US ARMY COMMAND AND GENERAL STAFF COLLEGE, FORT LEAVENWORTH, KANSAS

Military Review

Professional Journal of the US Army

FIFTY-THREE YEARS OF MILITARY SERVICE

VOL LV *AUGUST 1975* *NO 8*

ARTICLES

DEPARTMENTS

MILITARY REVIEW is published monthly in English, Spanish and Portuguese by the US Army Command and General Staff College, Ft Leavenworth, KS 66027. Use of funds for printing this publication approved by Headquarters, Department of the Army, 8 April 1974. Second class postage paid at Leavenworth, KS 66048. Subscription: $8.00 per year US and APO/FPO, $10.00 foreign. Single copies $1.00 US and APO/FPO; $1.25 foreign. Address all mail to Military Review, USACGSC, Ft Leavenworth, KS 66027. Telephone (913) 684-5642 or AUTOVON 552-5642. Unless otherwise stated, the views herein are those of the authors and are not necessarily those of the Department of Defense or any element thereof.

US ISSN 0026-4148

MR READER FORUM

Conventional Warfare in Europe

I read with interest Lieutenant Colonel Dallas C. Brown's article, "Conventional Warfare in Europe - The Soviet View" (*Military Review*, February 1975). I agree with his major thesis – that is, that the Soviets would prefer conventional to nuclear war in Europe. I believe in some instances, however, he has oversimplified the evidence to support his conclusion. I also would argue that he has failed to justify his questioning of current NATO nuclear policy.

First, to his interpretation of the evidence, Colonel Brown cites recent additions of tanks, artillery and a buildup of logistics capability, together with increased emphasis on air support for ground units and protection of aircraft on the ground as "hard evidence of Soviet preparations for conventional warfare in Europe." While it is true that this upgrading will enhance Soviet conventional warfare capability, it should also be acknowledged that, in the Soviet view, these improvements enhance and are a necessary adjunct to their nuclear warfighting capability.

Soviet military strategy anticipates that in nuclear war conventional weapons will be used most extensively, and that they must be used in conjunction with and to supplement nuclear weapons.[1]

Other writers reflect the expectation of heavy losses of personnel and equipment in the event of nuclear war – hence, the buildup of logistics capability might well be in anticipation of a nuclear conflict. The same logic applies to the other evidence cited. The hangarettes add protection against nuclear weapons; Soviet aircraft can, and have, used simulated nuclear weapons in support of ground forces. The point is that the "hard evidence" is not so hard and that we must be careful in our use of such indicators. The Soviets believe that they must possess a balanced force, equipped with weapons able to fight and to survive in either environment, and have structured their forces with that goal in mind.

. . . it must be stressed that the conduct of military operations with the use of nuclear weapons and the conduct of combat operations by units and subunits with conventional kinds of weapons are not isolated from each other, but are closely correlated and they develop as a single whole.[2]

The author states that "the Rapacki plan and similar initiatives constitute prima facie evidence of Soviet willingness to take their chances on a conventional conflict with NATO." Hardly. In the same source used by Colonel Brown (Brezhnev's speech before the 24th Congress of the Communist Party of the Soviet Union), Brezhnev also called for the abolition of all nuclear weapons. Should this be accepted as "prima facie" evidence of the willingness to rid themselves of all nuclear weapons? It is a long way from broad and general proposals to signed agreements, and one must determine precisely what conditions and safe-

[1] V. D. Sokolovsky, et al., *Voennaya Strategia (Military Strategy)*, Third Edition, Ministry of Defense, Moscow, USSR, 1968, p 241.

[2] Baranov, *Krasnaya Zvezda (Red Star)*, 5 March 1971, pp 2 and 3.

(continued on page 110)

(continued from page 2)

guards the Soviets envision before one talks of "prima facie" evidence. I am inclined to side with those who believe such proposals are made more for propaganda value than with the desire or expectation that they will be implemented.

My other concern with the article is Colonel Brown's statement:

In view of the Soviet position and the current strategic balance, it is time for NATO to rethink its doctrine concerning the use of nuclear weapons in Europe. Perhaps NATO's nuclear policies are in fact 'bankrupt.'

Nowhere does Colonel Brown state what these "bankrupt" policies are. Presumably, NATO has developed a wide range of options which might be implemented, depending on the situation. In any case, if Colonel Brown feels the current policy is in need of change, he should describe that policy and its specific shortcomings.

But, even more important, he should have provided an alternate policy. The current NATO policy may be good or bad, but compared to what? Does the author advocate a return to a strategy of massive retaliation? Or does he feel NATO should abandon the use of nuclear weapons altogether (along with their deterrent effect)? But does he really believe, given today's political and economic climate in the United States and Europe, that NATO would increase current conventional forces where defensive capabilities were recently given the following evaluation by the Secretary of Defense:

As matters now stand, however, the probability of a successful forward defense by conventional means only is lower than I consider prudent.[3]

It serves no purpose to suggest the abandonment of one policy unless one has carefully thought out all the likely eventualities and unless one has a better alternative.

Again, I have no quarrel with Colonel Brown's thesis that the Soviets would prefer a conventional to a nuclear war in Central Europe. However, in the course of supporting his case, I believe he has not fully analyzed his evidence and that he has suggested a course of action which warrants far more thought and discussion.

COL Graham D. Vernon, USA

Chemical Warfare Disarmament

I found Major Ray W. Bills' article, "What Should Be the United States' Position on Chemical Warfare Disarmament?," *(Military Review,* May 1975) most interesting. I have never felt very confident of the idea that, to deter an enemy action, one must be able to respond in kind. But, while I do not believe the proposition that we require a chemical warfare capability to deter the Soviets from using theirs is necessarily valid, there are other better reasons for having such a capability today, and they derive from the impact of new technology.

With the advent of precision guided munitions, it is becoming fashionable to say that whatever target we can see we can hit, and whatever target we can hit we can destroy. While there may be an element of overstatement for emphasis in this formulation, I believe it is substantially correct. What, then, are we to do to provide protection against acquisition of such a capability by potential opponents?

Not being seen offers some interesting prospects, and one thinks of the traditional cloaks of darkness or inclement weather. These may yet offer some prospects of protection, although the introduction of sophisticated surveillance devices has much diminished their usefulness, the game of counter and counter-counter devices goes on, and, at any given point, it might be possible to hold a

[3] *Annual Defense Department Report, FY 1975,* US Department of Defense, Superintendent of Documents, US Government Printing Office, Washington, D. C., 1974, p 89.

significant advantage in this respect. Being seen, and therefore hit, but not destroyed, another alternative, seems to pose even more formidable problems. The provision of additional armor, shielding, or antimissiles seems certain to add even more weight to already cumbersome combat vehicles, further reducing their speed, cross-country mobility and maneuverability.

Where, then, is the point at which to break the dilemma? Destroying the opposing capability to hit what it sees appears the most promising, and it, in turn, requires that we be able to destroy what we cannot see. The obvious means of doing that is through the use of chemical warfare. Area fire weapons using high explosives would require astronomical amounts to be expended to destroy even a portion of unseen forces.

Nuclear weapons provide an area fire capability which could destroy many unseen targets, but at a cost in the possibility of escalation which would substantially or completely inhibit their use. Thus, within the limits of current technology, we come back to chemicals Perhaps biological weapons would provide some of the same capability, but, generally speaking, they would be slower to take effect, more difficult to control and more dangerous to the user or collateral forces.

What is it about chemical weapons that accounts for the squeamishness about their use? More squeamishness, that is, than about destroying the lives of others by perforating their bodies with pieces of hot shrapnel. And what is it about them that would induce us to risk the dangers of nuclear war or subjugation in preference to judicious employment of chemicals? The answer is difficult to discern and perhaps not susceptible to logical analysis. There remains, however, the undeniable fact that we do shrink from contemplation of the use of such weapons.

This does not, as was observed in the article cited, appear to be an inhibition shared by the Soviets. One indication of this was the Soviet-supplied equipment used by Egyptian forces in the 1973 Mid-East War, which was found to be fitted out with modern and efficient shielding and filtering devices permitting it to be operated in a hostile chemical environment. Was this expenditure based on purely defensive considerations? One would think not, given American unwillingness to develop either doctrine or hardware for chemical warfare, facts surely not unknown to Soviet intelligence. It appears far more likely that the Soviets contemplate occasions when they might very well want to introduce chemical weapons on the battlefield, and where our inability to answer in kind, or even to protect ourselves in that environment, would place us at grave disadvantage, faced with the options of escalating to nuclear warfare (with all the hazards which that entails) or accepting defeat.

Is there a way out of this dilemma for the United States? If there is, it is one based entirely upon informed understanding of what confronts us and of the real morality involved in meeting or failing to meet the problem. No longer is it merely a question of one way of attacking an enemy as compared to other perhaps equally effective ways. The advent of precision guided munitions means that it is entirely possible that the only effective weapon in certain future conflicts will be one which does not depend for its effectiveness on seeing the enemy. Given that imperative, the only weapon presently within our grasp that gives promise of doing the job is the chemical. If failure to develop an effective capability in this realm leaves only the prospects of defeat or resort to nuclear weapons, it seems clear that both morality and practicality would dictate their acquisition. Fortunately, it may also be that, despite my reservations, possession of such a capability will, as has that of nuclear weaponry since World War II, be the most effective deterrent to their use, by the United States or any other power.

LTC Lewis S. Sorley III, USA

"BACK TO SCHOOL!"

So the cry goes throughout the nation this month as many towns, cities, college campuses and- yes–even military installations open once again the doors of their educational institutions and begin another cycle of the never-ending learning process. While students, faculty and administrative officials struggle with daily assignments, examinations, class standings, discussion groups, seminars, conferences, and so forth, they might well ponder the advice given in this prayer from an unknown source:

Keep me from the fatal habit of thinking that I must say something on every occasion.
Release me from craving to straighten out everybody's affairs.
Keep my mind from the recital of endless details–give me wings to get to the point.
Teach me the glorious lesson that occasionally I may be mistaken.
Make me thoughtful but not moody; helpful but not bossy.
I dare not ask for grace to enjoy the tales of others but help me to endure them with patience.
Give me the ability to see good things in unexpected places and talents in unexpected people. Give me the grace to tell them so.

May this academic year be truly "the best year of your life."

AUGUST 75

military crisis management at the national level

Colonel Charles J. Bauer, United States Army

ISRAEL! Syria! Nicaragua! Cyprus! Jordan! Lebanon! Dominican Republic! Cuba!—the list goes on, seemingly endless. A litany of crises have faced the US military in the recent past and are clearly a prelude to future events. Each of these crises has required the rapid development of plans for the possible employment of US military forces. At the national level, the management of these crisis situations from the military point of view focuses on our ability to select feasible courses of actions and to control these operations once they commence. Expressed in a single, simple sentence, that task does not appear overwhelming; in reality, it represents the basic mission of our Armed Forces.*

This business of planning for and managing military operations at the national level is, in fact, a very difficult and complex task. Based on their past experience at the national level and at major headquarters in the field, many would agree that the term "overwhelming" is not too strong. In support of this contention, we need only look to the long history of staff reorganizations and revised operating procedures which have followed almost every crisis from Cuba to the present day.

*While the US Armed Forces must be prepared to respond to contingencies which range from disaster relief to execution of the Single Integrated Operational Plan (SIOP), this article has excluded from consideration this latter contingency. As most readers will realize, the SIOP is developed as a highly selective response employing special control features. These specific controls and special planning procedures are normally not applicable to "conventional" contingency situations.

Fundamental to an understanding of the manner in which the military responds to a crisis situation is a clear knowledge of the line of operational command or responsibility which emanates from the President. This chain links the President and the National Security Council to the Secretary of Defense, the Joint Chiefs of Staff (JCS) and then to the unified commander responsible for the geographic area in which the operation is contemplated. This operational chain excludes the services and the service staffs—a fact which is sometimes not readily accepted. The service chiefs play a critical role as members of the Joint Chiefs of Staff, but the individual military services do not enter the operational picture until the unified command level. There, the service components—US Army, Europe, for example—represent the first level of operational command where service identification is possible.

Once this organizational structure is recognized and accepted, the procedures for planning and executing military operations follow a logical path of responsibility and coordination. The procedures are contained in a series of documents published by the Joint Chiefs of Staff under the general heading of the Joint Operations Planning System (JOPS).

JOPS documentation is centered around a three-volume publication which treats the planning process from the receipt of mission to the order for execution. The first two volumes provide

---

Colonel Charles J. Bauer is Commandant, US Army School of the Americas, in the Canal Zone. He received a B.A. and an M.S. from George Washington University and is a graduate of the USACGSC, the Armed Forces Staff College and the Army War College. He has served as Chief, Manpower Control, Office of the Assistant Chief of Staff for Force Development, Department of the Army, and as Chief, Planning Systems, and as Chairman, Joint Operations Planning System Users Group, Joint Chiefs of Staff, J3.

policy guidance concerning the content and format of operations plans, generally following the line of the five-paragraph operations plan with annexes and appendixes on subjects from communications to base development. Guidance is provided concerning the responsibility of various commands and defense agencies which become involved in the process of plan development, review and execution.

The third volume of the JOPS contains information regarding the data processing support available to assist in the operation planning process. Advances in automatic data processing (ADP) support have not relieved the planner of the necessity to develop essential judgmental factors "by hand." In the joint arena from the JCS level down—the operations officer and the plans officer must be prepared to employ computers. Experience has shown that this fact -like the statement that the service staffs are not in the operational chain of command -is not always greeted with enthusiasm. An aversion to computers will not alter the fact that their use is desirable. One hope which can be offered to those who abhor these infernal machines is the fact that the ADP programs which have been developed to support the JOPS were intended for use by personnel whose training and experience have been in plans and operations—not in computers. While the programs are not as planner-oriented as originally desired, minimum training is required to teach plans and operations officers how to use the computer. Far more time is needed to "refresh" them in their knowledge of basic planning procedures. With the admonition that we must accept the inevitability of the computer, let us get back to the business of planning and crisis management.

The cycle of military operations starts with an analysis of the threat. Normally, this takes place at the national level where the Joint Chiefs of Staff, after a study of the world situation, identify those areas of the world which may become trouble spots. The results of this study are expressed in the Joint Strategic Capabilities Plan (JSCP) which tasks commanders of the unified and specified commands to prepare plans for each individual contingency. The goal is to ensure that, among all the potential trouble spots identified, the specific contingency which actually develops at some future date will be covered. Realistically, we know that this will not always be the case and so we also must be prepared to do the detailed type of

planning which normally follows from the routine tasking we find in the JSCP. To meet both these requirements, the JOPS contains procedures and formats for planning which are applicable to routine plan development and review, as well as planning under crisis conditions.

Routine planning commences with the JCS tasking in the JSCP. In a crisis situation, this tasking may again originate at the JCS level in anticipation of a developing crisis, or it may have its genesis in the National Security Council. Here, the national authorities, in response to a crisis situation, may direct the Secretary of Defense and, in turn, the Joint Chiefs of Staff to examine the feasibility of a military option or series of options. This action starts the crisis management process and normally involves the JCS in tasking one of the unified commanders with either developing a new plan or updating one which has been prepared previously. Obviously, there will be occasions when the urgency of the situation may dictate a need for more immediate or direct action. Such circumstances may require an immediate estimate concerning capabilities and feasibility. The estimate then would be made by the JCS. Depending upon the availability of time, considerations which affect such a determination would be coordinated with elements subordinate to the JCS prior to the decision. To meet the requirements of a situation which demands immediate response, the capacity to evaluate capabilities and feasibility must be available to the JCS. For this reason, the staff which supports the JCS must have access to the same planning capability as the unified and specified commands. This capability is a significant consideration and one the reader should keep in mind as we examine the requirements which the planning process imposes on the unified command.

In any event, a first step in the planning/crisis management process is that of determining the mission and concept of operations. This may be specified in considerable detail at the national level, or it may be left for definition by the responsible unified commander. In either case, before the planning task reaches the plans officer, he must have an expression of the general nature of the mission and any limitation on the size of the force to be employed. Frequently, there will be international political reasons which may act as constraints on the mission or the force—key factors which will influence the tactical

plan and may well determine the feasibility of the plan. Once the task reaches the planner, he must expand the mission and concept into a tactical plan, develop a force list and compute the myriad logistic requirements necessary for transition from concept to reality.

The military planner has been trained to produce the tactical plan. Unfortunately, it is not in this area where the real work must be done; developing the supporting details and coordinating the multitude of conflicting requirements constitute the bulk of the work. This work starts with the development of a force list—dictated by the tactical plan. At this stage, the planner must decide what combat forces are required: where and how they are to be employed and when they must arrive in the objective area. A similar decision must then be made concerning administrative and logistic support forces. It is important to note that we cannot do this kind of planning from the point of view of one service. Very few contingency situations can be addressed by a single service. The infantry brigade needs the Military Airlift Command (MAC) to get it where it has to fight, and it needs Tactical Air Command (TAC) support once it gets there. Naval support and Marine Corps forces must be considered, not only because there are missions which are best performed by these forces but also because these forces represent a significant capability at a time when military resources are limited in their availability. The joint nature of the operation must be recognized and included in the composition of the force list.

On the surface, this force list development might appear to be a comparatively simple task, but it is far from that. Depending upon the nature of the anticipated mission and the type force to be employed, a basic decision is made concerning the structure of the combat forces to be employed—a battalion, a brigade or a division. But just what will that force consist of? Standing alone, one of these combat units cannot be deployed without significant augmentation. The battalion and brigade need their slice of the division combat and combat service support units, and the division requires significant augmentation to operate independently. The nature of this augmentation varies with each contingency; thus, each force must be tailored to the specific operation. This same augmentation principle is applicable to Air Force units whose force structure, particularly in support elements, is even more variable than the Army's.

