacetime, advance planning constitutes the primary way of deciding what tactical air forces of the future should be and what they should be able to do. During periods of inaction, a coordinated, centrally directed program for progressive and systematic improvement of tactical air capabilities is vital. What is needed is an approach that centers around deriving maximum utility from our present force structure while preserving adequate research and development options for the uncertain future (essentially, Lewis-and-Clark planning). The ongoing dialogue between Tactical Air Command and the Army's Training and Doctrine Command is a firm step in the right direction. While the United States presently enjoys a significant technological advantage over its potential opponents, in order to maximize the positive effects of this advantage both developmental guidance and a performance yardstick are required. In the absence of actual warfare as a stimulus, a combination of conceptual thought, doctrine, and accurate threat analysis must be relied upon to supply both. Such an effort would necessarily involve the following specific considerations.

- First, a new approach to research and development is needed. To provide an adequate number of options, substantial funding of decentralized, across-the-board military research is essential.²⁴ Yet the United States cannot presently afford to pursue indiscriminately all of the options so provided. Should the adverse effects of

inflation, increasing personnel costs, and budget cuts on total military purchasing power remain uncorrected while our opponents' military expenditures continue to increase, the avoidance of duplication of development effort will soon become a matter of vital national concern. Under such circumstances, Department of Defense-wide coordination of the research and development efforts of the several services and civilian industry should be strongly advised. If, as was suggested earlier, the impact of diminishing funds is allowed to fall primarily on tactical forces, this sort of total interdepartmental coordination would be most critically needed at a tactical level. In anticipation of such a need, it would perhaps be prudent now to establish formal interservice coordination channels at Department of Defense level, designed to enable selection of the best products from among a wide variety of research efforts for further development. As such selection should properly be based on detailed threat analysis and the projected shape of future defense policy, appropriate intelligence agencies and national leadership should be included in the coordination process. Development of new capabilities with the inherent flexibility to meet a wide variety of potential threats could thus be systematically integrated with the advanced employment concepts under which they would eventually operate. Grand strategy, operational doctrine, and new equipment could be developed concurrently. If care were taken not to stifle creativity, such a procedure would be far more productive than the reactive adaptation of strategy and doctrine to a combination of political events and the results of an unguided research and development program. (Figure 2) If this new approach were implemented, the position that concepts, doctrine, and threat analysis would occupy in the developmental cycle is suggested in Figure 3.

• Second, great care must be taken to maintain technology in its proper relation to other planning factors. Although essential, technology is not a panacea. The best possible system in terms of present state of the art is ineffectual if the nation can afford to purchase only one of them. Conversely, outdated and noncompetitive systems are equally useless, no matter how great their numbers. Thus it is imperative to strike close to an optimum balance between quality and quantity so that future tactical air forces will combine individual

• Third, assurance of long-term consistency in tactical research and development is imperative. If necessary, sacrifice of some degree of present and short-term future capability must be accepted in order to insure adequate and continuous funding in this area.^o Such purposeful dedication to a relatively intangible objective will require considerable discipline on the part of planners and allocators of funds, but the importance of such consistency cannot be over-emphasized. Loss of U.S. technological supremacy spells defeat in far more certain terms than does a temporary deficiency in present tactical capability.

• Finally, greater emphasis must be placed on threat analysis and anticipation of probable enemy developments and capabilities. This emphasis should extend well into the area of opponents' military phi-

^o In particular, long-term commitment must be given to the area of alternate energy source research. Energy constraints are presently the greatest single limitation to the effectiveness of tactical air forces.

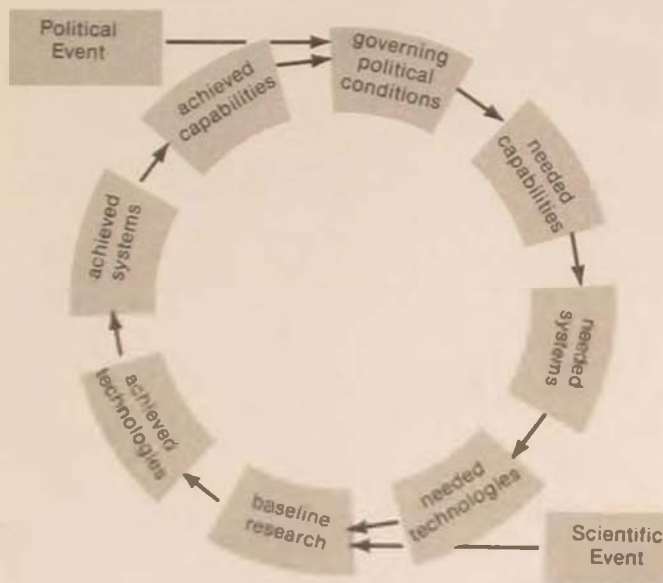
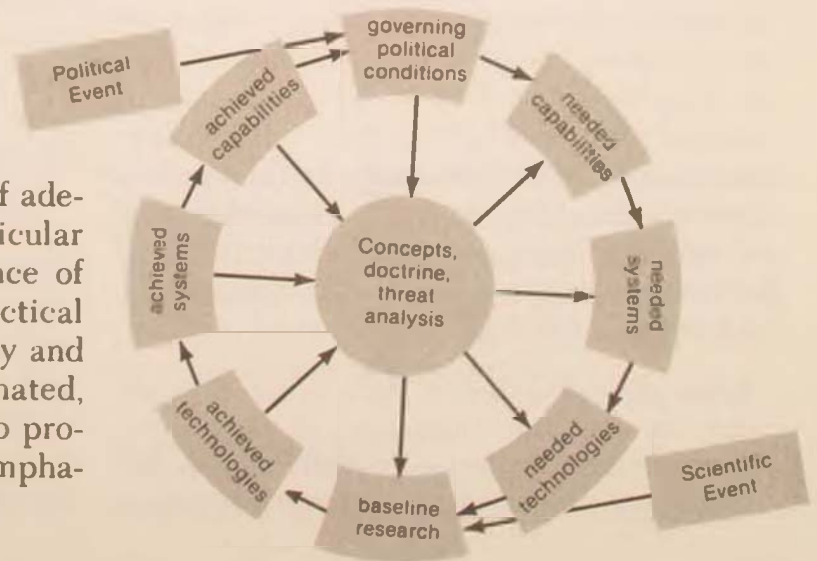


Figure 2 (left). Event-motivated cycle of cause and effect

Figure 3 (below). The place of concepts, doctrine, and threat analysis in the cause and effect cycle

system capability with the strengths of adequate numbers and efficiency. Particular care must be devoted to the avoidance of pricing tactical air forces out of the tactical arena. Such a balance between quality and quantity also requires coherent, coordinated, centralized control. Ongoing efforts to provide such control deserve increased emphasis and support.





"Tactical air force leadership should strongly advocate a maximum initial purchase of F-15 airframes."

losophy and grand strategy. In particular, attention should be given to understanding and taking advantage of the Soviet military decision-making process. As Secretary Schlesinger observed,

More allowance can be made in future work for the alteration over time of opponents' objectives and strategies (partially in response to our own moves) and for our own adaptation

to those anticipatable, if not predictable, changes in behavior.²⁵

If tactical threat analysts can become sufficiently adept at this adaptation process, perhaps the very way in which future tactical weapon systems are developed could be structured to produce costly and inefficient responses on the part of our opponents, thereby reducing their total military capa-

bility while preserving for the United States both initiative and a multioption national strategy.

tactical economics

As tactical forces have little advance indication of where or under what conditions they may be employed, necessity drives them toward more flexible capabilities. Yet the increasing scarcity of resources available to their operation, maintenance, and replacement dictates economizing. These conflicting requirements can only be resolved by creating a balanced force within which the individual elements are mutually supporting and play multiple roles. A wide qualitative and quantitative range of tactical weapon systems that reinforce one another can in fact produce a sort of synergistic effect where capability is multiplied by virtue of flexibility; this is the idea behind the HI-LO mix concept. At present this concept appears to be most promising. Care must be taken, however, to preclude the LO end of the mix from becoming so expensive or few in number that its employment in support of less-than-vital national objectives cannot be risked. From this basic consideration follow certain specific recommendations:

- First, tactical air force leadership should strongly advocate a maximum initial purchase of F-15 airframes. Despite its expense, it appears to be the only aircraft that has the performance characteristics and sophistication necessary to support the HI end of U.S. counterair forces, a consideration that more than justifies its price. The F-15 can be expected to remain competitive in the tactical air environment at least until the turn of the century (barring a major technological breakthrough), and the present opportunity to procure airframes is unlikely to recur. In view of the national economic and political climate, a 15- to

25-year retention of both the F-15 and the F-111 should be anticipated (again, barring a technological breakthrough).

- Second, with the HI end of the mix thus secured, the long-term area of concern should be LO-end capability, with the objective being several dependable, proven delivery systems that can be adapted as necessary to provide employment flexibility at moderate cost. (In effect, a state-of-the-art MiG-21. Perhaps the F-16 and the A-10 will be able to satisfy these conditions if their lifetime unit costs do not increase appreciably.)

- Third, expanded utilization of various exposure-reducing devices is advisable in view of increasing enemy air defense capability. Examples are standoff weapon systems, guided munitions, and improved target-detection devices.²⁶ The goal should be a night, all-weather, precision target-locating and ordnance-delivery capability. Not only can attrition be expected to be less under these conditions but the lack of such a capability constitutes a limitation to the employment of tactical air forces second only to energy constraints.