The importance of the force list becomes more apparent when it is used in conjunction with the tactical plan to determine the transportation requirements. We refer to this as the deployment planning or strategic movement aspect of operations planning. Without a doubt, it is the most complex and time-consuming phase of the planning process. Without minimizing the importance of the tactical plan of operations, it should be recognized that, for routine crisis situations, the tactical plan is comparatively simple to develop and can be accomplished on rather short notice. Determining movement requirements and preparing movement schedules is far more complex and time-consuming. Even in major plans such as the NATO-Warsaw Pact scenario, this same relationship exists. Certainly, in the latter plan, the tactical scheme is complex and of overriding importance. But, in contrast to the strategic movement aspect of this plan, the tactical scheme is a piece of cake. This factor requires emphasis because its recognition permits us to identify the crunch point which will face us in a crisis situation. In such circumstances, where time is most critical, it is the strategic movement problem which requires extensive time and coordination to develop. With this knowledge, we should be able to develop crisis management procedures which provide for accelerated strategic movement planning.

The primary factor which makes the strategic movement problem so complex is the need for such a great amount of detailed information. It is fairly simple to ask the question: "How long will it take to move a brigade from point A to point B?" At the national decisionmaking level, that would be a valid question, but it is not a valid question to be addressed by military planners unless more information is provided. What is the mission? Are the forces to be airlanded or airdropped? What units will accompany the brigade? What lift resources are available? What refueling or staging bases are to be employed? Is there an overflight problem? If the basic "how long will it take?" question is asked by civilian decisionmakers, it is necessary for the military representatives either to seek out the additional basic information or to make the point clear that assumptions concerning them will be made by the military planner. If this is not done, then it is suggested that one answer to the "how long?" question could be "one year!"—assuming the availability of a single *C141* aircraft.

But, with the basic information available, the military planner's task becomes clear. After compiling his force list, he must then compute the total movement requirements for each unit. How many passengers and how much cargo will move aboard nonorganic aircraft? Again, not a simple task. How much of the cargo is too large or too heavy to fit aboard certain aircraft? How much cargo requires special handling such as ammunition, POL and refrigerated materials? What about helicopters and other aircraft which will be shipped? Are there any special organizational requirements for this operation? For example, substituting a mechanized company for a rifle company in each battalion will significantly affect the total movement requirements picture.

As the force list grows, so does the number of possible permutations of basic organization. Each one impacts on the totals of tonnage and passengers required to be moved.

Even when the force list is completed, you still do not have a useful product. Times and places must be specified. Where will the forces come from? To what specific destination will they go? At what time must they arrive? In the larger plans, such as the NATO-Warsaw Pact scenario, there will be intermediate stops. Some units will be split, with cargo going by sea and personnel by air; where and when will they marry up? The end product of this effort is a complete list of all forces required, by time and location. And, for each force, there is a detailed tabulation of the cargo and passengers to be moved. This list is referred to as the time-phased force deployment list (TPFDL).

It is appropriate to note at this point that no mention has been made of airframes or sorties or of lift requirements in any words other than tonnage and passengers. A traditional error on the part of operations planners—particularly Army planners—is to translate these movement requirements into sorties or numbers and types of aircraft. This is a task which is the exclusive purview of the Military Airlift Command. MAC is the only agency with the necessary information to translate strategic movement requirements into specific aircraft needs. For one thing, the range of the operation will have a significant bearing on payloads. Likewise, the utilization rate of aircrews and airframes will influence the total numbers required.

Choke points may restrict the total number of aircraft employed, and specific safety criteria may vary depending upon the urgency or importance of the operation. Each of these considerations is important in determining the number and type of aircraft required. A good rule to remember: tell MAC what you want to move and when you want it to arrive; then, let MAC determine and provide the necessary airlift.

On receipt of the TPFDL, the MAC will use this information to provide all interested agencies with a complete movement schedule which will show the number and type of aircraft to be used, the times when they will be available for loading, the units to be moved and when and where they will be transported.

So far, we have outlined in general terms the series of logical steps to be followed in developing a contingency plan or an estimate of option feasibility. We have not discussed the extensive coordination which must be accomplished with the service components of the unified commands; with the other unified commands and their components; with the transportation operating agencies (the Military Airlift Command, the Military Traffic Management Command, and the Military Sealift Command); with the many defense agencies; and with the service headquarters staff. This coordination is accomplished through a reliable, worldwide communications network under the control of the Worldwide Military Command and Control System (WWMCCS). This system includes an elaborate array of conventional voice circuits, data networks and extensive computer facilities.

In the development of the force list for a specific operation, we looked to the TPFDL as a planning product which could be transmitted to MAC for the development of a movement schedule. The development of this TPFDL involves many mathematical computations for which the computer has been designed. This fact, together with the requirement that we do these computations rapidly and accurately, has drawn us inevitably to the use of the computer as an aid in operations planning. Until recently, the use of computer assistance in plan development was limited primarily because of the varying inventory of computers among the many agencies involved in such planning. A computer program developed to operate in a

command employing an IBM computer was of little use to another command performing the same task and utilizing a machine of GE vintage. This situation prevented the development of common or standard "software" programs which could be used by all participants in the planning process. Further, because of the high cost of developing individual programs to support operations planning, no single agency had developed a comprehensive program which would adequately address the total planning process.

The decision to procure a standard computer hardware inventory as part of the WWMCCS presented the first opportunity to commence development work on a standard JOPS computer software system. In late 1972, the four unified commands principally involved in operations planning–the US Readiness Command, US European Command, US Atlantic Command and the Pacific Command–joined in a unique effort to develop such a software program. Pooling their resources and experience in planning and automated support to planning, they requested that the Office of the Joint Chiefs of Staff exercise management control over the development effort. The JCS approved the proposal, and thus was born the Joint Operation Planning System Interim Software (JIS). It was decided that the system would be a prototype which would form the basis for developing a final, more permanent version.

In the system itself, the software is built around a series of automated files which contain the "standard" data used in planning. This is the information which is relatively static or constant. For example, one file contains the movement information on all "type" units in each of the four services–a total of approximately 6000 "type" units such as "an infantry rifle company" or "a tactical fighter squadron." This information includes a description and total of all cargo and passengers in the unit which must be moved by nonorganic lift. Information is provided concerning almost all aspects: short tons, measurement tons, dimensions, special categories such as liquid cargo, ammunition, vehicles, aircraft–any category which may pose special movement problems. Included in the file for each type unit is an identification of cargo which is so large or so heavy that it can be moved only on certain aircraft such as the *C141* or *C5*.

There are other files which are to identify airfield facilities around the world, to include their capabilities and limitations. A similar file for seaport information is to be provided concerning the number of piers and the capability to unload special ships such as tankers or container ships.

Then, there are to be files concerning the capabilities of various lift vehicles -aircraft and ships. How much can they carry under varying conditions? What are their maximum ranges? Speeds? Safety factors? Dimensions? Turnaround times? Utilization rates? For ships there is to be additional information concerning special characteristics to accommodate the requirement to identify the rapidly expanding field of specialized shipping.

Other files include distances between any two points on the globe–a coded file of thousands of geographic locations which can be digested by the computer–and on the number and types of aircraft and ships available for operational employment. In sum, a wealth of information is to be collected, verified and placed in files for ready access by the planner.

Complementing these files are a series of computer software programs which do the "stubby-pencil" work for the planner. To employ this system, the planner enters into a question and answer dialogue with the computer through a video tube and typewriter keyboard. Once these programs start, they will take the planner through the planning process by means of a series of questions which follow a normal, logical planning sequence. Each question must be answered by the planner before the program will continue, and all questions are phrased in "planner" rather than ADP technician's language. For example, at the beginning of the process, the computer will ask the planner what forces he wishes to use. The planner can either "shop" through the automated files to select the type units he wishes or, more likely, type into the computer a previously prepared list of forces. The computer will automatically scan the files and extract the movement information for each type unit and record that data in a separate, plan unique file. The computer will ask the planner if he wishes to add or delete subelements of each unit; the planner's response will cause the computer to modify the movement requirements of that unit. The computer will similarly query the

planner concerning desired times, locations and mode of travel and will again record the information in the plan unique file. Once the planner has completed this initial phase and constructed his TPFDL, his subsequent actions are determined by the urgency of the situation. In a normal planning environment where time is not critical, he would proceed to develop his nonunit-related movement requirements--resupply and replacement personnel. In a crisis period, however, he can defer that action temporarily and proceed to determine his specific airlift requirements. To do this, a computer software program has been developed which takes the information from the TPFDL, considers the number of available aircraft, the capabilities and limitations of these aircraft and the airfields they will use and prepares a tentative movement table. This table will provide details concerning all aspects of the movement problem. The program will identify shortfalls, choke points and problem areas which may affect the strategic movement. At first glance, this program may cause concern since it appears to be making decisions which previously required an experienced plans or operations officer. Such is not the case. The planner still makes the decisions. He decides where aircraft and units will go, how they will get there, and when. The computer merely performs the job of information retrieval and arithmetic computation. By saving him from this tedious and error-prone work, the computer permits the planner to focus his attention on the problem areas and provides him with the capability to accelerate the planning process rapidly.

Once a planner develops a TPFDL, his next step in a noncrisis situation is to compute nonunit-related movement requirements. Again, he has a computer software program to assist in the mundane aspects of this function. With the production of the TPFDL, the computer has on file a list of all units to be employed in the objective area and the times associated with each unit. Now, it remains for the planner to determine for each unit the type and quantity of resupply and number of replacements required to sustain that unit in the field. This basic information for various types of units is readily available in our field manuals and is based on experience in previous operations. The planner will want to review these factors in light of any special requirements for the specific operation contemplated. Once he has determined what factors he will employ, he feeds this information to the computer which will

compute the daily resupply and personnel replacement requirements for the operation. It will tell the planner how many personnel and how much cargo, of what type, must be moved from various Continental United States or overseas locations to the objective area. This information, together with that provided in the TPFDL, represents the total strategic movement requirements associated with the complete operation. At this point, in the normal planning process, the strategic movement planners are ready to go to work.

To assist them in their planning task, an additional software program has been developed which simulates the movement scenario. This program is a highly complex and sophisticated model which takes as inputs information concerning the total strategic movement requirements and matches them against the available strategic lift resources, both surface and air. Here, again, use is made of the permanent files which contain information on capabilities and limitations of transport resources, air facilities and seaports. This model attempts to duplicate the movement aspects of a scenario. For the larger plans, divisions will commence moving to ports of embarkation, ships will organize into convoys, and reception units will depart for ports of debarkation. As movement requirements are applied against strategic lift resources, the computer will provide the planner with the status of the operation. At the end of each 24-hour period of simulation, the machine pauses and provides a report on the status at that point. Problem areas are highlighted and possible alternative solutions become evident. For example, the model may determine that a division moving through Baltimore has overtaxed the facilities of the port. The planner has the option of allowing the model to proceed in the hopes that the problem will be resolved in the next few days, or he may examine the other port facilities and determine that perhaps parts of the division should move through another nearby port which has not reached maximum capacity. On plans for major contingencies such as the NATO-Warsaw Pact scenario, this analysis can be highly complex, requiring many iterations. Computer running time may exceed eight hours for a single analysis of the movement problem for that contingency. But, when contrasted to the hundreds of man-years required to simulate the problem on a nonautomated basis, the value of the model becomes apparent. Time and space preclude a more extensive discussion of such a comprehensive tool. The end product is a

detailed movement table for both air and surface transport. Such a table provides the means for determining the transportation feasibility of the operation being considered.

The planning system and procedures discussed herein represent a logical approach to military contingency planning at the national level. The system is highly dependent upon an understanding of the system and the channels of communications which are used in planning and operations. It must be recognized that we no longer live in a single-service environment and that all operations are conducted under the umbrella of a unified command. The unified commander must become the focal point for operations and operations planning. To meet this reality, considerable time, effort and money have been expended to develop the JOPS and the computer hardware and softward which supports it.

Within each of the services, it is time to examine our individual procedures to ensure that we are in tune with the real requirements and that we are not duplicating the tremendously expensive computer software development effort. Service planners at the division and corps level must know the contents of the multimillion dollar JOPS files which are available, not only to avoid duplicate expenditure of resources but also to ensure that all of us are using the same basic information.

At the departmental level, we must recognize that operations planning and the resultant determination of force requirements drive force structure. This being so, then analyses of force structure must take place in the context of time-phased force requirements as identified in specific operations plans. Alternative force structures can be intelligently evaluated by use of ADP software developed to support the JOPS function. Finally, commanders and staff officers must recognize that the option to use computers no longer exists. We must learn what these machines can do for us and how we can improve their responsiveness. We do not need more ADP technicians! We need staff officers and commanders who understand these machines and who can use the technicians we already have in abundance.

ROTC and the obligations of liberal arts colleges

ROGER HILSMAN

DURING the student unrest and riots of 1968 and the campus protests following the invasion of Cambodia in 1970, many universities canceled their Reserve Officers' Training Corps (ROTC) programs. Now, a number of these same universities are debating whether or not to reinstitute them. What follows are some thoughts that I believe liberal arts colleges ought to consider in this debate—thoughts not only about the role of the military in American society, but about the role of liberal arts colleges as well.

First, let me expose both my qualifications for offering these thoughts and my biases. As it happens, life has led me to have been a part both of the military and academia. I was born and raised in the US Army; my father was a Regular Army officer, and I grew up on Army posts. I went to West Point and served in World War II as an infantry officer. The accidents of life led me to a Ph.D. in international politics and a career that has alternated between Government service and university teaching. Even though I have been an academic for almost 25 years, I have kept up with developments in the military, mainly as a result of lecturing at the various war colleges and the US Army Command and General Staff College.

As a West Point graduate who has had considerable military experience, I would have to say that I would be uneasy if the officer corps came entirely from West Point. I would also be uneasy in a society in which the liberal arts community was ignorant of Army life or failed to discharge its responsibilities to this aspect of society as to any other.

I start with the proposition that no matter how hard the military tries to avoid it, life in the military will inevitably be characterized, to some degree, by isolation and narrowness. Members of the profession of arms have to work very hard to maintain their competence, especially in an era of highly complicated weapons. This preoccupation tends to isolate the military from the mainstream of American society, just as professional preoccupations tend to isolate other professionals like engineers, scientists and doctors. If anyone doubts that this happens, consider the position taken by the American Medical Association (AMA) on social legislation. To say that the views of the AMA

are troglodytic is to be charitable.

It is also true that the isolation of the military is greater than other professionals simply because their work takes them to remote places. In order to train and maneuver, they must live together in Guam, the Philippines, Okinawa or Germany. Their lives and the lives of their wives and children are segregated from most other Americans.

Some critics of the military have seen in it a more pervasive kind of narrowness and isolation than the kinds I have described. The critics' point of view leads them to speak of a "military mind" that is archconservative, rigid, aggressively nationalistic, overly devoted to discipline—a mentality resembling that of the Prussian Junker class. Fortunately, however, such a class—and the "state within a state" that it implies—has never emerged in the United States. While it is true today that Southerners tend to make a career of the Army more than anyone else, they do not come from an elite social class. The Civil War destroyed the Southern plantation aristocracy whose proud military tradition, sustained by second and third sons, might have bequeathed us a Junker class.

If the American military tends to be conservative, this fact probably points to the conservatism of the middle classes from which it springs. Since these middle classes constitute the bulk of Americans, one might argue that the problem here is not so much the "military" mind as it is the middle-class American mind. When a narrow, specialized class and the profession of arms becomes one, as with the Junkers of Prussia, the goals of both will be reflected in child training, and one might be able to speak of the inevitable conservatism of a "military mind." But, in a society in which the military is recruited in adulthood from a wide base, it seems doubtful that the act of putting on a uniform would make a man more sympathetic to one basic political philosophy than to another.

Monarchies, aristocracies, bourgeois democracies, Fascist and Communist dictatorships have all produced successful armies. It was Marx and Engels, after all, who long ago discovered that there is nothing to prevent a Socialist state from having a Socialist army—that there is nothing indeed to prevent an army from becoming an instrument for creating the Socialist state.

These ancient fears of the "military mind," along with the advent of the all-voluntary Army, have raised the specter of a military coup d'état like the one in *Seven Days in May*. Anyone who knows the Army knows that *Seven Days in May* is not a believable book. The Army would be the first to blow the whistle on any general who had ideas about staging a coup.

America, in sum, has been fortunate in its military. The explanation for our good luck is open to debate. One reason has already been mentioned—the lack of a regionally based aristocracy and the fact that the officer corps is recruited from among college-age youth rather than as children. Another is probably the recruitment system for West Point. Appointments are made by Congressmen, which assures geographical distribution, and from the enlisted ranks.

Still another reason is the traditions of the services and their own deep commitment to the principle of civilian supremacy. The officer corps is apolitical, but it is apolitical by choice and because of its own long-standing code with which young offi-

Army News Photo Features

Lieutenant General William Ray Peers

cers are indoctrinated.

Each of these reasons offers part of the explanation of why America has been so fortunate in its military. But I would argue that another reason is the fact that the officer corps has never had even a bare majority solely from West Point. I would argue that another reason is the contribution made by graduates of ROTC.

The ROTC program leavens the military by ensuring that a large number of officers come from liberal arts colleges. I do not mean to suggest that West Point turns out martinets. For every Curtis Lemay, George Patton or Douglas MacArthur, whose images haunt civilian critics of the military, there is at least one Matthew Ridgway, a West Pointer who helped keep us out of Vietnam in 1954, or James Gavin, another West Pointer, not to mention a Virginia Military Institute graduate, George Catlett Marshall, whose statesmanship kept us out of the biggest quagmire of all, China, while, at the same time, saving Europe. I also do not mean to slight ROTC graduates in this list of farseeing and broad-minded generals. I think of Lieutenant General William Ray Peers, a graduate of the University of Southern California's ROTC program, whose full and honest report on the My Lai massacre reasserted the principle of accountability.

My reasons for wanting to continue the practice of having a substantial number of the officer corps drawn from ROTC are not because the military has failed to produce enough statesmen-soldiers or because I fear the military. On the contrary, it is precisely because I believe that we are so fortunate in our military that I do not want in any way to rock the boat.

In the first place, we ought to worry about people who are somewhat less than soldier-statesmen. Presidents must turn to generals for advice, even if the generals are not of the caliber of Marshall or Ridgway. If our entire officer corps were educated at West Point or Annapolis or the US Air Force Academy, the military's built-in isolation might then become a cause for concern.

In the second place, even though *Seven Days in May* is not believable to anyone who knows the military of today, things might change. Consider one possible scenario. I personally welcomed the end of the draft, but I cannot overlook the consequences that the background of the men who fill the enlisted ranks could narrow sharply (although it has not so far done so), mainly to the black ghettos and Appalachia. If recruitment did narrow sharply in this way, there could emerge a class of soldiers with no other life, men beholden to the military alone. If, on top of this, the range of candidates for the officer corps also narrowed from what it is today, the nature of the American military might change radically.

As long as the world is a system of sovereign states, nations will continue to maintain armed forces for their

protection against outside threats. Since the armed forces control a nation's ultimate means of violence, there is always the danger that their men and weapons could be turned against the society they are supposed to protect. This potential threat to democratic society is restrained by the principle of civilian supremacy over the military. Civilian supremacy requires a vigilant citizenry and a loyal, conscientious military which is woven into the fabric of national life. It is, therefore, important that military ranks, particularly the officer corps, reflect the society at large as faithfully as possible. The less diversity there is in the backgrounds of the men who make up the officer corps, the narrower the military interest is likely to become.

Trying to make the service academies into liberal arts colleges avoids the fundamental issue. Actually, the curriculum at the academies has been drastically reformed in the last two generations and is fairly close to a liberal arts education. But, unless the academies become graduate schools, they will still be recruiting men in their teens. The effect is bound to be different from a program in which a man receives his specialized officer training *after* he is mature and has a life of his own, apart from the military.

But the main point is that the officer corps reflect the society as a whole. The alumni of liberal arts colleges are also an elite—distinct and, in their way, isolated from the mass of the American people. But the alumni of liberal arts colleges inevitably supply a large proportion of the nation's civilian leadership, and it is important that the officer corps have close connections with these leaders.

The reverse is also true. The fact that only eight or 10 percent of ROTC officers remain as Regular Army officers means that there will be people scattered throughout civilian life who have some personal understanding of the military and its problems.

ROTC weapons training

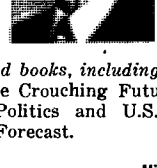
U.S. Army

Undeniably, the requirements of military training in past ROTC programs have run afoul of the principles of many outstanding liberal arts colleges. ROTC programs challenge such faculty prerogatives as the right to determine curriculum and make teaching appointments. There can be no doubt that parts of the ROTC curriculum have not met the standards of a good liberal arts college. But I believe that problems like these can be solved. The ROTC program is less hostile to the mission of liberal arts colleges—general education as opposed to professional training—than it seems. As premed students are not considered trained doctors at college graduation, so ROTC graduates are not to be confused with trained officers. Officer's basic training and other training still await them. Furthermore, if an undergraduate carries 17 hours in a term, three hours go to ROTC, an arrangement which hardly amounts to a military education or compares with the course requirements of the premed.

Before 1968, Naval ROTC at Columbia, conscious that some of its courses were academically inferior, worked with some regular professors to develop courses with a sufficiently rigorous content of international politics and strategy to meet Columbia's standards. At Princeton 20 years ago, the Army asked a number of civilian professors (myself among them) to develop a course to replace one that the Army had formerly taught. I suggest that, if such adjustments in the ROTC's curriculum are possible, then a university can negotiate with the Pentagon and accomplish major change in the ROTC program, subject to the final approval of the faculty. The point is that the university has an important responsibility to discharge to society.

It is not a question of what we prefer or do not prefer to do; it is a question of duty to the society. The university has an obligation to study and teach subjects which may be unpleasant to contemplate, like warfare and nuclear strategy. If the ROTC program is intellectually inadequate, it behooves the liberal arts colleges to use their influence to improve the program, not to ignore it.

Roger Hilsman is Professor of Government, School of International Affairs, Columbia University in the City of New York. He is a USMA graduate and holds M.A. and Ph.D. degrees in International Relations from Yale University. His career includes teaching and research at Princeton's Center of International Studies and at the School of Advanced International Studies of Johns Hopkins University, and serving as Assistant Secretary of State for Far Eastern Affairs. A leading authority on foreign affairs and international politics, he is the author of numerous



Jeremy Dodd

articles and books, including his most recent, The Crouching Future, International Politics and U.S. Foreign Policy, a Forecast.

Soviet Tactical Doctrine for Night Combat

Captain Eugene D. Bétit, United States Army

Offensive Operations

SOVIET tactical doctrine places primary emphasis on combined arms action during night combat, emphasizing that the special demands of limited visibility require that the various branches of arms support each other to the maximum extent possible. After examining some general considerations, this study of Soviet tactics will begin with the basic Soviet combat branch, motorized rifle (in Western parlance, mechanized infantry), but, of necessity, the interacting nature of the various arms' duties will be reflected.

Soviet night operations are by no means limited to small-unit assaults with limited objectives; divisional and higher level operations will not be unusual.[1] The final Red Army drive on Berlin in the spring of 1945 serves to illustrate this point: A Soviet force consisting of three fronts supported by tactical aviation, 10,000 mortars and artillery pieces and thousands of tanks broke through German defenses after an assault across the broad Oder River.[2]

Great numbers of searchlights were employed in this Russian offensive, and the Nazis found them to be a potent weapon in the Russian arsenal. Soviet planners are well aware, however, that artificial night illumination devices generally assist enemy units as well, and they prefer to conduct the bulk of night operations using more modern means—infrared (IR), navigational plotting devices, and so forth. This does not mean that Soviet forces do not continue to have numerous searchlight units at their disposal, as well as illuminating rounds for mortars and artillery. They stress that such means are employed most advantageously to "blind" the enemy once actual contact with enemy units has been achieved. Illumination devices

are used only periodically and for short periods prior to this time. To aid troop orientation, attempts are made to start fires within the center of enemy defensive belts, and extensive use is made of flares, lanterns and various markers to indicate routes of advance. Prior to the assault, safe lanes through enemy or friendly minefields will be cleared by engineer troops and delineated by luminous or other markers.

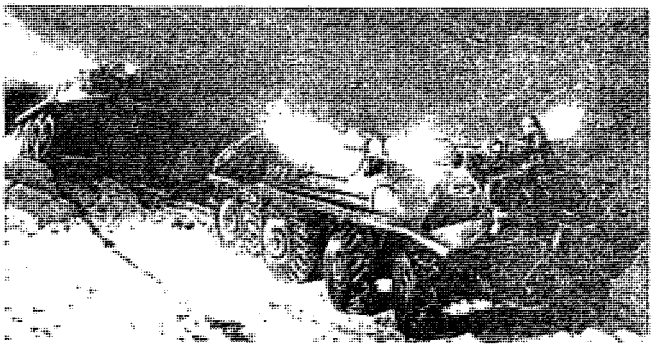
Soviet writings stress that no pattern should be established for timing of night offensive operations. Their doctrine states that the time is determined primarily by a unit's subsequent missions so that, more often than not, the assault will be initiated several hours after sunset. Predawn assaults are not preferred because, generally, reconnaissance and preparation would have to be conducted in the dark, not always ensuring success.[3] When possible, Soviet commanders are to carry out their reconnaissance of enemy dispositions twice —first during daytime and then at night to determine whether enemy defenses have been realigned.

Captain Eugene D. Bétit received an A.B. in Humanities from Providence College, an M.A. in Soviet Area Studies from Georgetown University and is a graduate of the Russian-language course at the Defense Language Institute, West Coast Branch, and the US Army Institute for Advanced Russian and East European Studies. He has served in various intelligence assignments and with Headquarters, II Field Force, Republic of Vietnam. His article "Soviet Technological Preparation for Night Combat" appeared in the March 1975 MILITARY REVIEW.

Soviet commanders at all levels work out detailed plans of attack, ensuring mutual support of adjacent units. Maneuver is kept as simple as possible since the Soviets are well aware that darkness itself complicates contemplated operations. Whenever possible, however, the Soviets will attack enemy forces from the flank and rear. Phase lines, usually indicated by prominent terrain features, are used for control purposes, and units use flares or other means to signal arrival at various phase lines or landmarks during approach to contact.

During periods of reduced visibility, reserves follow closely behind frontline units to reduce the possibility of destruction of second echelons by enemy nuclear strikes. Generally, the assaulting element is expected to accomplish its mission without the aid of reinforcements. Second-echelon regiments and divisional or higher units may be employed, however, to exploit a penetration of the enemy forward edge of the battle area (FEBA) or when the first-echelon units are engaged in repulsing a counterattack or securing key terrain.

According to Soviet military theorists, night rates of advance may be identical to, or even exceed, similar daytime operations on well-lit nights. Under conditions of extreme darkness, however, progress may be as little as half that of day. Using night vision devices and artificial illumination, Soviet doctrine holds that well-trained units can attack with the same tempo



Once prepared positions have been breached, Soviet motorized rifle troops will remount their armored personnel carriers to continue the attack

over the same distances as are possible during daylight.[4] It is obvious that Soviet doctrine is not completely consistent on this point and is designed to exhort commands to the greatest possible effort.

● *Motorized Rifle.* At this point it may be useful to examine several examples of night combat deployment at motorized battalion, company, platoon and squad levels. No Soviet sources could be found detailing preparations and tactics for larger units.

Once a battalion commanding officer receives a night attack mission, he immediately issues a warning order to his subordinates. Normally, he will report directly to the regimental commander to receive detailed instructions, after which a leader's visual reconnaissance is normally conducted 500 to 1000 meters into enemy-held territory, depending on the availability of good vantage points in friendly held territory. During this time, under supervision of the battalion chief of staff (executive officer), subordinate commanders check night vision devices, inspect equipment and take on supplies, including flares and illumination and tracer rounds. Once the battalion commanding officer returns from the regimental meeting, his subordinates assemble at a predesignated area for a detailed survey of the unit's zone of responsibility. To minimize confusion, definite boundaries are indicated for each subunit. Each unit is also assigned an azimuth for its final assault which, at night, is almost always accomplished on foot.

Normally, a motorized rifle battalion will be reinforced with at least an artillery battalion and tank company plus an engineer platoon and chemical, biological and radiological (CBR) section. If the situation warrants, antiaircraft and antitank units also may be attached. Artillery batteries may be assigned support missions to definite motorized rifle companies.

Prior to departing the assembly area, personnel normally tie on white armbands so that recognition problems will be minimized. Tanks and armored personnel carriers (APCs)

are marked with various white or luminescent panels or numbers on their rear surfaces or turrets so that each subunit can easily recognize the vehicles assisting in its assault.

During the tactical march to the FEBA, Soviet drivers make continuous use of their night vision devices. Intervals between vehicles are less than is standard for daylight marches. This will entail movement at speeds lower than during the day. Along the FEBA, use of IR devices is restricted to short, periodic bursts to avoid giving away positions to enemy reconnaissance. Radio silence is maintained during this period as the Soviets are extremely conscious of radio security. Sets are placed in the receiving mode and constantly monitored should there be urgent information directed their way. Once their initial objectives have been seized, however, they are required to radio this information to their superiors.

Motorized riflemen generally dismount from their APCs in preselected company disembarking areas and march in columns of twos to their platoon release points. Machinegunners armed with *RPK* light machineguns are first in the squad march order, followed by the squad leader, the grenadier (*RPG* grenade launchers) and the remaining squad members (*AKM* assault rifles).

A red light on the rear of every tank facilitates navigation for the riflemen as they approach their assault positions. Here, they deploy without pause on line and, delivering fire on the move, begin the final assault. Squad leaders position themselves in the center of their formation for more effective control. APCs follow and support the attack with their machineguns, moving to platoon objectives as soon as they are consolidated. As rapidly as possible, squads remount their carriers to pursue retreating enemy elements—contact is maintained to lessen enemy opportunity to deliver nuclear strikes or bring in artillery concentrations.

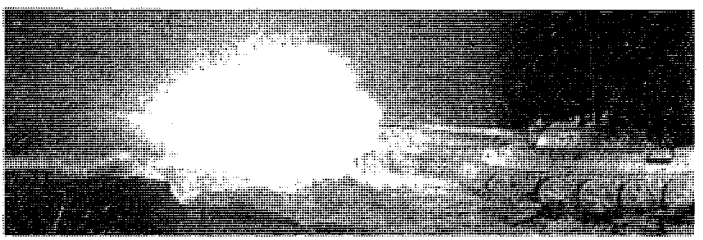
A Soviet motorized rifle battalion attacks with all three of its companies on line, with supporting tank, CBR and engineer units and sometimes artillery attached to each company. The battalion commander will normally retain at most a reinforced platoon as reserve. Soviet doctrine seems to rely on its large numbers of units which could be drawn from successive echelons to blunt any enemy breach of forward combat dispositions. In the event of an enemy counterattack, Soviet doctrine envisions the commitment of reserves to deliver an assault on the enemy's flanks and rear in an effort to encircle the counterattacking forces. After the counterattack has been repulsed, Soviet forces resume the pursuit at once. The Soviet publication *Night Combat* mentions that fewer forces are required for this at night than are needed in the daytime. Reserves and second-echelon forces available will exploit and develop ruptures in the enemy battle order, particularly along axes astride boundaries between enemy units, to drive deep into the enemy rear and encircle the largest force possible.

● *Armor.* On bright, moonlit nights or when artificial illumination or night vision devices are employed, tanks assault just ahead of the riflemen. Under conditions of more limited visibility, tanks will position themselves on line with the infantry so that the vehicles are not unnecessarily exposed to destruction during close combat. Under some conditions, engineers may be detailed as guides to lead tanks to their assault positions. Normally, the course

is determined by the tank's directional gyro which, according to Soviet testimony, is reliable at least where the terrain is relatively flat and clear of obstacles.

One Soviet article described a battalion night training exercise during which one of the tanks became bogged down in a shell crater. A recovery vehicle sent to the rescue managed to get lost and could not find the vehicle in distress. The commander of the recovery unit was finally forced to supervise the tank's recovery personally.[6] One tends to wonder about the vaunted Soviet nighttime cross-country movement capability.

Navigation is not the least of the tanker's problems during night combat. Acquiring and ranging targets is considerably more difficult than during daylight. Even the act of changing from day to night sights complicates matters as their magnification is different. Crew members' night vision can be temporarily destroyed for 10 to 15 seconds by muzzle flash or exploding rounds, making fire adjustment difficult. Finally, ballistic conditions change at night and must be recomputed, not always under the most desirable conditions in a darkened fighting compartment. Much is written of this by Soviet authors, but, if one can place any credence in Soviet accounts of the results of their training exercises, considerable accuracy at night can be obtained by well-trained gunners. One article mentioned that 100 percent of artillery targets were destroyed and 78 percent of the enemy machinegun emplacements engaged on a night firing exercise were hit.[7] Another article indicated that targets out to 3100 meters were being engaged although this was accomplished using the daylight scope and "simulated battlefield illumination."



During an assault, Soviet tanks will be fired while on the move or during short halts since the muzzle flash when the main gun is discharged provides an excellent target for the enemy

The Soviets use two techniques to range on enemy weapons using IR sights: Either two tanks determine the azimuth to the target and then compute its range using triangulation, or the target is engaged with the tank's coaxial machinegun which is adjusted until it is "on target." If

firing is being carried out by a subunit, the fire of one tank is sometimes adjusted by a neighboring crew.

During the assault, Soviet tank crews fire either while on the move or from a short halt as they realize that, once the main gun is discharged, the muzzle flash provides an excellent target for the enemy. For direct fire at shorter ranges, or when the coaxial machinegun and night sight are used to adjust fire, fire while on the move is preferred. For longer distances requiring indirect fire when the daytime scope is being used, Soviet tankers employ the short halt or longer halts. As a rule, they assault in a straight line since they are following an azimuth; if they must divert course to avoid an obstacle of some type, they must resume their previous course as soon as possible.

● *Artillery.* Normally, a Soviet night assault will be preceded by a heavy artillery preparation although this can be omitted if enemy defenses are perceived to be so weak that an attack by stealth is warranted. One article noted that such operations were frequent during World War II but stated that, in modern combat, normally such a "noiseless" attack would be attempted only to:

. . . fulfill local missions along separate lines of advance when the offensive is carried out by limited forces in adverse weather conditions (fog, snow, storm or rain).[8]

Aside from continuing to serve as the principal means of fire support, Soviet artillery has several additional functions during night combat. The artillery battalion attached to a motorized battalion for a night offensive may be directed to fire incendiary rounds upon preselected enemy targets, thus facilitating the attacking forces' navigation. Another characteristic mission is that of providing illumination—periodically for short periods of time during key stages of combat or during the entire operation. Continuous illumination would occur, as a rule, only when engaged in fighting for key objectives or to repulse enemy counterattacks. Artillery also will be immediately called upon to destroy detected enemy IR sources, or, on well-lit nights, it may be directed to lay a smoke barrage to "blind" enemy defenders. Under periods of reduced visibility, smoke will also be used as marking rounds to adjust fire.[9]

Soviet artillery commanders seem more concerned than others about cross-country movement at night; one source openly asserted that, because of difficulties characteristically encountered, command posts and firing positions ought to be situated close to roads. Another writer mentioned that, depending on various conditions, an artillery battalion's movement at night would be limited to between 20 and 40 kilometers per hour.[10] Other problems encountered at night are difficulty in selecting and surveying firing positions, target reconnaissance, fire adjusting and redeployment to new firing positions. Because of this, whenever possible, artillery units are emplaced during daylight, and firing data is prepared in advance on all probable targets or enemy axes of advance.

Artillery commanders are collocated with the commanders of supported units for night operations, with fire control being decentralized. This is apparent in the case of Soviet artillery employed in the direct-fire role. "Accompanying artillery" (*artilleriia sopravozhdeniia*), equipped with IR sights, is attached to frontline motorized rifle companies to ensure the re-

pulse of counterattacks and destroy tanks and enemy strongpoints.