- Finally, overcommitment to any single option or scenario must be studiously avoided. Remotely piloted vehicles, airborne warning and control systems, remotely piloted re-entry vehicles, electronic countermeasures, and the improved navigation and communications systems presently in development—all should be employed in combinations to help increase total tactical air capability while keeping LO-end cost to a minimum. The central consideration for design and operation of tactical air forces must continue to be the maintenance of a credible, broadly capable deterrent force in spite of diminishing resources.

continuity of effort

At the risk of ending on a pessimistic note,

one must conclude that the question of how tactical air forces are to maintain a continuous and responsive deterrent capability has no easy answer. Discontinuities and shortfalls are inevitable when the philosophy of doing more with less is carried too far. To make matters worse, the United States has repeatedly exhibited a distressing tendency to rest on its technological laurels in military matters. Yet it would be a fatal mistake to relax and accept trends that appear inevitable, particularly in view of our opponents' greatly increased activities in recent years. Accordingly, the following

suggestions are intended not to provide answers but to serve as warning:

(1) The destructive effect of steady reductions in available resources may for a time be offset by such intangibles as skill, ingenuity, foresight, and perception. Thus a systematic effort to stimulate conceptual innovation at all levels of the tactical air force organization is indicated. Necessary adjuncts to such an effort would be the opening of new and meaningful channels of communication and use of advanced management techniques. Recent developments in the management field make such



a program seem entirely feasible. In addition to the many promising applications of systems analysis in technological forecasting,²⁷ at least one technique has already been developed that reduces creative generation of new concepts to an orderly and easily understood procedure, a procedure that can be taught in a classroom.²⁸

(2) Wars of the future are almost certain to become increasingly politicized with the passing of time while remaining essentially tactical in character. Victories will seldom, if ever, be decisive; at best they will be phase points in a larger international strug-

gle that incorporates elements of politics, diplomacy, economics, and ideology in addition to military power. Moreover, the future is likely to become conceptually oriented to an increasing degree—an environment characterized by subtle interplay of intangible forces, where wars may be won or lost without ever being fought. In such an environment tactical deterrence becomes a long-term consideration, requiring explicit allowance for such varied contingencies as attrition at various rates and under varying circumstances, enemy technological breakthroughs, and wars in several places simul-

"Remotely piloted vehicles [below, mounted for launching from a C-130], airborne warning and control systems [left], remotely piloted re-entry vehicles, electronic countermeasures, and improved navigation and communications systems . . . all should be employed in combinations to help increase total tactical air capability while keeping LO-end cost to a minimum."



taneously. These are challenging propositions, to be sure, but they must be faced squarely if U.S. tactical air forces are to remain a meaningful factor in the international equation.

(3) Tactical air planners and analysts must recognize that the central problem facing tactical air forces during prolonged periods of inaction and scarce resources does not consist merely of individual requirements and capabilities competing for meager funds but is instead the maintenance of a total, integrated, continuous tactical deterrent capability across the broadest possible spectrum of potential threats. Because the present military environment in the United States is austere, we cannot afford to spend even a small amount of our available limited resources in vain. In this world of accelerating change, parochialism equates to failure; let us not be guilty of building an aerospace equivalent of the Maginot Line.

TAKEN TOGETHER, the problems and suggestions presented in this analysis indicate the need for a radical change in national perspective. As was previously observed, the United States has an unfortunate history of complacency during times of peace, and it would be all too easy to forget that the *present* superiority of United States tactical air forces is the product of *past* commitment—a sustained and dedicated effort driven by a decade of continuous warfare. So to forget would be the gravest of errors. It is the peculiar nature of our rapidly changing world that actions taken today will determine the fate of the United States perhaps ten or twenty years hence. Consider-

ing present adverse military, economic, and technological trends in terms of this relatively long-term view, one could conclude that the outlook for United States tactical air forces is far from auspicious. Reversal of these trends will require articulate, logical, and convincing advocacy of a realistic long-term national security policy, one that explicitly recognizes the importance of tactical deterrence in the complex environment of international politics.

Such a profound change in national perspective cannot be accomplished overnight, nor can it be brought about by the efforts of Air Force leadership alone. In a very fundamental sense the fate of United States tactical air forces lies in the hands of those individuals who collectively comprise them. Those who are most intimately concerned with tactical air forces and who best realize the magnitude of the issues involved must themselves take the longer view and communicate it to national policy-makers and to the American public. Concurrently, these same individuals must undertake to sustain U.S. tactical air capability at the highest possible level, holding at bay the debilitating effects of inaction and austerity. It is a profound commitment and a heavy burden. Robert Frank Futrell expressed it well in his conclusion to *Ideas, Concepts, Doctrine*:

. . . men who believed and thought and lived in terms of air power were the makers of the modern Air Force. . . . Without a similar belief and thought and dedication to aerospace power on the part of the men and women of the modern United States Air Force, the future survival of the United States could well be in jeopardy.

Air Command and Staff College

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MANAGEMENT BY OBJECTIVES

Can It Be Used To Improve Management of Air Force Units?

MAJOR DAVID W. KRAHENBUHL

MUCH has been written about a management technique called Management by Objectives (MBO). MBO has been suggested as a management system by which to organize the sprawling bureaucracy of the federal government. Management by Objectives programs are presently being used in many corporations involving thousands of people and billions of dollars worth of assets.¹ This widespread use of MBO is causing more and more military managers to ask how this technique can be related to their own units and their management problems. Consequently, a relevant question for all Air Force managers has evolved: Can Management by Objectives be used to improve the management of Air Force units?

In my opinion, the answer is definitely yes. The purpose of this article is to substantiate the answer in detail.

What Is MBO? How Does It Work?

No wonder so many people are confused—Management by Objectives covers a wide spectrum of thought. When speaking of MBO, one person may be discussing a system to manage the federal government while another may think of MBO as the process by which an individual sets personal development goals. They would both be

right. MBO can encompass any goal-setting procedure, from a highly structured corporate profit-target system to an individual's unstructured career plan.

MBO defined

This article will use the term "Management by Objectives" to refer to a structured management technique of setting goals for any organizational unit. George S. Odiorne, in his book *Management by Objectives*, defined this concept as "a system of management whereby the superior and subordinate jointly identify objectives, define individual major areas of responsibility in terms of results expected, and use these objectives and expected results as guides for operating the unit and assessing the contribution of each of its members."²

Examining a few key words will ensure better understanding of Odiorne's definition of Management by Objectives. First, he points out that MBO is a "system of management," an overall framework used to guide the organizational unit and outline its direction. Then he points out that "the superior and subordinate jointly identify objectives"; in other words, it is a participative management procedure that requires commitment and cooperation. Third, the definition deals

with identifying the "results" that are expected; thus MBO concentrates on the output of the organization, evaluating people by assessing their contribution to this output.

the MBO process

To understand how MBO can be applied, it is necessary to look at the parts of the process. MBO can be divided into multiple steps in many combinations, but for the purpose of this article three steps will be discussed: organization objective setting, manager objective setting, and objective review.

Organization Objective Setting. This step requires the top managers of an organization to review the purpose for which the organization exists. In the military, this may require a review of the mission statement and a discussion of its meaning. This is an important requirement, for periodic review re-emphasizes the continuing need for the existence of the organization. With this mission in mind, the commander or supervisor and his staff must then set organizational objectives in areas where the unit will concentrate its efforts during the approaching objective-setting period. These objectives are (1) to provide direction to the entire organization and (2) to provide guidelines for subordinate-level managers to formulate their objectives.³ As a result of this organizational objective-setting step, Air Force managers should realize that a mission statement is a goal that defines the continuing purpose of an organization. That mission statement, however, does not define specific methods of accomplishing the goal stated. MBO helps formulate these specific methods that are necessary to accomplish the mission.

Manager Objective Setting. Each individual manager (e.g., OIC, NCOIC) in the organization must now determine the objectives for his shop or office. This procedure takes place in three general steps: identifying key

result areas, writing objectives, and negotiating with the boss.

First, the manager must identify the key result areas of responsibility that are assigned to this unit.⁴ In other words, just as the commander reviewed the whole organization in order to set organizational objectives, the manager reviews his part of the organization in order to set his objectives. It is important for the individual office or shop manager to identify the areas of his unit where most of the results are obtained. He will usually find that 20 percent of his area of responsibility will produce 80 percent of his results. It is important that he identify and zero in on these key result areas for MBO to be effective.

After a manager has identified his key areas of responsibility, he is ready to sit down and write his objectives. The main criteria that he should remember in writing objectives are that they should be specific, measurable, realistic, and results-oriented.⁵ They should be specific in that there can be no confusion about what is expected. They must be measurable for later accountability. They must be realistic but still challenging. The objectives should be results-oriented, concentrating on the output of the organization and not on its internal activities or procedures.

After the manager's objectives have been written, he enters the participative management phase of this technique. The subordinate manager sits down with his boss and they agree on the subordinate's objectives. This requires a realistic commitment on the part of both individuals. The agreement on the objective signifies the approval of the expected results (output) required of the subordinate. Progress toward these results can now be pursued by the subordinate until the requirement is reached or the goal is changed.

Objective Review. After the setting of objectives has been agreed upon by the of-

ficer or NCO manager and his boss, the stage is set for managing by these objectives. This managing process is the responsibility of the subordinate manager, and it is interrupted only by mutually arranged, formal review sessions with the commander. In other words, MBO requires that each individual have the freedom to perform a well-defined task without interference.