Several interesting aspects of Soviet night instrumental reconnaissance or target acquisition (Soviet artillery employs optic, sound, radar, topographic, meteorological and even ground reconnaissance means) include the use of pictures which may reflect only muzzle flashes or other battlefield illumination. They are compared with photographs taken of the same area at daytime to aid in establishing firing data. During artificial illumination (flares or searchlights), optical reconnaissance may extend out to several kilometers; it is also conducted with IR equipment, but here the range would be more limited.

Muzzle flashes and the like can be ranged out to 10 kilometers by triangulating the azimuths shot by aiming circles at several optical positions.

Sound-ranging is one capability which improves at night; the Soviets estimate that it is as much as twice as effective at night due to sound propagation characteristics. Data charts are prepared in advance for various distances based on three variations in air temperature. [11]

Soviet artillery radar is used to detect range moving targets or large objects which extend above the general terrain surface. Radar is also used for counterbattery fire and to locate enemy radar, as well as to determine ground zero of nuclear bursts. [12]

● *Antiaircraft Artillery.* Antiaircraft artillery positions are equally difficult to establish at night. They are generally located along roads unless pre-positioned during daylight hours. At night, aviation and antiaircraft artillery units are assigned separate sectors of defense to minimize the possible infliction of damage on friendly forces. Antiaircraft artillery units also have the mission of destroying enemy illumination "bombs" lighting Soviet troop concentrations. [13]

● *Sappers, Engineers.* Engineer troop employment at night is characterized mainly by decentralization; subunits are attached to motorized rifle companies and even platoons. Use of construction equipment and the hauling of demolitions generally take place at least 1.5 to 2 kilometers behind front lines. [14] Although combat reconnaissance engineers (sappers) are equipped with night vision devices and signal lamps, in many cases, it will be necessary to illuminate the battlefield to fulfill their mission. Prior to the assault, one or two engineer observation and listening posts consisting of three to four sappers are established forward of each motorized rifle battalion. At night, listening posts may be increased and moved closer to enemy lines; when possible, sapper-linguists will attempt to gain combat intelligence on the opposing forces. [15]

Before the assault, often during the artillery preparation, sappers will clear paths through Soviet minefields by hand, but, normally, they will use demolitions or roller-equipped tanks to clear safe lanes through enemy fields—on a battalion front, up to six 6 to 8-meter-wide gaps. [16] A Soviet authority on engineer operations at night has stated that, whenever possible, obstacles and minefields will be reconnoitered during the latter half of the period of darkness since ground fog, which generally arises then, helps provide cover for the sappers. Routes for the assaulting forces are marked by reflectorized luminescent markers emplaced by engineers. Each engineer squad is issued up to 50 lengths of Bangalore torpedo and 25 to 35 markers. [17]

Damage to key roads in the attack area is repaired by composite "movement maintenance detachments" (*otriady obespecheniia dvizheniia (OOD)*) which normally also include a CBR section or squad. *OODs* clear the road of damaged equipment and mark obstacles or restricted passages along the route.

Although river-crossing operations are considerably complicated at night, during World War II, the Soviet Army accomplished the majority of its assaults across water obstacles under cover of darkness,[18] sometimes on staggering scales, as in the example cited at the beginning of this article. However, preparation and reconnaissance begin during daylight hours even if aerial reconnaissance is the only method possible.

Soviet forces will attempt to force crossings in weakly defended areas and will attempt to misrepresent their actual plans by conducting feints against strongly held areas. Normally, a river-crossing will be preceded by a heavy artillery preparation or, in a nuclear environment, following a nuclear strike on heavily defended points.[19] It should also be remembered that the Soviet basic assault crossing doctrine of crossing in strength at multiple points will also be applicable at night. While the assault is in progress, APCs and *PT76* amphibious tanks can be fired while swimming as can the main guns of medium tanks being transported on *GSP* or pontoon ferries. Correspondingly numbered points will be emplaced by engineer troops on both banks to aid in navigation. Chimneys of snorkeling tanks will be marked by luminescent markers (visible from the Soviet bank only) to assist in command and control. Once the far bank has been seized, Soviet units continue the assault without interruption to deny enemy forces time to regroup or prepare defenses or a counterattack.

When the Soviet advance is stopped by enemy counterattack, engineers will emplace hasty minefields using *PMR60* mine-emplacing trailers and other mechanical equipment. They will also demolish any prominent terrain features which could assist enemy orientation.

● *CBR Defense.* Since at night it is more difficult to determine sectors of radioactive and chemical contamination, or even detect enemy use of such means, the work of CBR troops is greatly complicated during periods of darkness, especially if they must operate wearing protective clothing and masks. CBR troops mark the limits of contaminated areas with special symbols, but, if by-passing is not possible, they are crossed in directions and on routes having the minimum dosages and providing the highest rates of advance.

At night, the "dazzle effect" of nuclear bursts is greatly increased as the pupils of the human eye are 50 to 60 percent wider.[20] Commanders and vehicle drivers are most vulnerable, and, for this reason, two to three alternate drivers are designated to wear protective glasses during the march when the enemy has been known to employ nuclear weapons. All units are given timely warnings of Soviet nuclear strikes so that they can take protective measures which may include the laying of smoke screens.[21] CBR specialists are assigned down to company and platoon level, but all units are supposed to have personnel trained in basic CBR defense procedures.[22]

The Soviets prefer to decontaminate equipment in "special processing points" (*raiony spetsial'noi obraboty*

After a nuclear or chemical strike, CBR "scouts" will survey uncontaminated sectors to set up special processing points

(RSO)) near inhabited areas since a certain amount of illumination is unavoidable to complete the procedure. In all cases, *RSOs* must be easily accessible to frontline troops and near the road. Because of the large quantity of liquid solutions dispersed from *ARS12U* or *ARS15* decontamination vehicles, *RSOs* usually cover a large area. One article mentioned the danger of vehicles becoming "bogged down" during the process, probably a recurrent problem when large numbers of troops must be treated.

● *Logistics.* Considerable attention during night operations must be devoted to logistical support. One Soviet source mentioned that requirements increase by from 15 to 30 percent during nighttime.[23] For operations planned to begin in the first half of the night, munitions should be brought to participating artillery units a day or two previously. Even motorized rifle troops demand more ammunition, and an APC is normally designated in each company for resupply from the battalion.

Medical evacuation is also more difficult at night. During World War II, Soviet forces used trained dogs to locate wounded soldiers, and a recent publication recommended their continued use. Heavy or mass casualties could overwhelm the Soviet medical system at night since their normal doctrine is to evacuate wounded troops under cover of darkness.[24]

● *Command, Control and Signal.* From all that has previously been mentioned, it is obvious that command and control is greatly complicated by the fluid and often uncertain nature of night combat. Regimental and higher commanders often experience information time-lags which, along with the character of night actions themselves, place far higher requirements on subordinate commanders to display initiative than has been customary in

the Soviet Army. But even intermediate commanders experience hardship in ascertaining their subordinates' current disposition. One interesting Soviet solution to the problem of establishing the whereabouts of the latest frontline trace is a technique whereby forward tanks and APCs are directed by radio to switch on their rear lights momentarily.[25] The commander may attempt to remain abreast of the situation by employing night vision devices, radar and television. In any case, Soviet doctrine insists that they ought to be as close as practical to the frontline troops.

Unfortunately, very little has appeared in the Soviet press concerning tactical peculiarities of Soviet communications at night. One handbook on night operation did stress that, despite the evident difficulties, wire communications should be established at night to provide commanders alternate channels of communications with subordinate, superior and adjacent units. The time required for laying cable is roughly doubled at night.[26] Airplanes and helicopters are also used to convey reports—and, presumably, for urgent resupply missions as well.

Soviet night offensive plans include provision for replacement units from reserves and second echelons to continue the assault at dawn or whenever the situation so dictates. Soviet planners are quite cognizant that night combat is a physically draining experience, especially if the assault began shortly after nightfall. Means are allotted to restore rapidly control, coordination and communications disrupted during darkness so that possible enemy counterattacks do not negate the night's results or so that the advance can continue without respite for their opponent.

Defensive Operations

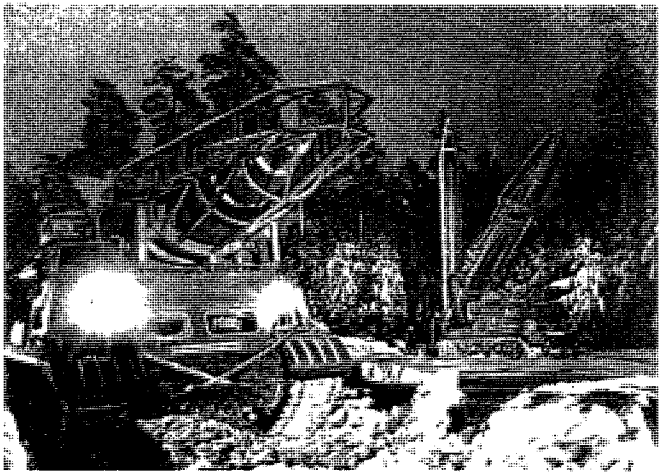
Even the Soviet Army finds that it will at times be necessary to conduct night defensive operations. Indeed, one book stated that night defense will occur as frequently as the night attack.[27] However, the number and detail of papers describing night defense is considerably less than treatments of the night attack.[28]

The Soviets find that night defensive operations have a series of positive aspects: Orientation and maneuver are much easier on familiar ground which is foreign to the enemy; positions and maneuvers can be planned and prepared during daylight; concealment and camouflage of dispositions and fire support means are easier; and counterattacks, even by small forces, have greater effect since the enemy is blinded and often uncertain of the actual situation.

Soviet theoreticians do concede that limited visibility does give certain advantages to enemy forces who can redeploy under cover of darkness and deliver sudden blows upon defenders. Limited vision hampers command and control, forcing subordinate commanders and individual soldiers to display greater initiative, especially when enemy forces penetrate into the depths of Soviet defenses. Finally, aimed fire is greatly hampered and, in some cases, all but impossible. For these reasons, Soviet units in the night defense generally conduct illumination of the FEBA at irregular intervals to detect enemy movement.

During hours of darkness, reserve and second-echelon units are, as a rule, positioned closer to the front line so that they may be rapidly deployed to threatened areas or to cover defensive gaps left by enemy nuclear strikes. To avoid destruction by nuclear bursts, the Soviets teach that troop

Photos courtesy of author



A Soviet Scud-A tactical missile unit engaged in a night training exercise

dispositions should be periodically shifted and large concentrations avoided to deny the enemy lucrative targets. In any event, second-echelon artillery will, whenever possible, support troops on line who are under attack.

Motorized rifle troops reinforced with tanks are again the backbone of the Soviet defensive formation. Their mission is thus formulated:

. . . to repel by overwhelming fire and counterattack enemy infantry and armor attacks, to inflict heavy losses, and to hold the position occupied. [29]

Under conditions of darkness, patrols are dispatched forward of the battle area and in gaps between strongpoints. Trained dogs, when available, are also used to detect enemy presence. [30] IR observation posts are also established, and, within each platoon, several soldiers are designated to detect and destroy enemy IR sources. Listening posts are established far forward, and combat outposts are established with the mission of engaging enemy forces and forcing him to deploy prematurely into combat formation. They are usually located in ravines or other depressions since, at night, visibility upward is better than in the reverse direction. Enemy forces crossing hill crests and other rises are thus silhouetted and readily spotted.

Prior to nightfall, motorized troops dig in; machinegunners, grenadiers and riflemen use pegs to mark their primary and secondary fire sectors and directions of fire. Positions are selected to preclude "dead" areas.

Tanks are frequently dug in as well, but will always have predesignated alternate positions to repulse assaults from the flanks and rear. Routes from primary to alternate emplacements are

surveyed and marked by luminescent devices beforehand. Zones of fire for each platoon are delimited by terrain features which stand out in relief against the surrounding background, as are sectors of concentrated fire. Detailed fire data are prepared so that concentrations can be delivered along probable approach routes without the use of night vision devices. [31]

Prior to periods of darkness, tanks from reserve units are frequently moved into weakly defended areas, especially along unit boundaries and astride probable enemy attack axes.

At night, artillery is employed in a direct fire role against assaulting enemy armor. "Artillery ambushes" are set along roads to destroy elements which penetrate forward defenses. A significant portion of available artillery also will be earmarked to an antitank reserve. Artillery conducts vigorous counterbattery fire and attempts to destroy any targets of opportunity which may be detected. Concentrations will be plotted along likely avenues of approach and plans drawn up, not only for final protective fire but also for fire upon friendly positions in the event they are overrun. [32] Prior to nightfall, artillery units will reconnoiter alternate positions which will be occupied in the event that retrograde movement is necessary.

For night defensive operations, Soviet engineer troops undertake elaborate camouflage measures such as the erection of screens and shields to mask Soviet dispositions from enemy radar.

Engineers will be called upon to construct fortifications, dig entrenchments and lay minefields forward of these defensive positions. Insofar as this is possible, these actions will be accomplished b e f o r e sunset since sound carries up to twice as far at night.

The Soviet data for the sounds listed in the chart are instructive. [33]

Also related are the Soviet figures for the distance at which certain light

SOVIET DATA FOR SOUNDS

Source of Sound	Distance of Audibility
Gunfire	Up to 15 kilometers
Single-shot rifle fire	Up to 3 kilometers
Movement of tanks and tractordrawn artillery:	
On ground/dirt road	Up to 2 kilometers
On highway	Up to 3 to 4 kilometers
Trench digging (shovel striking against stones or iron)	Up to 1 kilometer
Loud vocal commands	Up to 500 to 1000 meters
Talk	100 to 200 meters

is visible: A cigarette is observable at 100 to 200 meters, a burning match from 300 meters, and tanks or APC headlights are visible from 5 kilometers and more. [34]

Communications in the night defense is accomplished as much as possible by wire or personal contact between commanders. Soviet writings specifically mention the danger of enemy firing on command nets' locations if the defense remains static in one area several days. [35] They also complain that infrared surveillance devices' ranges are insufficient for the demands of defensive night combat, [36] but this problem has presumably been alleviated with the introduction of the starlight scope.

Although Soviet writings provide little elaboration on the mission and employment of tactical rocket/missile and air defense missile troops during hours of darkness, pictures published in their press imply that these important components of a modern army would be expected to function as during daylight hours. Despite their reputation for secrecy, much attention is devoted to nearly every phase of night combat in Soviet military publications. One must assume that such operations would figure prominently in any future Soviet land campaign.

NOTES

1 B. Krzhivskii, I. Klesken', V. Neimaier and Z. Gradetskii, *Nochnoi Boi (Night Combat)*, Nase Vojsko, Prague, Czech., 1960. Translated and published by Military Publishing House, Moscow, USSR, 1963. pp. 46 and 47.

2 Cornelius Ryan, *The Last Battle*, Simon & Schuster Inc., N. Y., 1967, p. 331.

3 Krzhivskii, et al., *op. cit.*, p. 50.

4 *Ibid.* pp. 58 and 59. Colonel I. Vorobyov, "Night Offensive," *Soviet Military Review*, June 1972, p. 14 and Lieutenant Colonel B. Nazarenko "*Batal'on Nastupaet noch'iu*" ("Battalion Night Attack"), *Voennyi Vestnik*, January 1972, p. 7.

5 Nazarenko, *op. cit.*, p. 11.

6 Lieutenant Colonel Engineer B. Gruzdev, "*Tekhnicheskoe Nabliudenie v Nochnom Boiu*" ("Technical Observation in Night Combat"), *Voennyi Vestnik*, February 1971, p. 109.

7 Colonel A. Krylov, "*V Usloviakh Ogranichennoi Videmosti*" ("Under Periods of Reduced Visibility"), *Voennyi Vestnik*, July 1973, p. 40.

8 Vorobyov, *op. cit.*

9 Lieutenant Colonel L. Iaremenko, "*Strel'ba na Porazhenie Noch'iu*" ("Destructive Fire at Night"), *Voennyi Vestnik*, May 1973, p. 68.

10 Colonel A. Rodin, "Night March," *Soviet Military Review*, March 1972, p. 22.

11 Lieutenant Colonel M. Mozharov and Major B. Krupenin, "*Kompleksnoe Zaniatie C Batareei Noch'iu*" ("Combined Training With a Battery at Night"), *Voennyi Vestnik*, February 1971, p. 53.

12 Krzhivskii, et al., *op. cit.*, p. 68.

13 *Ibid.*

14 Colonel V. K. Shamshurov, *Inzhenernoe Obespechenie Boevykh Deistvii Voisk Noch'iu i v Osobykh, Usloviakh (Engineer Support of Combat Troops at Night and Under Special Conditions)*, Moskva Voennoe Izdatel'stvo, 1969, p. 9.

15 Colonel V. Shamshurov, "*Inzhenernoe Obespechenie Nastupleniia Noch'iu*" ("Engineer Support of the Attack at Night"), *Voennyi Vestnik*, September 1970, p. 87.

16 *Ibid.*

17 *Ibid.*

18 Major L. Chuzavkov, "*Cherez Vodnuiu Pregradu Noch'iu*" ("Across Water Obstacles at Night"), *Voennyi Vestnik*, June 1971, p. 44.

19 *Ibid.*, p. 46.

20 Colonel M. Prostomolotov, "*Osobennosti Zashchity Noch'iu*" ("Peculiarities of Defense at Night"), *Voennyi Vestnik*, February 1972, p. 87.

21 *Ibid.*

22 Krzhivskii, et al., *op. cit.*, pp. 73-76.

23 *Ibid.*, p. 88.

24 *Ibid.*, pp. 87 and 88.

25 *Ibid.*, p. 92.

26 *Ibid.*, p. 91.

27 *Ibid.*, p. 111.

28 The author found only *three* sources which covered this topic in any detail.

29 Krzhivskii, et al., *op. cit.*, p. 119.

30 *Ibid.*, p. 120.