There are two types of objective reviews—intermediate and final.⁶ The purpose of the intermediate review is to determine progress and identify problems that stand in the way of accomplishing objectives. Most problems are not foreseeable at the time objectives are written; they appear only when action is taken to accomplish the objectives. The result of this intermediate session should be either to agree on a plan that resolves the blockage of objective accomplishment or to change the objectives.

The final review is to determine objective accomplishment. In this session the subordinate's objectives are reviewed for the entire period. In addition, the session concentrates on the renewal of the objective-setting cycle by establishing a basis from which to plan the objectives for the next period. The superior gains an additional benefit from this session since it provides him with inputs on which to evaluate the subordinate's performance.⁷ If the focus of the session is on the objectives and it does not break down into personal recrimination of the individual, then the review will be a true appraisal of performance, not personality.

Can MBO Adapt to the Military Environment?

Now that the MBO process has been reviewed, questions of specific, military application may still exist. An examination of the major issues in applying this process to

a military environment with military managers should help answer these questions.

authoritative vs. participative management

The military organization is developed on a framework of authoritative management. The Uniform Code of Military Justice provides the vehicle for a commander to take precise disciplinary action in situations involving his subordinates. Uniforms and ranks are always clearly visible to the subordinate, constantly reminding him of his position in this authoritative structure. Such examples are numerous, and each seems to indicate that an authoritative style of management would be the only style that could exist in this military environment.

However, the military manager accomplishes his mission like any other manager—by adjusting his style of management to a given situation. The vast variety of management situations in the Air Force naturally calls for different management styles, and today's modern, sophisticated leaders are adjusting to this need. For example, a fighter squadron probably would not be managed with the same techniques as a headquarters staff office. Thus it is recognized that, even though the Air Force functions within an authoritative framework, requirements for other management styles do exist and are being used. Therefore, a management style such as the participative style of MBO can be adapted to many of these military situations.

Definition of Output. Another major issue in applying MBO to a military situation is the definition of output.⁸ It may be argued that the ultimate output of any military organization cannot be quantified—How do you measure the utility of national defense? Even though the output of some military organizations cannot be easily measured, the requirement for objectives is still evident.

For example, a staff office responsible for formulating policy will have an ultimate effect on the mission, even though this effect is difficult to measure. This does not detract from the need to establish meaningful objectives. Such an objective might be to review a unit's training policy and to make any necessary changes within 60 days. By setting such a precise objective, definition would have been given to the unit's output.

Dynamic Atmosphere. One of the key principles upon which the Air Force is founded is flexibility. The ability to change and adapt is a key to the accomplishment of the Air Force mission. Can a management system of structured objectives exist in the dynamic atmosphere of the Air Force without reducing this flexibility? The answer is emphatically yes, because, in an environment of continual change, planning and direction become even more important than in other management situations. If these management techniques are not used, the situation soon deteriorates into one of strictly reactionary management. A reactionary situation, where managing is done by demands of the in-basket and telephone, completely ignores the results that are required of an organization. Furthermore, reactionary management gives little evaluation of the activities pursued and gives few indications of their importance to the output.

How Can MBO Be Implemented in an Air Force Unit?

It is evident, then, that the basic concept of the MBO technique is simple—deceptively simple. Implementing the technique is far from being simple. Organizational managers must be aware of some essential requirements of MBO to assure a successful implementation.

Setting the Mood. The most important ingredient in the implementation of a unit

MBO program is the creation of a subordinate-centered participative management atmosphere. Such an atmosphere must consciously and diligently be created by the boss. However, this does not mean that the boss relinquishes control of his subordinates. Participation is defined as "mental and emotional involvement of a person in a group situation which encourages him to contribute to group goals and share responsibility in them."⁹ This mental and emotional involvement does not usurp power from the chain of command.

Commitment: The atmosphere desired for MBO is built from mutual trust and commitment. Subordinates must be given the opportunity to formulate their own objectives. Objectives that are forced upon them by well-meaning bosses will not insure the subordinate commitment that is necessary to accomplish the program successfully.

Integrity: In addition, this atmosphere requires that there be complete integrity in the superior-subordinate communications regarding the formulation of subordinate objectives. There can be no changes of objectives or objective-measuring systems without the agreement of both the superior and subordinate. In other words, MBO dictates that there can be no surprises or misunderstandings about the original meaning of objectives when they are reviewed for accomplishment at the end of the MBO cycle.¹⁰

Education. Thorough knowledge of MBO theory and methods is ultimately important for all participants. If education is confined to a flashy handout or a superficial briefing, the MBO program will fail. Time and effort are needed to discuss the implications of the program thoroughly and to then practice the skills that are required. Objective writing, objective setting, and objective reviewing all demand a learning process and a practice session before application to a real situation. All of this takes

time and trouble. Even though the demands of MBO education are taxing, commitment to thorough knowledge and training for the entire unit will be rewarded in time saved and results achieved in the operation of a successful Management by Objectives program.

Administration. Assistance must be available during the implementation of the program. Air Force managers are already busy, so the administrative procedures of the program must be kept to a minimum.

MBO Monitors: Young officers with recent management training could help administer the program by filling the role of MBO advisers or specialists. Operating at various levels within the organization, they could monitor and coordinate the entire program. Since one of the most important elements of efficient administration of an MBO program is adhering closely to the time schedule, these specialists could assure that the commander's agenda was met by all participants.

Minimal Paperwork: Objectives are a personal agreement between superior and subordinate; no one else needs a copy of these objectives. In fact, the objectives may be handwritten. Managers should not get caught in the usual red tape of administration.

Few Objectives: One of the best ways to keep administration procedures to a minimum is to concentrate only on a few objectives. Remember that objectives are improvement goals and should not be formulated for each routine responsibility; objectives should concentrate on the key results desired.

Length of Time To Implement. Implementation of this management procedure will require patience from the commander. Overnight results are not to be expected. It takes several MBO cycles to firmly establish this program and in some cases to produce realistic objectives. Implementation

time varies, depending upon the degree of change required in the supervisor's management style, the difficulty of creating the participative atmosphere, etc. Patience and commitment to MBO will be needed.

Changing the Guard. What happens when one or more of the top supervisors are rotated? MBO can actually be a benefit in this situation. New supervisors should be required to operate under their predecessor's objectives for a few months until they get their feet on the ground. Then, after they are properly trained, they can sit down with the boss and negotiate their own objectives. This procedure promotes continuity within the unit and cuts down on the "new regime" concept.

Tailor-Made Management. One of MBO's principal advantages is that it can be tailored to fit units of different sizes and compositions. Exactly how the program is designed is an individual decision, depending upon a unit's circumstances.

For example, one decision to be reached is the frequency of objective reviews. The time between review sessions will depend on the dynamics of the management situation. The greater the potential for changes in the management environment, the shorter the review period will need to be. Quarterly reviews appear to be ideal in many management situations, although some military managers feel that monthly reviews will be required for their particular organization. As with all other aspects of MBO, one may choose the most pragmatic approach to fit his unit situation.

Human Relations Problems. The implementation of MBO will meet with the normal resistance to change that greets any new proposal. In addition, probably the most serious problem that the manager will face is the feeling from some subordinates that MBO is a manipulative device. These subordinates will feel that MBO exists to demand greater output from them. If the

superior is insensitive to this reaction and does not dispel it in the objective-setting session, then he can only expect low-performance objectives from these individuals.

Where To Begin. At what level of the organization does MBO start? The answer is at any level. The only requirement to start an MBO program in a specific unit is agreement with the boss.¹¹ There is no demand that any other level above the initiating office implement a program first. If all higher military echelons need an MBO program before the lower level unit can begin, the program will be greatly delayed. MBO can really be started at any level within the organization.

WHAT ARE the real advantages of Management by Objectives in an Air Force organization? First, MBO improves planning. It requires that an organization and its supervisors think ahead. Second, it directs the activity of the organization toward the desired output. MBO ties the individual efforts of the unit's personnel to the defined objectives of the organization. Third, it increases communication within the organization. It requires that the superior and the subordinate periodically discuss their prog-

ress toward obtaining desired objectives in key areas of responsibility. A fourth advantage lies in the fact that Management by Objectives aids in the performance evaluation of individual supervisors. This technique concentrates on performance criteria for evaluation rather than on behavioral trait criteria.

Even with these advantages, MBO must be examined realistically. This technique is not a panacea for all management ills; it will not solve all of management's problems. In addition, successful MBO implementation is not easy. It requires that the manager understand sophisticated, modern management theory. He must be able to create a participative management atmosphere within his organization in order for MBO to operate. MBO definitely requires commitment from the participants. Conclusively, MBO is a welding technique that joins personnel-centered management to results-centered management.

Considering these elements, can Management by Objectives be used to improve management of Air Force units? The author's answer is yes, but the ultimate answer to that question can only come from Air Force managers.

Air Command and Staff College

Notes

1. "EPD Leads the Thirteen 'Most Popular' Management Techniques," *Administrative Management*, June 1973, p. 25.

2. George S. Odiorne, *Management by Objectives* (New York: Pitman, 1965), p. 55.

3. Peter F. Drucker, *The Practice of Management* (New York: Harper and Row, 1954), p. 63.

4. G. I. Morrisey, *Management by Objectives and Results* (Reading, Massachusetts: Addison-Wesley, 1970), p. 21.

5. Pamphlet, AFCMD 178-2, "Management by Objectives/Results" (Kirtland

AFB, New Mexico: AFCMD, 30 August 1974), pp. 3-5.

6. Stephen J. Carroll, Jr., and Henry L. Tosi, Jr., *Management by Objectives, Applications and Research* (New York: Macmillan, 1973), p. 89.

7. *Ibid.*, p. 112.

8. Keith Davis, *Human Behavior at Work*, 4th ed. (New York: McGraw-Hill, 1972), p. 136.

9. AFCMD 178-2, pp. 3-15.

10. Richardson J. Johnson, "Management by Objectives—a Proven Method of Reaching Agreement," *AF Civil Engineer*, August 1973, p. 15.

11. *Ibid.*

We fight, get beat, rise, and fight again.
GENERAL NATHANAEL GREENE (1780)

Struggle, get defeated, struggle again . . .
MAO TSE-TUNG (1960)



SURPRISING VIEWS FROM THE FAR EAST LEFT

BRIGADIER GENERAL NOEL F. PARRISH, USAF (RET)

This is one of a series of commentaries on theories and assumptions that dominated American military policy during the 1960s. The first of the series appeared fourteen years ago in the *Air University Quarterly Review*. With only two exceptions, all have been published in its successor, the *Air University Review*. Most of these commentaries were based on books selected by the *Review* Editor.

Some of the books that served as the basis for these essays, such as *The Troubled Alliance* by the then obscure Dr. Henry Kissinger, have become landmark volumes in the history of our troubled years since 1960. The most recent and lengthy review of the military policies of the period was based on *The Roots of War* by the increasingly prominent radical writer and researcher Richard J. Barnet.

Within these somewhat bookish commentaries, my views, experiences, and conclusions were carefully mingled with those of other writers. This was a successful maneuver to avoid the heavy censorship of military opinion that began in early 1961 with the suppression, for several months, of an entire issue of the old *Quarterly Review* which had previously been cleared for publication. Despite the obvious handicaps resulting from such censorship, and occasional penalties, there were advantages. The difficult form of the book review-essay required the citation of various sources of information and opinion, some of which were disagreeable. The practice of exam-

ining a variety of sources continues to be useful, even in the relatively free atmosphere of today.

Several years have passed since emancipation from doctrinal orthodoxy, yet we remain muted by a pall of discouragement that covers the memory of our fatally compromised efforts in Vietnam. The few who have attempted an examination of our recent failures as the first step to a more fortunate future find that their work arouses little interest. Never was there greater need for research and analysis of military policy or less inspiration to perform the task. Nonetheless, since the lessons of failure can be as useful as the memory of success, all clues to understanding, from whatever source, must now be considered.

At this moment we may find the most useful as well as the most disturbing revelations among the voluminous writings of a few dedicated radicals who have dug diligently among the ruins and records of our once grandiose plans. As they tirelessly exhume the doomed hopes of our late leaders, they are often as keenly analytical as experienced accident investigators at the scene of a still-smoking crash.

N. F. P.

OF OUR numerous academic radicals, a few have achieved distinction for their thoroughness in diagnosing our recent military maladies and relating them to pressures at home and abroad. Among them, Professor Franz Schurmann of the University of California at Berkeley is the best informed and perhaps the most talented. His recent book, *The Logic of World Power*,† is as ungainly as its title, but its disorganized content, once digested, proves him a master dissectionist of our suffering souls. Beside him, the McNamara apologists who concocted the Pentagon Papers were but clumsy amateurs.

Schurmann seems to have combed with his teeth the massive twelve volumes of these papers over a period of at least two years. He was pushed into this labor by an editor who first asked him to write a less-lengthy analysis and then rejected it. Schurmann readily admitted that the subject matter was too complex for such arbitrary and shallow interpretations as had been inflicted

upon a wary public. His knowledge of the internal power struggles of China made him curious about those of the Pentagon and White House, and he went to work with a sort of Asiatic detachment.

It is not necessary to agree with Schurmann's rather foreign political notions to appreciate the depth and breadth of his research. It was not confined to the Pentagon Papers but extended to numerous "right-wing" and military writings as well as Asian and especially Chinese sources, in which he is a recognized scholar. Unfortunately for his readers, Schurmann is Professor of Sociology as well as of History. He accepts some of the disciplines of history and shows respect for facts and events, but he roams all too freely over the unfenced field of sociology. Most reviewers, even among his radical cohorts, chose the easy way out by questioning his theories and ignoring his sometimes tedious but often convincing analysis of many inescapable facts.

† Franz Schurmann, *The Logic of World Power: An Inquiry into the Origins, Currents, and Contradictions of World Politics* (New York: Pantheon Books, 1974, \$15.00), xxvii and 593 pages.

Reading the book is recommended only to those who can spare a fortnight. Instead, reading the following capsules is suggested, along with the pages indicated for those who are curious as to Schurmann's supporting arguments or data. The capsules are assembled under headings in the form of questions. Quotes are used liberally because Schurmann's wording is often skillful, and some statements are so unexpected that they should be read as written. For simplification, the nonquotes are summaries of Schurmann, while my comments that are otherwise unidentified are set in italic type.

Why Were the Pentagon Papers Written?

This question is usually evaded by citing "history" as the motive, but the Papers are as much interpretation as history. It has been said that Secretary McNamara inadvertently "bugged" himself with documents instead of tapes. One theory, previously mentioned in this series, has them authorized originally for selective use in an expected campaign for the presidency which would involve members of the Kennedy family and possibly McNamara himself. While Schurmann mentions no such motivation, some of his comments are interesting in that connection.

"The study [*Pentagon Papers*] does not report on the actual operations of the [covert warfare] units during the Kennedy years," and the Papers are "exceedingly murky about the period just before and after the Kennedy assassination." (pp. 454, 455)

One section of the Papers is devoted to recurring plans for "phased withdrawal" of some of the more than 15,000 advisers introduced under Kennedy. That such plans indicated a move toward disengagement by Kennedy is "simply the opinion of the author of that section of the *Pentagon Papers*." All withdrawal plans were accompanied by plans for the introduction of more American planes and air personnel. (p. 447)

One "deep, dark secret was not openly talked about even in the secret *Pentagon Papers*," though it was announced by the North Vietnamese. This was McNamara's removing the Pacific commander in Honolulu from the chain of command and trying to run the war directly from Washington, making it for a while "McNamara's war, . . . politically, bureaucratically, and organizationally." (pp. 469-70)

"McNamara's entire policy within the Defense Department was designed to contain the military, and centralizing control in his own hands was his means of doing that. . . . The *Pentagon Papers* are his story, with the exuberant period of 'McNamara's War' played down and the later periods of disenchantment highlighted." (p. 476)

"The *Pentagon Papers*, one must remember, were commissioned by McNamara as a history of the war from his perspective. That perspective, by and large shared by the authors, was that of the office of the Secretary of Defense, . . . The Papers basically try to explain the presidential policy of securing South Vietnam through American ground combat troops." (p. 475)

Did Military Leaders Advocate American Ground Forces for Vietnam?

*Most "explanations" of the *Pentagon Papers* represented them as loaded with immoral schemes and rated "X" also for violence. Little distinction was made between military and nonmilitary performances in the totally evil drama. Schurmann is more perceptive.*

The top-level and decisive Honolulu conference of early June 1964 was more thoroughly reported in the press than in the *Pentagon Papers*, which are confused as to the date. The Papers do record, however, that both the Commander-in-Chief, Pacific, and the Commander, Military Assistance Command/Vietnam, (General William West-

moreland) opposed an increase in the number of military advisers in the field. A principal reason for their opposition, which was overruled, was "the inevitable increase in U.S. casualties." (p. 485)

In November 1964 "The JCS [Joint Chiefs of Staff], for their own reasons, sought to avoid a commitment of ground forces to Vietnam and argued instead for punitive air and naval actions." (p. 434) *This statement is quoted directly from the Department of Defense edition of the Pentagon Papers, IV.C.A.(c), p. 37. Note the typical editorializing in the curt phrase "for their own reasons."*

The purposeful nature of the Pentagon Papers is displayed in comments on the almost forgotten first movement of combat troops to Indochina during the Laos crisis of 1962. The deployment of some thousand American troops to the northern Thai border was proposed by Averell Harriman and Roger Hilsman (later noted for their successful promotion of the Vietnam generals' plot that resulted in the killing of Diem, a project against which even McNamara rebelled). The Papers say committing these troops "was met by exactly the opposition from the Pentagon that had been expected." (p. 434)

"In haste, in secrecy, and in great privacy" President Johnson made his great decision. On April 1, 1965, he endorsed "the concept that U.S. troops would engage in offensive ground actions against Asian insurgents." (p. 491. Pentagon Papers, IV.C.5, p. 59.) The Navy and Air Force were against it. Even CIA director John McCone was against it, and he was replaced. "For all their service to Johnson [in public support for his decisions], it is unlikely that any of the Army generals (Wheeler, Harold Johnson, Westmoreland) played a major role in persuading him to commit troops. . . . Johnson's most probable confidant on the April 1 decision was Dean

Rusk." One week later a Johnson speech proposed a vast new foreign aid program for all of Indochina including North Vietnam. This was in the "finest tradition of the containment current." The speech also implied that "Moscow could or should put pressure on Hanoi to accept American terms, a line espoused by Rusk. The carrot held out a little over a month later was the bombing halt, and the corollary of that was an intensive ground effort to secure South Vietnam." (pp. 496-97)

There was no heavy pressure of any kind to send in troops. "In fact, Maxwell Taylor, whose military theories would normally have predisposed him toward a direct American combat role, underwent a notable shift to the right after his arrival as ambassador in Saigon. He became a forceful advocate of will-breaking bombing of North Vietnam and opposed the introduction of United States ground combat troops." (p. 491) The Pentagon Papers state he "had been bombarded with messages and instructions from Washington testifying to an eagerness to speed up the introduction to Vietnam of U.S. and Third Country ground forces and to employ them in a combat role, . . . Taylor's ill-concealed annoyance at these mounting pressures and progressively more radical proposals changed to outright anger and open protest. . . ." (p. 492) "Taylor was ousted in July 1965 and replaced by the old anti-Diemist Henry Cabot Lodge." (p. 496)

Why Did Kennedy, Johnson, and Their Nonmilitary Advisers Insist on Ground Combat Troops for Vietnam?