31 Major Z. Averyanov, "From March Into Action," *Soviet Military Review*, June 1972, p. 16.

32 Krzhivskii, et al., *op. cit.*, p. 122.

33 Lieutenant Colonel R. Trofimov and Lieutenant Colonel V. Shulkin, "Preparation of Tank Company for Night Defence," *Soviet Military Review*, September 1971, p. 29.

34 *Ibid.*

35 Krzhivskii, et al., *op. cit.*, pp. 144-45.

36 *Ibid.*, p. 143.

the origins of soviet air theory and doctrine

Lieutenant Colonel David R. Mets, United States Air Force

THE experiences of Charles XII, Napoleon, Hitler and the Americans at the time of the launching of *Sputnik* suggest that Russian technical and military prowess has been consistently underestimated by the Western World. Though there are competent works on the history of the air force of the USSR, [1] more attention has been given to the *Luftwaffe* and the Royal Air Force (RAF) than to Russian air power, particularly in periodical literature. Further, the literature which does exist gives little attention to the theoretical side of the subject. Thus, a look at the pre-World War II foundations of Soviet air power theory is in order.

The Russian Air Force was humiliated even in victory in Finland in 1939-40, and it appeared to be practically annihilated during the opening phases of *Barbarossa* in June 1941. After that slow start, how did Russian air power achieve air superiority only two years later and, in the end, emerge victorious? A major reason was the fact that the *Luftwaffe* was distracted by events in the west and south, but even the most avid Western cold warrior will admit that the Russians themselves did much to break the German war machine before *Overlord* and the combined bomber offensive were well under way. The purpose of this article is to discuss some of the underlying reasons for the remarkable recovery of the Soviet Air Force. It will deal with the theoretical, organizational, technological and personnel aspects of Soviet air power before and during World War I and then will treat the same topics under the Bolshevik regime before World War II.

Prior to Sarajevo, a common assumption in the West was that the Slavic peoples of Eastern Europe were semibarbaric at best and certainly incapable of building a modern war machine based on an industrial so-

ciety. But, today, one does not even have to accept the extravagant Communist claims that Alexander F. Mozhaisky preceded the Wright brothers by almost two decades [2] to come to the conclusion that the Russians were far from aeronautically illiterate before 1914. On the contrary, the Russians under the Czar had made some remarkable scientific advances. In 1913, for example, Igor Sikorsky led the way to the development of the four-engine aircraft. He began his career in aviation trying to develop a helicopter, but gave that effort up in favor of fixed-wing aircraft. Completed in April 1913, his aircraft, the *Grand*, boasted an enclosed cabin with a sofa and a separate washroom. Skeptics claimed it would never fly because the pilot needed to have the air flow across his face in order to maneuver an aircraft successfully. The first flight came in May 1913, and the craft was demonstrated for Czar Nicholas II during July of that same year. Nicholas was so impressed that he presented Sikorsky a gold watch. [3]

The *Grand* came to an untimely end when an engine fell off a passing aircraft. Unfortunately, it came down through the fabric of the wing of the *Grand*, and Sikorsky decided that the great craft was beyond economical repair. He replaced it with a bigger and better four-engine airplane which was to become the *Ilya Mourometz*—named after a legendary, 10th-Century Russian folk hero. Finished in December 1913, the first flights were made on skis from wet grass. The *Ilya* carried 16 persons aloft in February 1914. This feat so impressed the army—which so far had been skeptical of the practicability of large aircraft—that it ordered several copies of Sikorsky's pride and joy. [4]

Though Sikorsky's aircraft were certainly the most impressive, they were far from the only ones in the Russian air fleet. The Czar possessed perhaps two dozen dirigibles and more than 200 aircraft. Although some of the dirigibles were of native design and manufacture, most of the aircraft and practically all of the engines were imported from Western Europe, especially France. All of Sikorsky's engines for his helicopter experiments and for his airplanes had been purchased from the West. As early as 1910, flying and technical schools had been established for both the Russian Army and Navy. [5] When it is remembered that the United States was only then establishing its flying school at College Park, Maryland, and that when the United States entered World War

Lieutenant Colonel David R. Mets, US Air Force, is Chief of Operations, 16th Special Operations Squadron, in Thailand. He is a 1953 graduate of the US Naval Academy and holds a Master's degree from Columbia University and a Ph.D. in History from the University of Denver. He has taught military history at both the US Air Force Academy and the US Military Academy, and is a frequent contributor of articles to other US publications.

Ilya Mourometz

I it had fewer aircraft than the Russians had had in 1914, Russian achievement becomes all the more remarkable. [6]

There was no particular reason why Russian thought on the employment of air power should have been in advance of the rest of the world. Indeed, it was not. Though there had been some talk of strategic-type bombardment operations in Germany and Great Britain in connection with the fear of German dirigible technology, none of this thinking had been prevalent in Russian circles. Insofar as serious attention was given to the subject at all, the idea was to employ aircraft as an auxiliary to the surface forces—principally for reconnaissance and artillery spotting.

For all their pre-war progress in aviation, the Russians were not ready to fight a modern conflict. They simply did not have the industrial or technological foundation for a modern military organization. Much of their aviation materiel and most of the technology was imported from Western Europe. [7] Russian personnel were courageous and adaptable, but too few were technically competent for the work entailed by air operations. Far smaller numbers of aircraft and personnel were involved in the air war in the East than in the West, and German aviators consistently held that combat on the Eastern Front was a picnic compared to that against France and Great Britain. Operations were almost entirely in support of ground campaigns, and, even at that, there was little or no interdiction or close air support. The role of aircraft was very largely confined to reconnaissance and artillery spotting. The air defense mission was left to the artillery. [8]

Even the long-range *Ilya Mourometz* was employed in support of ground operations. About 75 of these aircraft were supplied to the Russian Army and were used in reconnaissance and long-range bombing missions. Experiments in night bombing, carried out in 1915, were largely ineffective, but the record was, nevertheless, impressive. Sikorsky served as a kind of technical representative to the squadron at the front (the squadron commander was the owner of the producing factory), and he claimed that only two of the great airplanes were lost before the outbreak of the revolution. By that time, the *Ilya* was getting off the ground at gross weights of up to 17,600 pounds, and about 400 bombing missions had been flown. [9] Though the *Ilyas* were organized into their own semi-independent squadron, most of the Russian air units were under the operational control of the ground commanders. Some were assigned to work with field army units; others, to serve

the needs of the commanders of the garrisons in the important cities.[10] Given the governing theory of Russian air power that aircraft are auxiliaries of surface units, the organization of air units could hardly have been otherwise.

By 1917, many of the same factors which had prevented the development of Russian air power were leading toward the rupture of the country's social fabric. Attempts were made to continue operations under the Kerensky government, but, when the Bolsheviks came to power that fall, the Russian air organization collapsed. Though a large number of the air officers and technicians went over to the Whites in the Civil War, a substantial proportion remained behind.[11] The greater part of the surviving materiel fell into the hands of the Reds. Despite these factors, however, the Whites were able to maintain air superiority through the early part of the Civil War because of the aid they were receiving from Great Britain, France and, to a much lesser extent, from the United States. Because of the infant state of the art of aerial warfare and of the small size of the forces involved, this air superiority could not be a decisive factor, and the Bolsheviks prevailed.[12]

Air power was employed in the Russian Civil War and in the war against Poland in much the same fashion as it had been in World War I. Thus, the impact of the later conflict on Russian air power theory was not to change it but, rather, to re-emphasize the "lessons" which had been learned fighting the Germans. The Soviets emerged convinced of the importance of aviation in the tactical role. It had been used effectively against the Whites in some close support and pursuit operations.[13] These successes helped to motivate the Bolshevik rulers to undertake a later campaign to instill air-mindedness in the Russian people. The Civil War, along with World War I, also convinced the Red leaders of the crying need for a sound industrial and technological base for the Russian organization for war.[14] Once the agonies of Lenin's New Economic Policy were passed, Stalin was to undertake to build this base with the First Five-Year Plan. Thus, the two main air goals of the new Soviet regime were to build an economic system which would support a modern air force and to build a modern air force designed to serve almost wholly in support of the surface armed forces.

The history of the interwar evolution of the Soviet Air Force is a tale of the growth from the tiny remnant of the Czarist force to the largest air arm in the world. The doctrine governing the development of that air arm changed hardly at all during the interwar period; the force was designed for tactical operations and had much in common with the *Luftwaffe*. Perhaps its most distinguishing characteristic was its airborne branch. The Russians led the way in the development of this mode of warfare. The growth of Soviet air technology between the armistice and *Barbarossa* was impressive indeed. At the outset, the Russians were heavily dependent upon foreign resources for their airframe and especially their engine design. By 1941, they were producing some very respectable combat aircraft complete with engines. The campaign to create a competent and air-minded personnel for the air organization was an outstanding success, and the organization itself remained devoted to serving the needs of the ground units. All in all, though the Russian Air Force was still far from perfect in

1941, it had grown and improved and had become sufficient to see the nation through its great trial—albeit with practically no safety margin.

The new Bolshevik regime demonstrated its dedication to the building of Russian air power even before the Civil War was over. In 1918, it took two steps of great consequence. It created a technical institute for the study of aeronautical science in Moscow (*TaSGI*), and it founded the Zhukovsky Academy for the education of air officers in engineering and in command. Flying and technical schools were established at various locations before the end of the Civil War. The *Osoaviakhim* organization was created to further interest in chemical warfare (at first) and later in aviation. It helped create flying clubs all over Russia. This provided the opportunity for technical instruction, flight training and even parachute experience to a very large number of the youths. It is said that, by 1941, over 100,000 Russian young people had made parachute descents under the auspices of *Osoaviakhim*. Practically all of the sources examined assert that this conscious effort of the government to arouse air-mindedness was an outstanding success from the very start.[15]

Though propagandizing for the development of air power was very important in Russia in the 1920s, perhaps the aid received from Germany was even more significant. It was natural that a diplomatic connection should develop between the Russians and the Germans; both were the outcasts of Europe. Moreover, from the military point of view, each had what the other power required so desperately, so much so in fact that the initial contacts were made by the German military.[16] The Germans required cover for their evasion of the military provisions of the Versailles Peace Treaty; the Russians, having lost many of their scientists and technicians and having been impoverished by the world war and revolution, required all the technical and financial aid that Germany could and would supply. From the time of Peter the Great, the Russians had not displayed any ideological or psychological aversion to accepting ideas from foreign lands.[17] The experience under Lenin and Stalin in the 1920s and the early 1930s was to demonstrate that the rise of the Bolshevik ideology was not to detract from Russian open-mindedness in this regard at least.

One of the steps undertaken was the foundation of an aircraft factory at Fili. The Germans were to supply the capital and the technical expertise for the project. Hugo Junkers was in charge. For a time, things went smoothly enough, but, eventually, Junkers became disenchanted with the economic prospects of the work and the Russians took over the plant for themselves. By this time, Andrei N. Tupolev had been in training in the Junkers factory long enough to take command himself. He then became the Russian pioneer of long-range and all-metal aircraft and was influential in the development of Soviet air power.[18]

Russian aviation was also aided by the Germans when they established flying schools in Russia and invited Russian officers to attend schools and staff colleges in Germany. The effects of this association between the Russian and German fliers can be traced through World War II and beyond, for the Russian air doctrine was to have much in common with that of the *Luftwaffe*. The Germans were present in Russia at the time of the initial development of Russian tactical

doctrine, and this was one of the reasons why Russian aviation developed more along tactical support lines than was the case with the US Army Air Forces (USAAF) and the RAF.[19] The Germans were not, of course, running these schools out of charity. They needed a way to test new ideas about war in the air without the handicap of the Versailles Treaty, and they needed a place to train their young fliers away from the prying eyes of the West.[20] In 1925, as many as 500 German officers were in Russia, many of them at the flying school at Lipetsk.[21] Many of the *Luftwaffe* high commanders in World War II received their early training at Lipetsk. The German influence went far beyond the area of aviation. The massiveness of the operation and the fact that it took place during the formative stages of the Soviet Air Force were to have far-reaching effects,[22] and the cooperation between the outcasts of Europe went on until the phase-out began in 1931. Adolf Hitler put a complete halt to it in 1933. Though the formal cooperation had ended, the German theory, doctrine and organization were to influence Russian military aviation for years to come.

Late in the 1920s, Joseph Stalin won the domestic power struggle which had been going on since Lenin had died in 1924. Insofar as air power was concerned, Stalin's economic program, the First Five-Year Plan, was designed to make Russia independent of foreign technology, industry and capital. Indeed, the main purpose of the plan was to accomplish these things for the Russian military establishment in general. This demanded immense investments in capital goods for heavy industry and entailed widespread suffering among the people, especially the farmers, because the consumer industries were consequently denied investment. Though the Five-Year Plan did go a long way toward its goals, it did not fully achieve them. By 1932, Russia was practically free of the necessity of importing airframes from abroad: its aviation industry was producing about 1000 aircraft every year.[23] Though still not reluctant to accept new technological ideas from the West, Russia had moved toward the establishment of its own, very respectable organization for the study of aeronautical science. As early as 1931, the Russians had even flown a helicopter and developed a jet engine of sorts.[24] For all of this progress in industry and science, however, little had changed in the theory of the employment of air power. The force was still designed to be little more than an auxiliary of the ground forces, just as naval aviation was designed only for the support of the naval arm.

During the late 1920s, Russia used its new aviation forces in the squabble with Chiang Kai-shek's China over the control of the Chinese Eastern Railroad which linked the Trans-Siberian line with the port of Vladivostok. Russia quickly established superiority on the ground and in the air and carried the point without any losses at all in the air. Not being able to very well sustain the position in Manchuria, Russia later sold the rights in the railroad to Japan.[25]

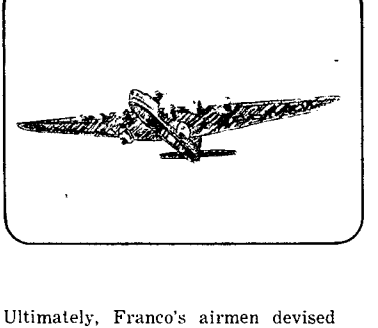
At about the time of the conflict with Chiang, Andrei Tupolev designed the *TB3*, another of a long line of very large airplanes—seven years before the first flight of the earliest American four-engine bombers, the *B17*. The *TB3* was a four-engine craft of advanced design, and more than 800 of them were produced for the Russian Armed Forces.[26] They saw service well into World War II, but their use-

fulness was somewhat limited because they had become obsolescent and were very slow by the standards of the 1940s. In the early days of the *TB3*, some thought was given to the development of a long-range strategic force. The Russian approach to the development of such a force was to make it a dual-purpose organization: It was to be used either for strategic bombing campaigns against the enemy heartland, or at least against his rear areas, or for the transportation of airborne forces to their objective areas. [27] The strategic bombing idea never got very far for numerous reasons. It suffered a severe public relations black eye when the giant *Maxim Gorky* went to its doom as a result of a midair collision. [28] More important was the fact that some of the chief proponents of strategic bombing, Khripin and Tukhachevski among them, paid the supreme price during the purges of the late 1930s. Further, the "lessons" of the Spanish Civil War, the conflict with Japan in the Far East, and the failure of the bombing campaign against Finland all seemed to dictate an air force wholly dedicated to the support of the army and navy. [29] Another reason for the neglect of the big bomber idea was the competition for large airplanes on the part of the airborne forces—and Russia was the world's leader in the development of parachute formations. [30] By the mid-1930s, the Russians had demonstrated the capability to move an entire division by air from Moscow to Vladivostok, to make single drops of forces as large as 1200 with all their small arms and to deploy a force of paratroopers 7000 strong. [31] Thus, even the long-range four-engine aircraft provided to the Soviet Air Force by Tupolev were largely devoted to the needs of the ground forces.

The Soviets devoted the greater part of their technical effort to the development of single-engine aircraft. Though fighters had been designed and engines had been built during the 1920s, none of these efforts ever amounted to much. By the early 1930s, however, Russian aeronautical science had become more competitive with that of the Western Powers. The most impressive products of that technology were the *I15* and the *I16*, both of which first flew in 1933. The former was a snub-nosed biplane equipped with a radial engine, the design of which was drawn from an American Wright-Cyclone. The earliest versions of this craft had fixed landing gear, but later models had manually operated, retractable wheels. The *I16*, which appeared about the same time, was a more advanced design—a low-wing monoplane with retractable gear. It was a success from the outset; over 20,000 of these airplanes were built during the 1930s. [32] Soviet technology was beginning to come into its own. At a time when the US Army was still using the twin-engine Martin *B10*, the Soviet Air Force had been flying a force of much larger, four-engine planes for several years. As far as the smaller planes were concerned, the *I15* and the *I16* were decidedly better than those fighters deployed to Spain by Germany and Italy during the first year of the Spanish Civil War.

Air power had made a significant contribution to World War I, especially in reconnaissance, but it was even more important in the struggle in Spain. The reconnaissance and artillery spotting roles were still vital to the battle on the ground, but airlift, the struggle for air superiority, close air support and even interdiction were developed more than they had been in World War I.