To those who were not aware of it at the time, the Pentagon Papers reveal American strategy in Vietnam to have been an indecisive "tug-of-war" between those who advocated increases in American manpower on the ground and others who would have made greater use of air and sea power. This

appeared to be a military disagreement, but we have seen that it was not and that it was rather a dispute between military advisers and civilian advisers to each president. Schurmann finds that each President shifted more and more toward his civilian advisers for reasons that were political and ideological rather than military. Yet it was not basically a civilian versus military issue. Many civilians formerly in government, such as those who worked with President Eisenhower, had agreed with the military all along. Schurmann calls these men "rollback right-wingers" and associates them generally with conservatives and Republicans. Naturally, they were not to be found in Democratic administrations. On the other side were the "containment liberals," who believed not in "rolling back" or blunting Communist power but rather in containing it through the use of ground forces. Aircraft, which might cause "escalation" were to be employed only in a supporting role. The containment liberals also believed, along with most public and media opinion at the time, that the nations we supported in their resistance to Communist expansion should and could be pressured into becoming politically "progressive" and "liberal." Schurmann's analysis of the failure of this ideology is lengthy and involved, but occasionally it is incisively expressed.

"Sending in those troops gave Washington control over South Vietnam, which is what the old New Dealer Johnson wanted as much as the New Frontiersman Kennedy." (p. 446) The alternative to relying on President Diem in Vietnam was to introduce troops and enforce military, political, and economic reforms "that the Kennedyites were convinced would lead to drying up the insurgency." (p. 446) "The same idealism that created a welfare imperialism gave rise to a war imperialism." (p. 562) ". . . no centrists tried as vigorously and daringly to carry American imperialism throughout the

world as the Kennedyites. The right was, strange as it may sound, anti-imperialist." (p. 440)

"Eisenhower was never enamored of all the talk about limited war" and "he tried to keep containment-type troop commitments to a minimum in East Asia." (pp. 290, 439) Since the Army was "the most liberal and democratic of the services" (p. 289), in the late 1950s "a kind of alliance arose between the Army and the liberal Democrats in Congress. Symbolic of this was the growing friendship between Maxwell Taylor and John F. Kennedy. . . . Taylor's notions of limited war presented in *The Uncertain Trumpet* eventually led to Kennedy's grand schemes for dealing with insurgencies. . . ." (pp. 289-90)

"Kennedy knew about the Stilwell episode in China and concluded, like most liberals in the 1960s," that if Stilwell's proposed reforms had been carried out the Communists might not have won. Barbara Tuchman's book on Stilwell "makes Vinegar Joe's commitments to Kuomintang reform seem so progressive and Chiang, backed by American right-wingers, so reactionary." Few reviewers of the book noticed the striking similarities between Stilwell's recommendations for Chiang and "what the Kennedyites advocated for Diem. . . . Maxwell Taylor was straight in the Stilwell tradition, and while in the 1970s he has assumed that reactionary character common among many cold war liberals, in the 1960s he was hailed as a progressive addition to the Joint Chiefs of Staff." Regardless of what Stilwell's program might have accomplished in China, the sending of half a million troops to Vietnam had tragic consequences. "The Army's failure in South Vietnam was, in the end, containment's failure." (pp. 445, 500)

***What Was the Army's Role
in the Various Strategies of Vietnam?***

Of the separate attitudes of the three services

toward the Vietnam actions, the Army's was the most ambiguous. Although beguiled at first by Taylor's vague predictions of "brush-fire" wars, which were not supposed to become "conventional" wars, most Army leaders remembered Korea and opposed a combat role for U.S. ground forces in Vietnam. Kennedy and McNamara had to make it clear, as Maxwell Taylor has reported, that military promotion and enthusiasm for counterinsurgency were inseparable. For this and other reasons, Army leaders who rose in prominence came to advocate an increasing ground force role in Vietnam. Johnson made General Westmoreland a personal confidant, as we shall see, until after the Communist Tet offensive. When the General requested more troops than the Congress would support, the President relieved him.

"The most primitive explanation for the Army's enthusiasm about limited war is that since its role in modern warfare appeared to be declining, it had to find a new role and mission, and limited war fitted the need. . . ." (p. 289) "In the spring of 1965, the Army was the least of the three services. Since what counted in interservice rivalry was sophisticated hardware, the Navy and the Air Force had a virtual monopoly, . . . Vietnam gave the Army a chance. . . . And what better way of delivering air power than through helicopters, the Army version of air power (all three services were preoccupied with air power)." Johnson was fearful that Navy and Air Force proposals might bring on World War III, so "Westmoreland became Johnson's instrument in Vietnam. What McNamara tried to do in March 1964, make the war Washington's not Honolulu's special preserve, now became a reality based on a personal tie between Johnson and Westmoreland as well as direct MAC/V-Washington chain of command links." (p. 496)

Few had suspected that Johnson would

see no other way out of the dilemma "than to launch a ground war which no one wanted except for a few none-too-bright Army generals." (p. 491)

"Westmoreland's tactics of using infantry to make contact with the enemy but moving back fast so that air power could go in for the kill seemed to make the morale factor of the infantryman less important. Unmotivated South Vietnamese could carry rifles as well as unmotivated Americans." (p. 537)

By mid-1966 it was apparent "that the United States Army could not bring back the coonskin" as Lyndon Johnson had hoped, so Navy and Air Force commanders argued for air strikes. Phuc Yen, the lone air base for Migs in North Vietnam (and a name seldom distributed by media in the U.S., no doubt for fear of mispronunciation), was finally bombed, and the "carrier *Enterprise* began to steam into the Yellow Sea." Then came the Tet offensive. It was not all the Viet Cong had hoped for, but it flattened American resolve. (p. 523) "But giving Westmoreland more cannon fodder" would have meant calling up the reserves, which required congressional support, and "the effect in a presidential election year would have been disastrous." (p. 526)

On a visit to Hanoi, with State Department approval, in early 1968, Schurmann learned that while the North Vietnamese had not been at all impressed by the bombing halts they agreed to negotiate because Westmoreland had been "purged." In the Communist world purges always meant a change of policy. (p. 528)

"What failed so miserably and drastically was the helicopter, so much so that the United States Army has quietly abandoned its once vaunted helicopter-based battle tactics." The National Liberation Front managed to shoot down thousands. "In the latter years of the war, particularly after the great helicopter defeat of the Laos invasion of spring 1971, safer forms of air power

were used, culminating in the use of milk-run B-52 missions to carpet bomb the enemy in rice paddies. What an ending for the mighty B-52, designed to give America supreme security with its capability to take out Russian cities and missile sites!" (p. 501)

What Was the Air Force Role and Presence Over the Far Eastern Scene?

Neither the Washington staffs, the Pacific headquarters, nor the action in Vietnam were commanded by the Air Force; yet its presence and its actions had a subtle but powerful impact during the Vietnam phase of the America-China-Russia confrontation around the periphery of the two great Communist nations. The Air Force responsibility for developing and deploying nuclear weaponry continued to support America's declining weight in the global balance of power. The transfer, and threatened transfer, of intermediate-range nuclear missiles into less-cautious Allied countries had an amazing long-range effect, which Schurmann is able to explain from the standpoint of Communist reaction. Even more interesting at this moment is Schurmann's recognition, based on opposition sources, of the effectiveness of the ultimate bombing attacks against North Vietnam once they were directed as they might have been directed all along.