Maxim Gorky

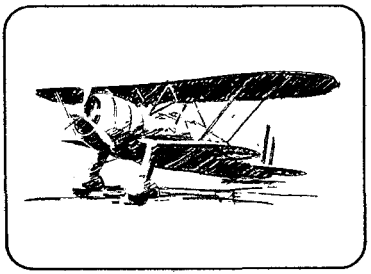


But for German air power, the rebellion might have been crushed at its inception. Late in July 1936, when the Nationalist forces in Spain were still relatively weak and disorganized, they were extremely vulnerable to attacks by the Loyalists. Hitler's Germany saved the day for Franco. A force of three-engine *Ju-52s* was deployed to Morocco to move elite units of the Spanish Army wishing to aid the effort to overthrow the legal government. Since the greater part of the Spanish Navy remained loyal to the government, it would otherwise have been impossible to employ the North African troops in the initial battles of the war. The *Ju-52s* did a yeoman job of moving the force across the Pillars of Hercules, and there was simply nothing that the navy could do about it.[33]

Though the "Fascist" air superiority enabled the 14,000 troops from Africa to play the decisive role in the beginning, that superiority was short-lived. Stalin decided to aid the Loyalist side. He deployed advisors, technicians, air crewmen and aircraft to Spain. The leading elements arrived by sea in October 1936, and Russians were on the scene in force by November. The bomber units were equipped with the new, twin-engine *SB2* which could outdistance the fighters first deployed by Italy and Germany (the *CR32* and the *He-51*.) Even later, when the Germans introduced their latest bomber, the *He-111*, the *SB2* retained its edge in speed and range. Ultimately, Franco's airmen devised tactics which partially overcame the speed advantage of the Russian bomber. The fighters would launch on a kind of combat air patrol. They would climb to some very high altitude to await the arrival of the Russian bombers. Trading altitude for speed, they were able to overtake their enemies and thus score some successes.[34] This expedient, however, could never be a truly effective substitute for built-in speed because it was a gross violation of the principle of economy of force. General Denisov's bombing force was not large enough, and its bombing methods were not accurate enough to have a decisive effect on the war.

The fighters in the air superiority and ground support struggles also had a technical edge but were more numerous and had a greater impact. General Yakob Smushkievich, alias General Douglas, came to command the Russian air contingent. His men were equipped with *I15* and *I16s*: the former was to be nicknamed the *Chato* and the latter the *Rata*. These aircraft were decidedly superior to the German *He-51s* and the Italian *CR32s*, and the experienced Russian pilots quickly

CR32

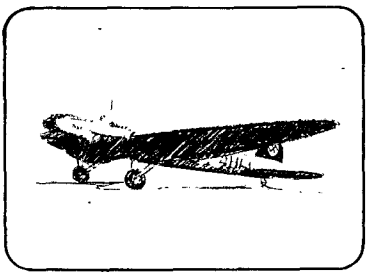


established air superiority for the Loyalists. This was the general condition for about a year, but the Nationalists tipped the scales during the fall of 1937 when the blockade, the closure of the French frontier and, finally, the appearance of the earliest versions of the *Bf-109* established air superiority for Franco.[35] All through 1938, the air situation went from bad to worse for the Loyalists. During the spring of 1939, the Nationalists completed their conquest of Spain.

The effect of the experience in Spain on Russia's organization for war in the air was not very profound. The inaccuracy of the bombing from the *SB2* did nothing to restore the credibility of the long-range bombing idea. However, the apparent effectiveness of close support aviation helped to confirm Russian doctrine on the importance of tactical aviation. The loss of air superiority in the final year of the war convinced them of the need for a new fighter design to face up to the German *Messerschmitt*. The capture of various German and Italian aircraft and the recovery of the wrecks of others provided the Russians with valuable technical intelligence. Finally, the airmen who participated gained some priceless combat experience—much of which Stalin was to waste in the purges of the late 1930s.[36]

Japanese expansionism on the Asian mainland before the end of the Spanish Civil War was almost certain to lead to a clash with Russia in northern Manchuria or Outer Mongolia. This resulted in some rather substantial conflict and again demonstrated that the Soviets had made dramatic advances in 20 years. At the time of the interventions at the end of World War I, the Japanese had roamed about Eastern Russia almost at will; in 1939, the Soviets were able to more than hold their own.[37] Perhaps the experience even helped turn the Japanese away from an assault on the Asian mainland despite *Barbarossa*, and caused them to look with more favor toward an expansion southward and, ultimately, toward an assault on Pearl Harbor. Both the Japanese and the Russians gained some intelligence from the struggle, and the fight did nothing to cause the latter to depart from their well-established air doctrine.

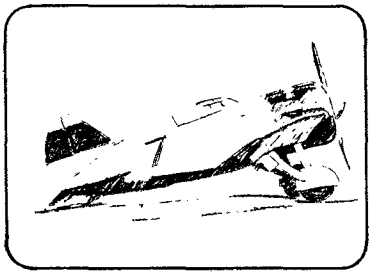
One would have thought that the experience in China and Spain prepared the Soviet airmen magnificently for a descent upon their Finnish neighbors. This was not so. The Finns entered the war with but 150 aircraft and were unable to import many in the subsequent months. Practically all were obsolescent, and the best of their fighters had fixed landing gear. Yet,



in the course of the war, the Russians lost about 600 aircraft to the Finns [38] and many others to various operational causes. Why this debacle? The wars of recent years had all been fought in good weather, but the Finnish conflict began just as the most violent part of the northern winter was about to begin. By itself, the cruel climate would account for a large share of the operational losses. Beyond that, though the Finnish Air Force put up a valiant struggle, the Russians, nevertheless, enjoyed air superiority throughout the war. Aided by various Danish and Swedish volunteer pilots, the Finns brought down a considerable number of Soviet airplanes. However, the greater part of the 600 Communist craft which were lost to hostile action were downed by Finnish antiaircraft artillery. [39] After the bad start, the Russians regrouped in early 1940 and brought the war to a successful conclusion in March of that year.

In itself, the Russian invasion of Finland was not a very massive operation by World War II standards. Yet it did have some rather significant effects on world history. Perhaps most important, Hitler probably gained some false impressions of the effectiveness of the Russian organization for war. Military opinion all over the world decided that the Russian war machine would collapse with "the first kick on the front door." This serious underestimation of Soviet staying power may well have led Hitler to make his most vital mistake: The decision to turn on Russia before he had defeated the British. The Russian appearance of weakness was deceptive. Many efficient units were not deployed against Finland because it was desired to hold them in reserve against various dangers in Europe and Asia. Further, the fact that the war was fought in winter was a significant point which was missed by many who underestimated the difficulties of cold weather operations. The units employed were largely drawn from the open country of southern Russia; when they were thrust into the forests of the north, they faltered--but the fight against Hitler was to take place in more open country. [40] Finally, beginning with Peter the Great, the Russians have a long history of adaptability. The world underestimated the Russian capacity to learn from their mistakes, and, when the final test came, the Soviet Armed Forces proved far more capable of overcoming the violent climate than was the *Wehrmacht*.

What then was the condition of the Soviet Air Force on the eve of its ultimate test? It possessed about 10,000



Rata

aircraft with the greater part deployed in Western Russia—a nonaggression pact had been signed with the Japanese during the spring of 1941. It had a substantial technical and industrial organization working to replace the *I16* which had demonstrated its limitations in Spain. It also was on the verge of producing one of the finest ground support aircraft of World War II- the *Il-2*, *Stormovik*. The Communist Air Force had a well-developed and tested doctrine for the employment of aviation in direct support of army operations. The flying service had a tested organization which placed air units, for the most part, under the operational control of the army commanders and reserved the administrative and technical tasks for a separate air organization. And, finally, the Soviet Air Force possessed a corps of air crew members who had as much combat experience under as varied conditions as any other group of fliers in the world.

Russia's air organization was certainly not without its defects. Many of its most valuable air leaders had been eliminated in the purges or had been lost in battle. The USSR was still dependent upon foreign resources for the design and even the supply of some types of aircraft. It was importing *PBY* seaplanes and amphibians from the United States and was to produce hundreds of copies of the US *C47*. Unfortunately for Russia, and ultimately for Germany, the defects were much more immediately apparent than the strengths. Only after the initial German thrust into Russia had failed was the latter to surface, and then it was too late.

What general conclusions can be drawn regarding the nature of Russian air power before World War II? First, in the area of theory and doctrine, Russian thought was much more akin to that in Germany and Japan than to that in the RAF or the USAAF. The Soviets had briefly considered the possibilities of long-range strategic bombing but rejected it and committed themselves to the employment of aviation as an auxiliary to the army and navy. In this, they were no more deficient than many other nations in the world. The Germans were just as committed to the use of tactical, rather than strategic, aviation, and the RAF and USAAF theories for destroying enemy military power at its source in the factories were certainly not without defects.

The Russian experience between the wars in the area of technology remains significant to Americans even today. The Soviet aeronautical scien-

tists demonstrated great flexibility of mind and originality of thought. They were certainly capable of coming up with radical new ideas, resulting in many aircraft which were splendid in their day: the *I16* in Spain and the *Il-2* in the ground attack role during World War II. Yet the Russian designers were sufficiently pragmatic to permit the adoption of ideas originally conceived in the minds of the "hated" capitalists. The *I15* and *I16* were fine products of native Russian genius, but used an engine inspired by the design of an American Wright-Cyclone. [1] The *Stormovik* was a great product of Russian aeronautical science, but the Soviets got a large part of their flying boat force from America. It would behoove America, therefore, never to underestimate the capability of Russian technology and industry to come up with new ideas or to adapt old ideas to their own purposes.

The study of Russian organizational efforts does not reveal much in the way of unusual new ideas. The interwar period was characterized by a mixed organization: The operational functions of command were the responsibility of the ground commander and the administrative functions belonged to separate air organizations. Later, during the war, the long-range force was to be made more or less independent of the ground commanders, but, even today, the Soviet organization has much in common with that of the 1930s. Operational control of the tactical forces is vested in the ground commander even though the air defense units, the long-range squadrons and the rocket forces have their independent command and control systems. During the pre-world war period, the Soviets organized their airborne units as a part of the air forces—a practice which was followed by the *Luftwaffe*, but which is quite different from the American usage. While the air power enthusiast will not find much that is inspiring in the Russian method of organization, the Soviet structure was fairly well-suited to its needs in World War II, and it certainly sufficed to see it through the crisis.

Finally, the Russian Air Force still had some personnel problems when Hitler struck. The Soviet society had been technologically weak at the time of the revolution. By 1941, however, it had made great strides in promoting air-mindedness and in educating a very large corps of operators and technicians. While it is true that they had not been able to overcome the original social problems entirely and that the competence of the air personnel of the Western Powers was still of a higher order than that of the Russians, the gap was far, far narrower than it had been in World War I.

When the German invasion came, there still were serious deficiencies in the Soviet Air Force. However, the foundations of air power had been laid and they were sound. Though Russia was to suffer grievously during the first year and a half, these foundations were to enable it to come back and, with the aid of its Allies, to achieve a final and total victory over the *Luftwaffe* and Nazi Germany.

History is continuity and change The recent SALT negotiations have made us aware that Soviet military theory and organization is very different from what it was in 1945. Yet there is also a strong element of continuity, and today's officer can do much to enhance his understanding of a potential adversary by studying the pre-nuclear-age history of Russian military aviation.

NOTES

1 The two most important books in English on the subject are Robert Kilmarx, *A History of the Soviet Air Force*, Praeger Publishers Inc., N. Y., 1962, and Asher Lee, *The Soviet Air Force*, Harper & Row Publishers Inc., N. Y., 1950. In addition to being more recent, Kilmarx' book is footnoted and has an ample bibliography. A more recent work than either is Robert Jackson, *The Red Falcons The Soviet Air Force in Action 1919-69*, International Publications Service, N. Y., 1970. However, this latter work was written for popular consumption, is not footnoted and really does not add much to the other works cited above. For all of that, it is basically sound and quite readable.

2 Captain Glenn E. Wasson, "The Airplane, Another Soviet 'First,'" *Air Power Historian*, July 1962, pp 151-56. Captain Wasson's interesting article suggests several important weaknesses in the Communist arguments.

3 Igor I. Sikorsky, *The Story of the Winged-S*, Dodd, Mead & Co. Inc., N. Y., 1938, pp 80-94

4 *Ibid.*, pp 94-101.

5 Robert A. Kilmarx, "The Russian Imperial Air Forces of World War I," *Air Power Historian*, July 1963, pp 90-95

6 *Ibid*

7 Kilmarx, *A History of the Soviet Air Force*, *op. cit.*, p 5.

8 *Ibid.*, p 21.

9 Sikorsky, *op. cit.*, pp 129-39.

10 Lee, *op. cit.*, pp 24-25.

11 One of the aviators who fled the Revolution at that time was the famous Alexander P. de Seversky who later became a leading air power polemicist in the United States. Seversky began his illustrious aviation career as a pilot in the czar's navy where he became an ace with 13 kills. It was during this service that he lost his leg. He was shot down and made a kind of controlled crash in the water. However, one of his bombs went off on impact causing the loss of the leg. Stephen Longstreet, *The Canvas Falcons*, Ballantine Books Inc., N. Y., 1970, p 367.

12 Kenneth R. Whiting, *The Development of the Soviet Armed Forces, 1917-1966*, AU Documentary Research Study, AU-201-66-ASI, Air University, Maxwell Air Force Base, Ala., 1966, p 24

14 Jackson, *op. cit.*, pp 13 and 17

14 *The Red Army*, Edited by Basil H. Liddell Hart, Harcourt, Brace, N. Y., 1956, pp 20-23, and Edward M. Earle, "Lenin, Trotsky, Stalin: Soviet Concepts of War," *Makers of Modern Strategy: Military Thought From Machiavelli to Hitler*, Princeton University Press, Princeton, N. J., 1971, pp 426-28.

15 Brigadier General Ramsay Potts, "The Foundations of Soviet Air Power," *The Annals of the American Academy of Political Science*, May 1955, pp 38-48, Kilmarx, *A History of the Soviet Air Force*, *op. cit.*, pp 94-95, George Schatunowski, "The Civil War to the Second World War," in Asher Lee, *The Soviet Air and Rocket Forces*, Praeger Publishers Inc., N. Y., 1959, pp 21-46 (Schatunowski is more reserved in his praise of *Osoaviakhim* than many of the other writers on the subject), and Lieutenant General D. Walter Schwabedissen, *The Russian Air Force in the Eyes of German Commanders*, Arno Press Inc., N. Y., 1968, pp 5-6.

16 Hans W. Gatzke, "Russo-German Military Collaboration During the Weimar Republic," *The American Historical Review*, April 1958, pp 565-97.

17 Whiting, *op. cit.*, pp 2-3.

18 "Andrei N. Tupolev Dead," *The New York Times*, 24 December 1972, p 41N.

19 Jackson, *op. cit.*, p 25.

20 Gatzke, *op. cit.*, p 583, points out that the distance involved and the closed nature of the Russian society did not keep the information from the West. The French and the Poles knew a great deal about the whole operation. However much the Westerners knew about the violations of the Versailles Treaty, they did not find it convenient to do very much about it.

21 Herbert Molloy Mason, *The Rise of the Luftwaffe*, The Dial Press, N. Y., 1973, pp 151-57

22 Potts, *op. cit.*, p 40, and *Ibid.*, pp 157-58

23 Schwabedissen, *op. cit.*, p 5.

24 Kilmarx, *A History of the Soviet Air Force*, *op. cit.*, pp 96-101.

25 *Ibid.*; and Jackson, *op. cit.*, p 26

26 Jackson, *op. cit.*, p 30

27 *Ibid.*, pp 120-24.

28 Captain Glenn Wasson, "The Maxim Gorky, Soviet Colossus!," *Air Power Historian*, April 1962, pp 80-83. Captain Wasson's fascinating article describes this magnificent flying machine. Its wingspan was greater than that of the *B-52*, and its gross weight approached that of the *Super Constellation* of a much later period. The thing was a product of Andrei Tupolev's fertile mind, and it was designed mainly to serve the purposes of Russian propaganda.

29 Lee, *The Soviet Air Force*, *op. cit.*, p 31.

30 *The Red Army*, *op. cit.*, p 59

31 Major General Hellmuth Reinhardt, "Encirclement at Yukhnov: A Soviet Airborne Operation in World War II," *Military Review*, May 1963, pp 61-75. General Reinhardt also explains that the employment of these seemingly advance airborne forces never amounted to very much during World War II. See also Lieutenant Colonel Douglas M. Craver, *Key to Victory: The Development of Air Supply Doctrine in the China-Burma-India Theater, 1941-45*, Unpublished Master's Thesis, Duke University, Durham, N. C., 1970, pp 26-28.

32 Jackson, *op. cit.*, pp 33-34

33 Cadet John F. Guilmartin, "Aspects of Airpower in the Spanish Civil War," *Air Power Historian*, April 1962, pp 83-86.

34 Jackson, *op. cit.*, pp 42-43 and Peter Elstob, *Condor Legion*, Ballantine Books Inc., N. Y., 1973, p 132

35 Guilmartin, *op. cit.* Lee *The Soviet Air Force*, *op. cit.*, pp 39-43, and Schatunowski, *op. cit.*, pp 37-38

36 Kilmarx, *A History of the Soviet Air Force*, *op. cit.*, pp 146-47, and Elstob, *op. cit.*, pp 153-59.

37 Lee, *The Soviet Air Force*, *op. cit.*, p 44.

38 William Green and John Fircker, *The Air Forces of the World*, Hanover House, N. Y. 1958, p 251; and Richard W. Condon, *The Winter War Russia Against Finland*, Ballantine Books Inc., 1972, p 154, places the Russian losses at 900

39 Condon, *op. cit.*

40 Green and Fircker, *op. cit.*

41 *The Soviet Air Force in World War II, The Official History*, Edited by Ray Warner. Translated by Leland Fetzer, Doubleday & Co. Inc., N. Y., 1973, p 8n

A New Strategy for the US Army

Major Robert F. Helms II,
United States Army

CHANGE is recognized as one of the true constants of life and perhaps at no other time in history is this phenomena of such magnitude and far-reaching consequences as it is today. Accordingly, it is imperative that the military strategist recognize and understand the changes taking place in his environment, be capable of deducing trends and develop a sound strategy based on his hypotheses. This article addresses some of the more significant changes presently occurring, discusses their probable effects on military strategy and offers a plausible strategy alternative for the US Army during the 1975-90 time frame. The sequence for this task takes the form of a review of international and domestic factors affecting a new strategy and functions of the US Army during the period, followed by a discussion of the proposed strategy.

FACTORS THAT IMPACT ON A NEW STRATEGY

The International Arena

As a point of departure, it is necessary to recognize that the United States' position, relative to other nations, is in a state of transition. The United States is becoming increasingly dependent on other nations for resources and markets. As this phenomena occurs, a parallel interdependence is developing in the economies of, and the United States is becoming increasingly sensitive and vulnerable to, those nations possessing markets and raw materials. This trend is expected to gain momentum, rather than subside, in the foreseeable future. One only has to remember the domestic impact of the 1974 Arab oil boycott, with the accompanying higher prices for fuel and inflation, and devaluation of currencies, to understand the impact of these factors.