Major shifts in the policies of the great powers since 1945 have all been related to progress in nuclear weaponry by one or more of these powers. "Nuclear subjects are taboo in America, Russia, and China because they affect the most sensitive areas of national security policy." (p. 304) "Practical arguments about the waste of 'overkill' are irrelevant inasmuch as what counts is the relative balance of forces between America and Russia." (p. 190)

"We know from the Pentagon Papers that it was established politico-military doctrine that if Chinese forces should enter

Southeast Asia en masse, America would respond with (tactical) nuclear weapons, as it was prepared to do in Europe against Russian ground forces." (p. 514) *Schurmann may not be aware that Maxwell Taylor announced this policy early in 1961 at the State Department in a "nonattribution" meeting with the Washington press corps. This second nuclear dam against overwhelming Communist ground forces, announced so early in the Kennedy administration, would hopefully "shield" U.S. ground forces in Asia, exactly as was already the case in Europe. Ironically, the deployment of ground forces into Indochina was to be made practical by the same implied nuclear threat against China that was used nearly a decade earlier by President Eisenhower to bring about a truce in Korea. Again in the early sixties, as in the early fifties, the Chinese took seriously a nuclear threat, perhaps for the last time. This was not because of Secretary Dulles's overdebated "massive retaliation" speech following Korea but because of a small nuclear deployment in the late fifties, which was little noticed in this country where it is the fashion to pretend that nuclear weapons are not dominant.*

In May of 1957 the Pentagon announced the movement to Taiwan of an Air Force detachment of Matador guided missiles, nuclear-capable and with a reach of some 600 miles. To American newsmen this had no great significance, but to the Chinese and especially to Mao it was a staggering event. Mao was doubly disturbed, first by the fear that Chiang Kai-shek on Taiwan might somehow bring about their employment, and second by the fact the junior Air Force officer commanding the small Matador unit was in turn commanded by a Navy captain who soon came directly under Admiral Felix Stump of the new Pacific headquarters in Hawaii. This was "a matter far different from the known and accepted

threat from the Strategic Air Command. . . . at least its command and control structure was clean and linked directly to the White House." (pp. 269, 271, 297)

The Matadors on Taiwan and the Navy-commanded headquarters in Honolulu, along with some rather secret American missiles emplaced in South Korea, made 1957 a most uneasy year for the Chinese Communists. After a policy crisis, they decided the U.S. was at least as dangerous to their future as the Russians. Swallowing his pride, Mao in Moscow accepted the Soviet Union as the "one head" of "the Socialist camp" and asked for aid in developing his own nuclear weapons. Since Britain had just developed nuclear weapons, why not China? Khrushchev, confident in his newly demonstrated ICBM superiority over the Americans, sent technicians to China. (p. 286) Just two years later the Russians reneged and called their technicians home, thus alienating China and forcing Mao to proceed on his own. In five years he succeeded, and Khrushchev fell from power on the same day.

Other events leading to the great Russia-China schism began in the same fateful year, 1957, that saw the Matadors arrive in Taiwan. A nuclear project in Europe was similar except that this time the missiles never arrived. Secretary of State Dulles frightened the Russians by suggesting intermediate-range missiles for the German government of tough Konrad Adenauer. The Russians responded as usual by threatening moves, such as the Berlin crisis of 1958, then shifted toward détente and the meeting between Khrushchev and Eisenhower in 1959. In the end Germany received no nuclear missiles, and China received no more nuclear aid. Four years later Mao sent two emissaries to Moscow, one of whom is his present heir-apparent, but they failed to dissuade Khrushchev from signing the Test Ban Treaty. "Putting IRBMs in

Western Europe turned out to be a drama in Dullesian brinkmanship which actually worked in the long run." (pp. 268-69)

The "containment liberals," however, tried to achieve by the deployment of ground forces what Dulles had achieved by the development and deployment, or threatened deployment, of nuclear delivery capabilities. "The containment liberals failed to realize that there was a difference between a nuclear balance of power that involved only a nuclear arms race (dangerous as that was) and one that involved the territories of countries. . . . Containment liberals implied that American forces stationed abroad would make the leaders of foreign countries more 'responsible' and susceptible to American control." But "political influence can go both ways." The liberals have ridiculed the Russian and Chinese habit of reading American right-wing and military journals. "They maintain that the right-wingers are not in control, that they do not make policy. Indeed, it has been the containment liberals who, by and large, have made policy in Washington. But policy and operations are not the same thing, and policy itself is not always what it appears to be. For the Russians and the Chinese, the American right wing was a political faction," and sometimes "they were convinced that the pendulum in Washington was swinging rightward toward a more aggressive stance on the world scene." (pp. 297-98)

This may be the best answer yet to the puzzling question of why deterrence has worked, up to now. Hopefully, military and "right-wing" journals will continue to be disturbing, and the more pleasant dreams of self-limiting "brush-fire" wars—such as The Uncertain Trumpet "which Mao Tse-tung read with considerable interest" (p. 267)—will no longer be distributed to chief executives, especially our own.

America's nuclear lapse began in mid-

1966, when the Russians accelerated missile production, and the reaction was moderate because of heavy commitments in Vietnam. (p. 505) President Johnson met with Kosygin in New Jersey to seek a missile agreement but got nowhere. Kosygin would talk only about Vietnam and the Middle East. The Russians needed the missiles to compensate for moving substantial forces eastward to an unfriendly Chinese border. (p. 507) Forced to accept a weakening deterrent posture against Russia and mindful of the growing Chinese capability, Air Force planners in the late 1960s shifted their concern toward East and Southeast Asia just when President Johnson, beginning to despair of accommodation with Russia, shifted his hopes toward seeking agreements with the Chinese. (p. 518 ff.)

Some months after the event, there was a report from French diplomatic sources that in the spring of 1966 "Peking had transmitted three conditions to Washington for remaining out of the Vietnam war: that America not attack China, that it not invade North Vietnam, and that it not bomb the Red River dike system." A short time later Johnson and other high officials indicated in public speeches their agreement with such conditions. (p. 515) This understanding meant the end of the bipolar world. China's nuclear progress would not be stopped, and Mao would not intervene in Vietnam. The Chinese army would be available as a shield for Mao during his internal revolution against other leaders of the Chinese Communist party. (p. 521) President Johnson forlornly hoped for an agreement with Russia on nuclear weapons and Vietnam. Apparently he was ready just before the Democratic convention to fly to Moscow, return as a successful "peace President," and gain nomination. "The Russian occupation of Czechoslovakia dashed that hope." (pp. 529-30)

Despite all inhibitory understandings with

China, which blocked any "military plans to reduce North Vietnam to ashes, or to mud puddles, as Goldwater proposed," (p. 558) the Air Force ultimately performed its basic mission. In late March 1972, after Nixon's visit to Peking, the Communist forces launched a powerful attack against the South Vietnamese. "In response, Washington unleashed the most ferocious air bombardment in human history." *This ridiculous statement is one of Schurmann's rare exaggerations. His following admission is more important (emphasis added): "That bombing alone enabled the ARVNs to holdout defensively in places like An Loc and to recapture Quang Tri City. . . . and then, early in 1973, a ceasefire was signed.*

"As the ceasefire went into effect, the clouds of Watergate gathered in Washington. In mid-April 1973, when it seemed as if the air war might again be unleashed against North Vietnam, the storm broke. As government in Washington became paralyzed, only the ferocious bombing of Cambodia continued. . . . it was apparent . . . that Watergate marked a turning point. . . ." (p. 559)

What Was the Influence of the Navy and Its Doctrines during the Indochina Crisis Period?

The Navy's roles in the Indochina war included its various functions normal to a major nonnaval war, but its influence on decisions was much more evident than during the Korean War. This was due principally to the key positions of the several admirals who commanded the Pacific theater and later to the prominence of Admiral Thomas H. Moorer. Schurmann mentions this influence repeatedly, and he is especially disturbed about the "ferocious" admirals and their continued emphasis, until very recently, on China as the major threat.

"From the perspective of the 1970s,

when the United States Navy is the dominant service, it is hard to remember that until the Vietnam war, the Navy saw itself in a loser role." (p. 490) The Navy could not qualify for a major role in nuclear deterrence until smaller bombs were developed. In the interim Admiral Arthur W. Radford in Congressional testimony strongly attacked both the "immorality" of nuclear weapons and also the designation of Russia rather than China as the principal threat. This "admirals' revolt" against nuclear deterrence came just two weeks after Russia's first (1949) atomic explosion. After the unpopular Korean War the Navy, again paced by Admiral Radford, shifted toward advocacy of massive retaliation, only to prefer the selective delivery of small tactical weapons for Dien Bien Phu and after. (p. 289)

By 1957 the Navy began to go along with *The Uncertain Trumpet* in its advocacy of quick reaction against "brush-fire" wars, with added emphasis on tactical strikes from fast carriers. Preparation for limited wars, the likely extension of "Taylor's 'brush-fire wars,'" became much more acceptable to the Navy when it appeared that such wars might be fought on the oceanic periphery of Asia rather than in Europe. (pp. 270-71)

For decades the Navy had seen China, rather than Russia, as the greatest threat to the Western World because it served as an oceanic outlet for Asian communism. "While all United States military leaders held hostile views about China, none matched in ferocity those of Navy admirals." (p. 273) Communist China's leaders, especially the well-read Mao and his supporters, were just as concerned about the Navy. Yet, in the early 1960s, "The Navy's geopolitical views were contemptuously disregarded by the civilian defense intellectuals. Geopolitics was out of fashion and game theory was in. Moreover, they smacked of right-wing fanaticism." The Navy managed to expound

its views in seminars and journals, "but the dominant tone was set by the defense intellectuals with prestigious Ph.D.s who clustered around the office of the Secretary of Defense." (pp. 424-25)

Through the Vietnam war the Pacific naval commanders, Admirals Stump, Felt, Sharp, and McCain, boldly joined with the Air Force and often the Army in urging more effective air strikes against North Vietnam, usually to no avail. From mid-1964 to early 1968, "Invariably the President would be presented with three 'options' (a hawk one, a dove one, a middling dawk one, . . . The middling option was invariably chosen, . . ." (p. 487) Admiral McCain continued to designate China as the major danger in the Pacific as late as 1972 (p. 545), by which time a "new Navy geopolitics" appeared, supported by "the military most disenchanted with the Indochina war, despite the unrelenting enthusiasm the carrier admirals still showed for it." (p. 556)

The new doctrinal split gave President Nixon new options in working with the military, symbolized by his appointments of Admiral Zumwalt and General Haig. "In 1972, it was surprising to see once bitterly anti-China Navy publications lauding Nixon's visit to China. Not sentiment but a new geopolitics was the source of that praise. Russia, the Russian navy, and varied threats to America's energy sources (chiefly oil) were perceived as the most serious threats to American national interests. China was seen as weak and mortally imperiled by the threat of Russian nuclear attack." (p. 556)

Only a few years earlier "Admiral Rickover's submarine zealotry was a dangerous challenge to traditional Navy doctrine, for it began to substitute Russia for China as the Navy's principal enemy." (p. 431) Such changes serve to illustrate the fact that ". . . for the military, in addition to the technical aspects of a weapons system, there

was the doctrinal aspect, which so baffled and infuriated McNamara." (p. 430) Although the "Kennedyites" suspected, "correctly much of the time, that doctrine was merely a cover for power advancement and power struggle, they never understood how vital it was for any military service." McNamara's efforts to base everything on "cost effectiveness," which meant little more than more bangs per billion bucks, were doomed to fail, and "for all its inanities, doctrine was to triumph over systems analysis." (pp. 430-31)

How Deep Is the China-Russia Rift?