A second significant change of the 1970s is the disappearance of a bipolar world and the emergence of a multipolar world with five political bases: the United States, the Soviet Union, Western Europe, Japan and China.[1] Moreover, the recent bloc voting of Third World nations in the United Nations on the Israeli-Palestinian issue suggests that a sixth base may be about to surface, but it would be premature to announce such an occurrence at this time. The emergence of a multipolar world can be attributed to numerous causes. Among the more significant are:

- Reduction of US/USSR Cold War tensions.

- Post-World War II economic recovery of Japan and Western Europe.

- Decreased US independence in the international arena.

Major Robert F. Helms II is with the Department of Strategy, USACGSC. He received a B.S. in Biology from Henderson State College, an M.A. in Political Science from the University of Louisville and is a 1975 USACGSC graduate. He has served two tours in the Republic of Vietnam and with the 14th Field Artillery and the 1st Armored Division Artillery in the Federal Republic of Germany.

- A natural desire to be in control, to the extent possible, of one's own destiny. This particular factor was accentuated during the 1974 Arab oil boycott.

- Apparent disenchantment of the US public with foreign military commitments and a desire to put the US economy first.

Some of these changes will be discussed in greater detail later, but, at this time, it is imperative to recognize that these occurrences force new political realities on the military strategist. The United States can no longer be confident of the traditional post-World War II support for its foreign policy. This development will force the United States to conduct more unilateral actions, and these actions will come under increasing criticism from other nations. As a way of illustration, the United States' actions to resupply Israel during the 1973 Mid-East War came under sharp criticism from traditional Cold War allies.

Europe has and can be expected to continue resisting any US effort to decrease the present American Armed Forces stationed there or to persuade those nations to increase their armed forces. This is a paradox. On the one hand, the European nations rationalize their reluctance to increase conventional armed forces on the basis of reduced Cold War tensions with a similar reduction in the likelihood of a Soviet attack. On the other side, whenever the United States alludes to a reduction in US Armed Forces in Europe, the European nations base their counterargument on the necessity of these forces to deter Soviet aggression.

These positions may seem at first glance to be at cross-purposes, but, in fact, they are quite compatible. A credible US conventional presence is needed in Europe to complete the nuclear deterrence equation.

There is no quarrel with this fact from the military strategist, but a problem arises when the Department of Defense must justify the US presence in Europe to Congressional critics. Invariably, these critics seize upon the reluctance of the European nations to increase their own armed forces to challenge Department of Defense justification. It is becoming increasingly difficult to maintain the US force in Europe, and the pressure to reduce them will undoubtedly become more intense.

Europeans naturally view Congressional pressure to reduce US Armed Forces on the Continent with suspicion. This functions to increase their desire for an independent foreign policy and increases the strains on NATO to acute levels. The bonds of NATO have already been severely weakened by the Greek-Turkish conflict, France's withdrawal and the 1973 Arab-Israeli War with the subsequent oil boycott.[2] The weakening of NATO has been a longtime Soviet objective, and the present trend must be looked upon with favor in the Kremlin.

Reference to the Kremlin brings up another significant variable which haunts the military strategist—that is, what are the Soviet Union's long-range goals and intentions? On the one hand, it appears that détente, with accompanying reduced tensions and increased good will and trade, dominates. On the other, the Soviet Union is energetically developing naval and maritime forces which are rapidly approaching the level required to project significant military forces around the world. Parallel developments are occurring in strategic aircraft.[3] The impressive resupply of the Arab nations in October 1973 attests to these capabilities and sheds some insight on Soviet intentions.

It is apparent that the Soviet Union will resupply allies who are engaged in a conflict rather than permit their defeat. However, it is not clear if the Soviet Union would reinforce allies with combat forces to prevent their defeat. Neither are there indications that the Soviet Union intends to project military power ashore in the Western Hemisphere or be content with show-of-the-flag maneuvers in international waters. The development of a navy infantry and deployment of aircraft carriers, which is expected to occur within the next decade, will provide a capability to project military forces ashore in the Western Hemisphere.[4] This capability must be constantly in the minds and reflected in the thoughts of military strategists.

Before moving from the international arena to the US domestic scene, there are two additional factors which must be discussed. These are the Sino-Soviet conflict and nuclear proliferation. Although the Sino-Soviet conflict is a real phenomena and must require considerable attention in both capitals, it is unlikely that large-scale war will erupt between these antagonists. Therefore, it should not be counted on too much as a restraining force on the Soviet Union; presence—yes, dominant—no.[5]

The proliferation of nuclear weapons is a significant occurrence and must be incorporated into future US military strategy. It is difficult to predict with any assurance how many or which nations will obtain nuclear weapons in the next decade. Not only is the capability to produce a nuclear weapon being realized by more nations, as evidenced by India's nuclear detonation in 1974, but the difficulties of safeguarding weapons and ease of transporting them make it possible for a determined nation or terrorist group to obtain them via illicit means. A means of delivery on a lucrative target, such as a large supply depot or harbor, could probably be improvised by a determined group.

The Domestic Arena

The dominant factor on US military strategy is the domestic political and economic situation. These variables determine foreign and domestic policies which drive resource priorities upon which the armed services' missions and allocations are dependent. It is only natural that domestic requirements will receive priority in the allocation of scarce resources. The pressure to reduce defense expenditures, in order to provide more resources for domestic use, is always great, but the pressure increases to acute levels during periods of economic stagnation as is presently occurring in the United States. The disillusion of many Americans with the Vietnam War and the relaxing of Cold War tensions, as advertised by the supporters of détente, function to increase further the pressures to reduce defense expenditures. [6]

The total effect is that it will become increasingly difficult to justify the mission and resources required for the US Army from a Cold War, police-the-world perspective. Unless the Army's composition is altered, its ability to protect US interests abroad will become the subject of increasing dissatisfaction and challenge. After all, the US Army did not prevent Arab blackmail in the form of exorbitant prices for oil. Under these circumstances, it is only natural for the taxpayer to become more concerned and question the return he is receiving from his dollar investment in the Army.

US ARMY FUNCTIONS DURING THE 1975-90 TIME FRAME

For the first time since the nation began its preparation for World War II, the Army does not have a definitive strategic mission other than to protect US interests abroad and the homeland. During World War II, the mission was simply to destroy the enemy. After World War II, its mission grew out of the Cold War policy of containment. This mission was performed admirably but can no longer serve as primary justification for its existence. It is simply counterproductive to continue using the Communist threat when the US Government is proclaiming a reduction of tensions as a result of détente.

The requirements for the US Army during the 1975-90 period can be identified as: [7]

- First, a credible conventional deterrent force must be maintained in Europe.

- Second, the Army must be capable of protecting US interests abroad.

- Third, the Army must be capable of protecting the homeland and provide domestic tranquility in which the constituted government can function.

At first glance, these do not appear to be new or different, and they really are not. It is the emphasis and means by which these requirements are accomplished that differs and from which a new strategy evolves.

Maintaining an Effective Conventional Deterrence in Europe

It is difficult to argue that deterrence in Europe, in the form of conventional forces, has not and will not remain cost-effective in the foreseeable future. The concept of these forces functioning as a "trip wire," which ensures a US political commitment in the event of aggression, has been effective in deterring aggression and promoting stability on the Continent. Until US military

forces were permanently stationed in Europe after World War II, 20th-Century Europe experienced constant turmoil and two devastating wars. Although remarkable economic and political progress has been made in healing the wounds, there are factors remaining which could lead to renewed conflict. In this sense, the present forces represent sound preventive measures. It would be a gross error to reduce these forces unilaterally during the current Strategic Arms Limitation Talks (SALT) and Mutual Balanced Force Reductions (MBFR) talks. Therefore, the present composition and size of the Army's combat and combat support forces in Europe should be retained until real progress is made in the SALT and MBFR talks. [8]

Protecting US Interests Abroad

This requirement calls for careful, serious thought and significant deviation from present strategy and organization. The Vietnam War, or "experience," demonstrated the futility of confronting an unconventional force with conventional forces over an extended supply line. Further, the British experience in Ireland would seem to indicate that unconventional forces can frustrate a conventional force in an industrial area. Therefore, this truism is not confined to developing nations with mountainous or jungle terrain. It appears that the traditional, historical means of protecting interests abroad is no longer appropriate. This development comes at the very time when the nations possessing the needed raw materials are grouping together in order to assert their power vis-à-vis the industrialized nations.

As it becomes more accepted that military power cannot ensure the availability of raw materials, the industrialized nations will be forced to negotiate and enter into equitable trade agreements. This means the US Army's role in obtaining these raw materials will not be one of conqueror, but, rather, one of providing stability in which trade agreements can function. It can expect to be called upon to deploy, on short notice, to either industrialized or nonindustrialized areas for limited operations. Emphasis will necessarily be on entering a destabilized environment, restoring stability and then withdrawing. This may seem strikingly similar to a world police role, but it is significantly different on two accounts: intent and composition of forces involved. The intent is to project US conventional deterrence where needed to assist other nations and to promote and maintain a stable environment in which negotiated trade agreements can function. US military power would assume a secondary not primary role, be of short duration and employed to protect trade agreements rather than to contain communism. With this mission, the US Army would have a positive role to perform in maintaining the nation's economic position in the world.

The force required to support such a mission must be credible—that is, it must be in existence, to include a means of projecting and supporting it, and it must be highly trained, capable of rapid deployment and supported by the US domestic political environment. It would necessarily be light, consisting primarily of infantry, towed artillery and light armor in the form of a vehicle similar to the **M551** armored reconnaissance assault vehicle. Helicopter support, except for command and control, should be very limited. Communications to support the force would be rather sophisticated and plentiful. However, since the force is being deployed for a limited time and to perform a very limited mission, many of the present support units such as intel-

ligence, civil affairs, and so forth could either be excluded or greatly reduced.

The overriding considerations in tailoring the force would be rapid deployment, minimum logistical tail and ease of extracting it. The logistical support is critical. Logistical support by air would be used as available, but it must be assumed that shipping via sea would provide most of the resupply. If ports are available, they should be used. If established ports are not available, however, then logistics would have to be prepared to function in dispersed over-the-beach operations as the short-term nature of the operation would preclude establishing port facilities of the Vietnam varieties. Care would have to be taken to prevent logistical areas from developing into lucrative targets for sabotage or for nuclear and conventionally armed warheads. Emphasis would have to be on dispersion, rapid offloading and movement to the using unit. Containerization seems to represent a correct step in this direction.

A six to eight division-size force of the nature described should be sufficient to meet the second requirement.[9] It could be stationed in the United States and maintained in a high state of readiness with annual deployment exercises and manpower priorities. The infantry orientation would permit its maintenance at lower costs than comparable mechanized and armored divisions. Further, the ability to deploy rapidly would assist in deterring possible encroachments on US interests abroad through improved credibility and promoting stability for economic growth. Most important, it is consistent with the position of the United States among other nations to include the Soviet Union, provides for protection of US interests in areas possessing raw materials and would be acceptable to the present US domestic environment.

Protecting the Homeland and Providing Domestic Tranquility

This is not a new requirement, but the first portion takes on added importance in view of the present efforts of the Soviet Union to increase its capability to project military power. As discussed earlier, this is an occurring phenomena, and there is no experience factor upon which a prediction can be based. However, it is possible to speculate about Soviet intentions. In this sense, it does not seem unrealistic to assume that the Soviet leaders have not only been convinced of the validity and need for flexible response forces, but are coming aboard with their own version.[10] Under these circumstances, the military strategist would be derelict if the defense of the Continental United States was not accounted for in his master plan. This includes the ability to defend anywhere in the Western Hemisphere—that is, South, Central or North America.

Aggression outside of the Continental United States would be opposed by the six to eight division contingency force described above. If aggression were to occur on the Continental United States, these forces would be employed to counter it, but additional forces in the form of three or four Active Army divisions augmented by a viable national Reserve force is required. It would not be responsible to plan on using the US deterrent forces positioned in Europe in this scenario since any such maneuver by the Soviet Union would almost certainly be accompanied by similar actions there.

In considering the Active Army units dedicated to defense of the Continental United States, it may be preferable to position six to eight brigades about the country which would be filled out with two Reserve component brigades if mobilized.[11] These

units would be activated only during a national emergency and would not be deployed abroad except in situations comparable to World War I or World War II.

This has obvious advantages for the Reserves and National Guard. First, an announced mission of defending the homeland, with deployment abroad only in acute situations, would facilitate recruitment, motivation and retention for these components. The current affiliation of Active Army and Reserve units would be extended and made stronger with the joint mission. Second, the domestic political difficulties connected with deploying "flushed-out" Active Army-Reserve affiliated units overseas would be solved since these units would not be deployed under normal conditions. This would permit much faster deployment of the contingency reaction forces proposed to fulfill the second requirement.

CONCLUSIONS

The strategy being proposed is oriented on continued deterrence in Europe at an appropriate level during the current SALT and MBFR talks, protecting and providing stability for US trade agreements via a credible contingency force and an Active-Reserve component affiliated force dedicated to the defense of the homeland and ensuring domestic tranquility in which the constituted government can function. Justification for the resources required to support the Army is based on a realistic, meaningful mission which is consistent with the current US world position and interests for the foreseeable future. It agrees with the principles of US and Soviet détente, permits the United States to continue SALT and MBFR talks from a position of strength and is responsive to the current demands of the domestic political and economic environment. Although faced with difficult tasks at home and abroad, the US Army is certainly capable of meeting and overcoming all challenges. The proposed strategy would assist in these efforts.

NOTES

1 *Army Tasks For the Seventies*, US Army War College, Carlisle Barracks, Pa., 1972, p 52

2 For a more detailed discussion of the strains being experienced by NATO see *Strategic Survey, 1973*, The International Institute for Strategic Studies (IISS), London, Eng., 1974, pp 61-65

3 Hannes Adomeit, *Soviet Risk-Taking and Crisis Behaviour From Confrontation to Coexistence*, *Adelphi Papers*, Number 101, IISS, London, Eng., 1973, pp 20-27, provides the reader with a very good summarized discussion of Soviet military development, use and intentions.

4 *Ibid*, and Richard Lowenthal, "Changing Soviet Policies and Interests," *Soviet-American Relations and World Order The Two and the Many*, *Adelphi Papers*, Number 66, IISS, London, Eng., 1970, p 11

5 Pierre Maillard, "The Effect of China on Soviet-American Relations," *Soviet-American Relations and World Order The Two and the Many*, *Adelphi Papers*, *op cit*, p 42

6 *Army Tasks For The Seventies*, *op. cit*, pp 9-31.

7 *Ibid* pp 56-93, provides the reader with a much more detailed discussion of these requirements and is recommended reading for the serious student.

8 *Strategic Survey, 1973*, *op. cit*, pp 56-65.

9 The six to eight division-size force is the author's judgment The actual force size required would have to be determined by threat analysis balanced against resource allocation In considering the force size, one would have to be prepared to deploy into and stabilize multiple trouble areas simultaneously

10 Adomeit, *op. cit*, pp 33-37

11 The six to eight brigades is the author's judgment See footnote 9.

MR

The Battle of Saratoga: A Fateful Turning Point for American Independence

Joseph R. Goldman

IN THE fall of 1777, the American Revolution took a course that would alter forever British and American destinies. At stake were two early strategies which both sides believed would give their cause eventual success. For the Americans, final victory could only come if they could hold out until foreign allies came in to help defeat Great Britain on land and on the high seas. For the British, their grand strategy, if successful, would cut the Colonies in twain and bring ruin to the American cause before Europe could intervene decisively. When the British under "Gentleman Johnny" Burgoyne collided with the Americans led by Horatio Gates and Benedict Arnold at Saratoga, the die was cast. The American triumph at Saratoga marked the turning point for each of the strategies.

From the opening battles at Lexington and Bunker Hill, the war stagnated into a desultory affair whose long-term outcome invariably pointed to heavy British losses in blood and treasure unless a way was found to crush the rebels. General Burgoyne and other strategists devised a scheme that just might bring the rebellion to a satisfactory conclusion. The "grand strategy" envisioned a north-south junction of two British armies at Albany, New York, to sever New England from the rest of the Colonies while engaging Washington's forces in a decisive confrontation. Burgoyne was to move southward from Montreal with a force of 6000 Regulars, German mercenaries, provincials and Indians to meet General Howe's forces moving northward from New York City. Should this pincer plan work, then

Philadelphia, the American capital, would be deprived of New England, and total defeat of the rebels lay within British grasp.

The colonists were not unaware of the perilous situation affecting them should the British ever link forces and detach New England from the rebel side. Generals Washington, Gates and Arnold knew from reliable sources that the enemy could indeed launch with ease an operation of that magnitude. Agents in Canada and New York reported sizable concentrations of British troops and supplies for a late summer advance against the strategic Hudson River Valley. The recapture of Fort Ticonderoga by the foe in July signaled the Americans that time was running out: Burgoyne was on the move toward Albany. The Americans eventually gathered a force of 20,000 men led by Generals Horatio Gates, Benedict Arnold and Enoch Poor and Colonels Daniel Morgan and Ebenezer Learned to check "Gentleman Johnny's" march. After several thrusts and counterthrusts during August and September, Burgoyne's army reached Bemis Heights in early October, but the British forces from New York City had not yet fulfilled their part of the grand strategy. Generals Howe and Clinton were notified only that they were to move northward. However, the message sent by Burgoyne for them to proceed was never delivered: The messenger was killed, and his dispatch fell into American hands.

Despite massive desertions by provincials and Indians, as well as some German units, besides enduring overburdened supply lines from Canada, General Burgoyne decided to commit his forces before all the Americans could combine against him. On 7 October, the two armies collided, and, after five hours of bloody assaults, Burgoyne was obliged to retreat—but his army was not broken. Notwithstanding the British Regulars' valor and their commander's tenacity, the Americans under Arnold boldly shattered the enemy's attack until Burgoyne retired from the field. Five days later, "Gentleman Johnny" surrendered, and his army was led away into captivity.