The United States government and its armed forces, particularly the Air Force, were skeptical of the split between North and East Asia and slow to recognize China as a separate threat. Now it is definitely real and not a "Communist trick," but it is wise to examine some episodes of the complex relationship between Mao and his three successive Russian counterparts, particularly those events that have often been misrepresented. Many learned Americans have charged that Chiang Kai-shek sabotaged a coalition with Mao which was proposed by the United States; that the Chinese army and air force fought "on their own" in Korea; that Mao sought nuclear weapons only in desperation; that North Vietnam and China wanted the 1954 Geneva Accords that called for elections to unite Vietnam; and that American military opponents of emphasis on limited war caused escalation of the war in Vietnam. Evidence from the other side is rather different.

Mao sincerely wanted a "coalition" government in the late 1940s because his army of peasants could not manage the economy of China's huge coastal cities; but this "would have meant, practically, that the 'liberals' would have continued to be a

powerful administrative force in the cities. The Communists, of course, would have controlled the army and dominated the capital, Peking." (p. 230)

"Sovietization of the armed forces began and accelerated rapidly after the outbreak of the Korean War," a rare instance in history "of one nation so massively importing the institutions of another." (pp. 236-37) After the strongly pro-Russian P'eng Te-huai succeeded Lin Piao as commander, the Chinese abandoned their open squad tactics of the civil war and used "human wave" assaults such as the Russians had used in both World Wars. "Russian advisers were placed at all echelons of the Chinese armed forces. Russian pilots, as the Russians now admit, flew many of the Migs which engaged the Americans in aerial combat." (p. 241)

Mao, whose basic doctrine is "all power grows out of the barrel of a gun," wanted his own guns, but a shortage of heavy industry forced him to depend on Russia for the large numbers of tanks and cannon his conventional military "steel eaters" demanded. (p. 287) Along with Khrushchev, Eisenhower, Macmillan, De Gaulle, and Ms. Gandhi, Mao wanted the economy as well as the power of nuclear weapons. While he preached and leftist groups around the world demonstrated against nuclear weapons, Mao gambled his prestige and China's power on that nation's ability to produce them. "What Mao was saying was that if a strategic (that is, nuclear) defense capability was substituted for a conventional one, then considerable savings could be realized, . . ." (p. 256)

Ho Chi Minh and his Chinese supporters were pressured in 1954 to accept the division of Vietnam at the 17th parallel as a concession to the French. After the defeat at Dien Bien Phu the French government was anxious to withdraw from Vietnam without further humiliation. The French

renounced an American plan to add a new German army to the forces of NATO in Europe, and an agreement on Vietnam was reached at Geneva. "Vietnamese and Chinese retain bitter memories of the 1954 Geneva Accords. They paid in blood, sweat, and tears for Moscow's gains on the European front, while Moscow argued that the greater cause of world peace had been served." (p. 226)

Exactly the same argument was tried in vain by Khrushchev five years later when he tried to mollify Mao after renouncing aid for China's nuclear program. Again the Russian fear of Germany was involved, for the U.S. in return dropped all plans to assist other nations, especially Germany, in nuclear weaponry.

Even before the Test Ban Treaty, Washington and Moscow "began to cooperate or, as the Chinese would say, collude and compete in a new Holy Alliance to halt revolution throughout the world. But the war clouds were gathering in East Asia. . . ." (*For the Russians, promotion of revolution was an expedient; for the Chinese, a sacred principle.*) A larger war in Southeast Asia had become almost inevitable. "The doctrines generated during the mid-1950s in Washington had a self-fulfilling prophecy built into them. They taught that limited war was bound to come and, therefore, free men must make preparations to meet it." The preparations developed into "a form of intervention which invariably elicited a response from the other side." (p. 328) Kennedy had pledged to build forces for such wars, and he planned negotiations with Russia to avoid the most serious risks of their expansion. The negotiations repeatedly failed, and after the split with China the Russians could no longer deliver on a bipolar agreement anyway. In desperation, Johnson finally turned to China and reached an agreement so limiting that it produced a

military impasse, withdrawal, and finally defeat.

With his nuclear program surpassing expectations and the American government fearful of his intervention in Vietnam, Mao in 1966 rejected all pleas from Communist leaders in other nations to announce even a vague "joint action" agreement with Russia and rejected an invitation to a Communist Party Congress convened in Russia. Even the astute North Vietnamese were put into an almost "hopeless squeeze" by the dispute, but they finally "managed to get China and Russia to agree to unrestricted transport of Russian supplies across China." (p. 517) Obviously, Mao hated the Russians. He announced that the Russians had been "imperialists" ever since World War II. *This term is usually reserved by the left, especially the American left, for Americans.*

The Russians supported India in its war against China and encouraged nomadic tribes to revolt in China's Sinkiang nuclear development area. The split became wider until it produced a small war in 1969. Hatred for the Soviet Union seemed to outweigh "every other foreign policy consideration in [Mao's] mind. Russian hatred of Mao personally has by now reached the levels of what they felt for Hitler, and their descriptions of him are increasingly put in Hitlerian terms." (p. 347)

So it went. Yet Mao's personal strong feelings on the matter were, and are, so influential that the question of his successor may be the world's most important personnel problem.

Was an Antinuclear Strike against China Considered?

"Kennedy had just signed the momentous Test Ban Treaty with the Russians in the face of bitter opposition from his own military, yet the entire global political structure

that that treaty promised to generate could crumble in the face of a Chinese atomic bomb." (p. 391) Roger Hilsman takes credit for (among other things) suggesting disarmament talks with China, but nothing had indicated that China had "the slightest intention of 'disarming'" except on hopeless conditions. (p. 392) So far as Kennedy was concerned, "there were only two feasible alternatives to dealing with the looming Chinese nuclear threat: either take them out militarily or work with the Russians to somehow contain China." But Russia's influence over China was "mortally threatened" by their dispute. Such loss of power by Khrushchev, who was working with Kennedy toward a stable bipolar world, "would automatically mean a loss of power for Kennedy." (p. 393)

"Since the Kennedy Administration was rich in intellectual talent, hundreds of brains were put to work. . . . One of the ideas that emerged was that it might be possible to force the Chinese to sign the treaty by exerting pressure on them at escalating levels of severity. At some point, the Chinese might face the choice of either signing the treaty or seeing some of their prize developmental projects go up in smoke. This approach was called 'graduated escalation.'" At a conference in August 1964, Schurmann "heard one learned Harvard defense economist propose 'graduated escalation'". . . . When a horrified Australian suggested it would require a declaration of war, the learned economist replied, "We can arrange for that too." Schurmann was also asked by "some similarly learned members of the RAND Corporation" to help with some of the game problems that would be involved. "What was exciting about this notion to the mathematically minded defense intellectuals of the time was that it fitted beautifully into game theory." And yet, "Despite the Harvard economist's comment about declara-

tions of war, the central notion of all the policies dominant in Washington was that there could no longer be war in the modern world." (p. 395)

Graduated escalation had appealed to the "Kennedyites" because as a tactic it had to be applied "by and through the concentrated power of the Presidency . . . as the President points to this, that, and other targets and his generals humbly obey." (p. 396) *This theme may explain McNamara's practice, which cost several American planes and crews, of deleting targets, some of them anti-aircraft targets, from carefully planned missions. Unable to select targets, he could at least maintain his prerogatives by eliminating them.*

Writing from Peking in late 1972, Joseph Alsop stated that the Russians three years earlier had vainly asked for U.S. support in an attack on China, but this was years after all serious discussion of the matter had ceased in the United States. (p. 379) *Wisely or unwisely, as future events will determine, the "graduated escalation" idea was soon dropped, even though it had been publicly presented as a viable plan by Kennedy friends, such as Stewart Alsop.* "Some residue of nonacademic common sense that remained in the Kennedy and Johnson administrations finally convinced policy makers that what worked in the equations of the game theorists might not work in practice." (p. 397) And yet, although in his last days Kennedy seemed to hope for withdrawal from Vietnam ". . . it is equally possible that even with such a withdrawal he would have ordered graduated strikes against China to resolve the nuclear dilemma once and for all." (p. 397)

When Russian and Chinese forces clashed on the Ussuri River in 1969, the idea of willfully warring with China was out of the question. An American involvement in Asia would give Russia a free hand elsewhere in the world. (p. 507)

How Is the American Commitment to Israel Unique?

Israel is not precisely a part of the containment policy, although "Israel's tough armed forces play a crucial role in the anti-Soviet balance of forces in the Middle East." The commitment to Israel was ideological because it "clearly went against United States material interests in the region." (p. 534) China is, for reasons not well explained, "a vociferous champion of the Arabs" and an "implacable foe" of the Israelis. Russia has followed the same line. . . . *for reasons also inconsistent with their ideology, since few governments are more "reactionary" than those of the Arab states.*

"That Jews were numerous, wealthy, and powerful in America was an obvious reason for the commitment to Israel, but not the only one. . . . Israel exemplified what the Democratic party's ideology had been preaching since the beginning of the cold war: that a progressive, socialistic, pro-American and noncommunist state could arise. In spite of Israel's special circumstances, it seemed that the same could eventually happen throughout the Third World." (p. 534) But times have changed. "Gone are the rapturous days of the kibbutzim or United States labor leaders planting trees in the Judean hills." Now a substantial part of American society, especially youth, has turned inward. The new ideology operating in Washington is "one that does not require the same kind of popular support. . . ." (pp. 534-35)

How Dangerous Is the Sino-Maoist Nuclear-Revolutionary Threat?

Ten years ago Mao told Edgar Snow "I shall soon see God," but he did not die. He went on to launch and win the still unbelievable "cultural revolution," which insured that he will never become "just an old Buddha" as he once feared. Perhaps

his final great achievement was to stabilize his relations with the United States against the threat of Russia. What now is the legacy of Mao's popular gospel of endless revolution, backed by enormous destructive power poised against the other great nations of the world, most of them relatively short of manpower? Most Sinologists know a great deal less about China than does Schurmann, for few have studied that mystery as much. Before considering one of his rare speculations about the future, it is interesting to examine one of his most basic beliefs.

When writing as a reasonably disciplined historian, Schurmann refuses to pose as a prophet or prognosticator. His analyses of past events are generally based on wide and profound research that has produced sound evidence. His sociopolitical theorizing may be overlooked, as may most such exercises. We have overlooked it here. However, Schurmann is a most urbane and reasonable representative of a large segment of our academic and intellectual establishment that deserves attention not only in spite of its surprising doctrinal dogmas but also because of them. Schurmann's frankness about his faith in one prophet, the theorist Marx, together with his unstinting admiration for a lifelong militarist and ruthless conqueror, Mao, makes him a brilliant phenomenon that no doubt will grow upon us.

It may be said that higher educators are as frustrated by their welter of repetitive verbiage as are political and military leaders by the recurrent pressures and restrictions that cripple their effectiveness. Some academics and intellectuals accept their passive role with equanimity, others jealously regard all power as evil and veer toward anarchism, while still others identify with symbols of power and become "Kennedy-ites," Leninists, Gaullists, Maoists, or whatever.

Mao Tse-tung during his long life has developed a charisma comparable to that of

Mohammed or Napoleon in that he possesses a fundamentalist faith in true prophet Marx as an inspiration to bloody revolution, a long record of military triumphs against great odds, unmatched talents for political survival and control, and even a thoroughly destructive philosophy for export to other nations. To top it all, throughout the rise and fall of other great leaders, he has ruled the world's most populated nation, which is also the most venerable civilization of the mystic East.

"Look on my works, ye Mighty, and despair!" would be appropriate for Mao but has limited appeal. "Look on my mutable methods, ye unmighty, and arise to overthrow all others!" is Mao's message. Some have looked and despaired, but more have looked, even from afar, and, disconsolate or bored with their own surroundings, have come to worship what they saw. Mao speaks in parables and riddles to underdeveloped minds, and although he wisely reads more than he writes, his red "poor farmer's almanac" has outsold both Marx and Lenin. His cult has many adherents who will be with us long after Mao himself has gone to displace Confucius in heaven even as he has on earth.

"Nothing has influenced my political thinking so much as years of immersion in the writings of the Chinese Communists, both formal, like the canonical works of Mao Tse-tung, and the hundreds of mundane pieces in the daily newspapers." (p. 563) Schurmann now believes "the greatest man of vision of the twentieth century who is also an effective leader and unifier is Mao." (p. 535) Schurmann does not call himself a Maoist, but he does say "I am not a Leninist" and indicates frequently that he is a Marxist. "One cannot be a Marxist without believing in the inevitability and desirability of popular revolution. And it is only self-delusion to think of revolution as anything but bloody civil war,

which no sane person would wish upon his own people. But Marx argued—as have Lenin and Mao Tse-tung—that ruling classes will devour themselves in violent competition, destroying what they themselves have built. Thus, revolution occurs only when the people finish the process of destruction and begin building a new society." (pp. 563–64) Revolution, then, is desirable because it is inevitable, and it is inevitable because Marx, Lenin, and Mao said so. In Schurmann's view, Marx, Lenin, and Mao cannot all be wrong. Though he modifies Marx and has doubts about Lenin, he does not fault Mao. Mao's great contribution is the "notion" of the "uninterrupted revolution."

"Mao has always been primarily concerned with the revolution in his own country, and that concern has made the People's Republic of China one of the most exciting, experimental, and extraordinary societies in a world increasingly made up of dullness or bloodiness." (pp. 280–81) On balance, it should be noted that American TV producers are busily demonstrating that dullness and bloodiness can be combined, and that some witnesses have judged Mao's China to be an equally successful combination of the two in real life. Crimson banners can relieve the drabness of a billion brown blouses, yet blood itself is the surest relief, as in all sternly regimented societies. At home the bloodlettings of uninterrupted revolution designed to keep the nation healthy are kept under control by the ever present army, but when Maoism is exported, it seeks to avoid controls. Schurmann, in one passage, frankly describes this threat.

"In the 1960s, the Chinese were seen as the world's greatest troublemakers, . . . American liberals at the time were furious that the Chinese were stirring up flames of revolt in Latin America where they had no interests whatsoever, not to mention the doings of Che Guevara. As the New Left began to emerge in the advanced countries,

the very word 'Maoism' came to mean a kind of anarchist, ultraleftist troublemaking-for-troublemaking's-sake. And when the New Left began to clash with the older communist parties, as in France, China was invoked as a new Marxist Rome sanctioning this path to revolution." (p. 369)

The Maoist New Left is less active around the globe today as freakish groups practice more desperate terrorism, but the growing power and prestige of China could revive it. The intellectual New Left in America, which aspired to scourge the campuses during the years of the draft, overreached itself in frenzy and lost most of its overblown academic respectability; but pilgrimages to Peking could attract far more Leftists than ever paid homage to Castro. The lull in all this activity may be exhaustion after the excesses of the Vietnam period. In any case, domestic Maoism was never the major danger. Ideologies have their limitations

while nuclear weapons have none, and we have all but despaired of trying to match or to counter the power of new systems of nuclear missiles poised against us. On this the usually cheerful Schurmann makes a chilling observation, perhaps boastful, perhaps prophetic.

In the 1960s ". . . the line from Washington went, the Chinese were fomenting wars of liberation, . . . to make trouble for the free world. More darkly in the background was the specter of a billion Chinese armed with nuclear weapons ready to blow up the world in pursuit of their mad revolutionary ambitions. However distorted this image, there was considerable truth to it. Mao was and remains a revolutionary. He considers revolution a good thing for peoples, countries, and individuals. . . . On the other hand, for all his alleged deprecation of the destructiveness of nuclear weapons, Mao made China a nuclear country." (p. 288)

San Antonio, Texas



from the editor's aerie

With this issue, *Air University Review* bids farewell to the Editor who for more than ten years left his distinctive impress on the U.S. Air Force professional journal. In August Colonel Eldon W. Downs moved on to the Air Force Institute of Technology at Wright-Patterson AFB, Ohio, where he has assumed the position of Director, Civilian Institutions Directorate. During his editorship, the *Review* won coveted Federal Editors Association Blue Pencil Awards six times out of the last nine years. We are pleased to add Colonel Downs to our complement of Editorial Advisers.

Colonel Downs is succeeded as Editor by Colonel Glenn E. Wasson, who was previously the Inspector General to Air University. In addition to Colonel Downs's departure, Major Richard Comyns retired from the position of Acquisitions Editor, and at press time he has not been replaced. Colonel Wasson is no stranger to military publishing, having had articles published in various service journals, including *Air University Review*.

The returns from our recent reader survey have been computed, and we are happy to share the results. Although we admit to a degree of skepticism concerning the validity of reader surveys—a suspicion exists that a disproportionate percentage of those readers with favorable inclination are sufficiently motivated to fill out a survey—we are nevertheless encouraged by reader reaction. Based on 900 returned survey forms, the following responses were computed:

How well do you think the mission of *Air University Review* is being carried out?

Well—85%, Not well—5%, No opinion—10%

The *Air University Review* is interesting and informative.

Agree—95%, Disagree—2%, Undecided—3%

Its appearance meets high standards.

Agree—97%, Disagree—1%, Undecided—2%

It has helped increase your professional knowledge outside your own field.

Agree—83%, Disagree—6%, Undecided—11%

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the contributors



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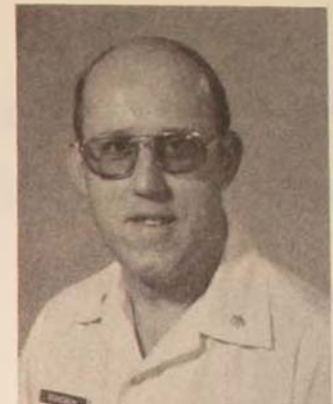
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The Air University Review Awards Committee has selected "The Employment of Tactical Air Power: A Study in the Theory of Strategy of Sir Basil H. Liddell Hart" by Captain Michael O. Wheeler, USAF, as the outstanding article in the September-October 1975 issue of *Air University Review*.

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