Saratoga now shifted American prospects toward final victory. France, which watched both sides with great care, saw the American victory as a magnificent opportunity for it to take revenge on Britain. All Europe applauded Gates' martial accomplishment, while Burgoyne returned in ruin to England without his army. From this point on, the war became an international one when France, Spain and other European states lent their support for American independence at British expense.

Dr. Joseph R. Goldman is an Instructor in the Department of Strategy, USACGSC. His Bicentennial Feature "Marquis de Lafayette and the American Revolution: The Commissioning of a Young Patriot" appeared in the May 1975 MILITARY REVIEW.

from

Social and Political Pressures Facing the Modern Soldier

Lachlan Shackleton-Fergus

Reprinted from the Journal of the Royal United Services Institute for Defence Studies (Great Britain) December 1974.

WHAT is the use of international law? It cannot prevent wars. Such a comment is frequently made today by soldiers who are often better acquainted with the realities of crisis than either the lawyer or the politician. Yet most who serve in military forces desire to believe in justice and the application of an internationally acceptable legal system. How is it possible to bridge the gap between disillusionment and hope for a better future?

Those of us who have been closely associated with the progress of international law, and, at the same time, have had the privilege of contact with military personnel at home and abroad, are acutely aware of this unhappy and unfortunate dilemma. The disillusionment is expressed in many forms. One of the most noticeable is the gradual rejection of nonservice opinion. The United States military has come close to rejecting it altogether after the unfortunate experiences in Vietnam. Such a step is understandable but nonetheless regrettable. The rejection of interdisciplinary discussion is a usual result of frustration in an impossible military situation. This rejection is not so much a judgment on the quality of the advice provided, but rather a symptom of the frustration. Had the military outcome been different, there may well have been those who would have seen the advice of nonservice personnel as a contributory factor to the success.

How has this credibility gap developed between the practical military objectives and the broader assessment of political and moral intention? We live in a world where communication has never been better. Logically, we should be able to judge and compare various points of view in a more informed manner than ever before. Yet it may well be that this very development of communication has increased the problems involved in the process of formulating a balanced judgment. The rapid production of available material and evidence creates a defensive attitude in those who cannot clearly see their aims and objectives.

The daily coverage which modern conflicts have received by television and radio tends to blunt the consciousness and interest of a community and could result in rejection through sheer saturation. Such is the automatic protective capacity of the human mind which can only accept so much distress before turning against not only those at fault, but also those seeking to find a solution. History alone will judge what contribution television made to the conduct of such modern conflicts as Vietnam, Northern Ireland and the Middle East wars. The psychological pressures under which military forces must operate are increasing. The concept of "enemy" becomes indefinable. He is on the one hand well-known, clearly seen and clearly understood as a human being and, on the other hand, indefinable in the role of the guerrilla.

Lawyers and politicians have frequently avoided facing this development. The demand and need for an acceptable international system have vastly outstripped the capacities of the law. The numerous emergent states have placed great strain upon the accepted conventions of international practice. In recent years, frequent African and Asian writers have

---

Lachlan Shackleton-Fergus is an international lawyer carrying out research at Cambridge and is a specialist in the politics and geography of international law.

complained that the legal system we profess to call international is in fact European and takes little or no account of the historical, legal and ethical variations in more distant nations.[1] The European reaction has often been to assert that such nations must accept the present system or deny the basis of their own existence.[2]

The Charter of the United Nations clearly outlaws war. Yet much time and effort have been spent ever since in attempting to justify military action by the use of alternate terminology such as preventive self-defense. Any comparison of international legal texts over the last 100 years will show a continuous reduction in the discussion of the laws of war until today they are rarely if ever mentioned at all. The problems created by military conflict still exist in just as real a sense as they did in 1939, and the reluctance to face up to them is deplorable. Much of the criticism of present-day military action is based upon a strategic understanding dating back to 1945. The United Nations Security Council was established to provide security as understood in the light of a 1945 strategic balance. Implicit in this understanding was the thought that disputes likely to result in conflict would be referred to the Council in sufficient time for effective action to be taken under the terms of the charter. It is frequently true that the present strategic balance allows for no such possibility and, furthermore, can thus be interpreted as a satisfactory excuse for independent action termed "preventive self-defense."

How does all this affect the individual soldier and his reaction to the law? The most unthinking officer can hardly be unaware of the continuous development of frequently irrational community opposition to all aspects of modern military intervention. In the past, there have always been those who have questioned and criticized military action for moral, religious or political reasons. Usually, however, objectives have been sufficiently clear for the prevailing climate of opinion eventually to respect and understand the need for military action, even if it is not fully approved. Today's moral and ethical situation is much less clearly defined as is the very nature of the threat to our civilization. The need has never been greater for the discussion on the broadest basis of the role of military forces. There is a school of thought among certain military thinkers that an ostrich-like attitude is a suitable solution to this community pressure. Nothing could be further from the truth or more potentially disastrous. No solution will suddenly appear to solve all the complexities of our modern society, yet the very act of discussion will provide the necessary objectivity and perspective so easily lost today.

Quite apart from domestic requirements, the growth and employment of a multinational United Nations force have created the need for a new breed of soldier. It is not enough to label a force "International" or "United Nations" in order to produce an identity or an understanding of the inherent problems of a multinational operation. There are enormous differences between the moral and ethical outlook of many of the national contingents that have served together under the flag of the United Nations Organization. The efficient operation of the force depends upon a known command structure. The officers in the field must have clearly defined objectives and the knowledge that their actions

will be supported. At the same time, the very nature of these operations can result in a junior officer finding himself in a totally unfamiliar situation requiring a broader basis of comprehension and judgment than would ever be required when operating solely within the framework of his own forces. Every United Nations forces agreement in Korea, the Congo, Egypt and Cyprus has variations in form. The privileges and immunities of the soldiers have depended directly upon the prevailing local situation, as well as the agreement between the host state and the United Nations. It is well to remember that all such agreements depend initially upon consent. It is expecting much to assume that a young officer will be able to assimilate the detailed requirements of these agreements without some earlier training in their historical basis and framework. Many senior officers are still of the opinion that such training can be given satisfactorily in the short time available between the demand for the force and its departure. This view runs contrary to the theory of military training which seeks to develop an officer whose detailed and continuous education produces a balanced and correct decision in a situation of stress. The necessary perspective and judgment required in the unfamiliar situation of a multinational force can be provided only by *long-term assimilation with the aims* and problems of such forces. In the present political climate, such actions may be criticized as unnecessary and timewasting. The alternatives are far more dangerous, producing a soldier unable to rationalize the conflicts he faces operating in a situation outside his knowledge. Who can doubt that the lack of an effective command structure and clearly stated ideals was at the root of tragic and calamitous situations such as the My Lai incident in Vietnam?

Many may criticize any attempt to solve this problem by the employment of political education. Yet we must accept that the nature of war has changed, and we must change with it or go under. The treatment of prisoners of war in Vietnam exemplifies the limitations of the Geneva Conventions when applied to peoples of fundamentally differing moral and religious standards from those of the West. The officer of today must understand these differences and pressures to be able to adapt and change in order that he may not begin to question the basis of his own responsibility and, at the same time, have a fully rational basis for action. Daniele Vare, the Italian delegate to the League of Nations, summarized the problem as follows:

Those students of foreign affairs who are not saddled by responsibility for a national policy, are led by an optimistic desire for the betterment of mankind to forget or to ignore the realities. But official diplomacy must carry on in the world as it is, and not in the world as it should be.

An international force casts the national soldier in the form of the practical diplomat. His training must match this requirement.

International law cannot be expected to provide other than the means and basis for a solution to conflict. The law is itself in many ways indefinable, being a progressive representation of community desires. Dr. Rosalyn Higgins, of Chatham House, expressed it in the following terms:

The emergence of a pattern whereby big power intervention within their own sphere of influence is tolerated, means not so much that there are re-

peated breaches of the rule of non-intervention, but that community expectations about non-intervention have changed. [4]

The Russian delegate to the 52d Conference of the International Law Association, Dr. Bogdanov, reflected the considerable variation existing even today in the understanding of the terminology and language of the law when he asked, "Will there be international law, or some contrasting system of world order after complete and general disarmament?" [5] What system of world order Dr. Bogdanov would envisage that would not include international law is hard to imagine, for only law can provide the language for action. This action must include the activities of military forces, and they, in turn, must understand the meaning of the language to be employed.

The modern soldier faces increasingly focused political and social pressure, rapidly disseminated by a news-hungry media little concerned with the feelings and conflicts of the individual. Bearing these problems in mind, any cutback in military training, particularly that aimed at broadening the political and social awareness of young officers, must be deplored. The effects would be long-lasting and would impair the qualities of judgment that require long-term development. International law is not difficult to understand when examined from an interdisciplinary and realistic standpoint. It only becomes incomprehensible when viewed as a self-propagating and self-justifying theory.

The new danger to our civilization and way of life lies not so much in destruction by a nuclear holocaust, or indeed even by conventional weapons, but far more in the erosion of the very ideals and moral base upon which our nation rests. Nothing is more effective and yet less visible than rot from within, destroying the core of society by an erosion of trust and self-respect. The existence of an armed force presupposes that we have something worth protecting. This often indefinable quality that we seek to protect must not be lost through the pursuit of short-term objectives, all too often financial. It is to be hoped that those who provide for the training of our military forces will come to understand these intense, complicated and developing pressures facing the modern soldier. At the same time, politicians and international lawyers must treat military personnel less as unthinking operatives and see them instead as a vital and essential element of a modern and balanced society.

NOTES

1 See further Anand, *Studies in International Adjudication*, Delhi, 1969; and Abi-Saab, "Newly Independent States and the Scope of Domestic Jurisdiction," *Proceedings of the American Society of International Law*, 1960.

2 D. P. O'Connell, *International Law*, Second Edition, Volume I, p 5

3 Extract from Daniele Vare, *The Handbook of the Perfect Diplomat*.

4 Rosalyn Higgins, "International Law and the United Nations System," extract from *The Study of International Affairs*, Edited by Robert Morgan, p 60.

5 Quoted by John N. Hazard, *American Journal of International Law*, Volume 61, pp 78-83.

MR

from

CHINA'S SECURITY OUTLOOK

Past and Future

K. Subrahmanyam

WHENEVER a nation develops into a major power, it also develops a sense of insecurity. The only exception to this in history is perhaps the United States which is protected by the Atlantic and the Pacific on two sides and by the relative weakness of all the other states in the Western Hemisphere. The development of a new nation into a major power necessarily entails modification of the international status quo, and consequently the concerned nation has to cope with the inertia of the international system and the general hostility of the existing powers. Viewed in this light, China's sense of insecurity from the day the People's Republic was proclaimed was understandable. Further aggravating this sense of insecurity was the US intervention in the civil war and the Chinese leadership's perception of the latent Stalinist hostility to the rise of China as a power. Stalin's interest in an autonomous Sinkiang, his advice to the advancing Chinese Communists to stop at the Yangtze River and the hard bargain he struck with Mao Tse-tung in February 1950 could not have left the Chinese in much doubt about the degree of benevolence they could expect from Stalin. Perhaps, as some recent Soviet accounts tend to reveal, the Chinese leaders were not fervent and unquestioning admirers of Stalin and his policies even in the early 1940s. Jawaharlal Nehru and Mao Tse-tung faced an analogous problem: how to develop their nations into strong states in a world dominated by the two superpowers. Both appeared to have concluded that the superpower rivalry provided the necessary opportunity, but, while Nehru chose nonalignment as his strategy, Mao Tse-

Reprinted from China Report (India), September-December 1974.

tung decided to lean to one side. This choice might have been influenced by their ideological predilections, but it is also possible that objective considerations inherent in their respective strategic situations also dictated it.

Living next door to the Soviet Union, with their hold on the country yet to be consolidated, with incipient dissidence in the party represented by people like Kao Kang, the United States still smarting under the defeat suffered by its client in the civil war and the future of Japan under American occupation being full of uncertainty, it perhaps looked rational and logical to Mao Tse-tung and his colleagues to seek Soviet assistance. The prolonged negotiations in Moscow and the harsh conditions exacted by Stalin would indicate that, even at that stage, the Sino-Soviet relationship was not an easy and smooth one. Perhaps the famous speech on leaning to one side was not interpreted in Moscow and Peking, as it was elsewhere, as the declaration of a commitment but as an indication of the choice still available to China and, therefore, of a certain measure of voluntariness in the choice. With Tito getting away with his defiance and with Titoist trials in various countries of Eastern Europe, it could easily have been a signal to Stalin that China was not without options.

Stalin drove a hard bargain, and Mao had to sign an unequal treaty. The reason for Mao's extreme sensitivity to unequal treaties may well be that he was himself compelled to sign one giving the Soviet Union concessions in Manchuria and Sinkiang. Whatever security the treaty of February 1950 might have provided China, it should have made it realize the high cost of security obtained through external alliance, and this must have strengthened the Chinese determination to achieve self-reliance in security at the earliest possible date.

From all available evidence, it would appear that China was not prepared for the Korean War, did not foresee it and could not have instigated it. The Chinese claim that they entered the war partly to prevent its escalation into a direct superpower confrontation. In any case, the US actions in the Taiwan Strait, as well as their drive toward the Yalu and their ostensible objective of extinguishing the North Korean state, posed a serious threat to China. The Chinese fought the war at a tremendous cost to themselves both in men and materiel. The Chinese subsequently charged that the Soviet Union had billed them for well over $2 billion for materials supplied. The war made the rapprochement between China and the United States difficult and led to the stationing of the US Seventh Fleet in the Taiwan Strait and to the boycott of China in the United Nations. It became difficult for China to unite Taiwan with the mainland. Whoever may have lost in the Korean War, clearly Stalin was a gainer. China's option vis-à-vis the United States was foreclosed for nearly two decades. American hostility became the primary security preoccupation of China for many years to come.

The United States held out a nuclear threat to China in Korea in 1953 as has been revealed by President Eisenhower. China had to agree under duress to prisoner exchange and to enter into negotiations which ended in the Panmunjom armistice agreement. Again, in 1958 during the Quemoy

---

K. Subrahmanyam is with the Institute of Defence Studies and Analyses, New Delhi, India.

Stalin extracted harsh conditions from Mao before the signing of the February 1950 security treaty indicating that perhaps the Sino-Soviet relationship was not an easy and smooth one

and Matsu crisis, the United States conveyed an explicit threat to China that, in case of escalation, the United States might use nuclear weapons. This particular incident brought home to China two lessons. First, nuclear threats were more probable under conditions of extreme asymmetry, and, so long as China did not possess nuclear weapons, it would be subjected repeatedly to such threats. Second, an ally—in this case, the Soviet Union—though a nuclear power, would not be always prepared to deter a US threat by appropriate and credible actions and communications. Once again, the international strategic environment impressed on China that there was no alternative to self-reliance in national security.

The Chinese leadership, which had proclaimed that China having stood up would not be insulted, had to face a succession of threats, humiliations and slights. This and China's own relative helplessness made it extremely sensitive—hence, Mao's maxim: "Power grows out of the barrel of the gun." The Chinese delegate who attended the special UN session in 1950-51 vowed that his country's blood debt to the United States would be repaid—a vow that was never to be fulfilled. US ships violated the Chinese territorial waters without worrying about the consequences, and the Central Intelligence Agency flew its spy-planes over the Chinese air space with impunity. The US Assistant Secretary of State, Walter Robertson, declared before the Congress that it was the US objective to bring about the breakup of the Chinese regime. Quemoy and Matsu, separated only by a few miles of water from the mainland and being within the range of artillery, could not be liberated. The treatment to which China was subjected would make any nation paranoid, and it did make China one. The victim of this paranoia, however, happened to be India.

Whatever the Chinese may say about Khrushchev, history will recognize him as the man who tried to right the Stalinist wrongs to China. He not only gave up those unequal privileges extracted by Stalin, but helped China to industrialize rapidly and to acquire the necessary capability for a self-reliant defense industrial base. It is doubtful whether the Chinese would have received the massive transfer of technology they did during 1954-60 from the Soviet Union if Stalin had lived. Perhaps Khrushchev committed his share of mistakes, and the Russians tried not too tactfully to teach the Chinese how to develop a Socialist system on the Soviet model. This might have also been inevitable in the kind of massive transfer of technology that was carried out by the Soviet Union. The Soviet advice that the

Great Leap Forward would not succeed, which was given in good faith, perhaps appeared to the sensitive Chinese as a continuation of the Stalinist policy of not allowing China to progress very fast. The links that allegedly developed between Peng Tehhuai, the Chinese Defense Minister, and the Soviet leadership could only have aggravated Chinese suspicion. It was also during this period that the Soviet Union made it clear that it would not risk a nuclear war with the United States to back up Chinese claims to Quemoy and Matsu.

The Chinese leadership then tried another strategy—invoking ideology. They apparently thought that ideological considerations could be played up to compel the Soviets to accelerate the industrialization and modernization of China's defense capability. By focusing attention on the dangers of revisionism, by emphasizing the imperative need to support the "national liberation wars" and by playing up the shift in the strategic balance in favor of the Soviet Union in the light of its intercontinental ballistic missile (ICBM), they tried to keep up the Soviet-US confrontation to secure greater attention to the Chinese point of view and the growth of China's defense potential, and to foreclose Soviet support to Third World countries like India. The Soviets had a better appreciation of the strategic balance and avoided a confrontation with the United States. They were, however, prepared to assist China up to a point to develop nuclear weapons, but they refused to allow their relations with Third World countries to be influenced by China. This compromise did not work, and the Sino-Soviet differences escalated into an open dispute, then a conflict and, finally, into a confrontation.

United Nations

Whatever the Chinese may say about Khrushchev, history will recognize him as the man who tried to right the Stalinist wrongs to China

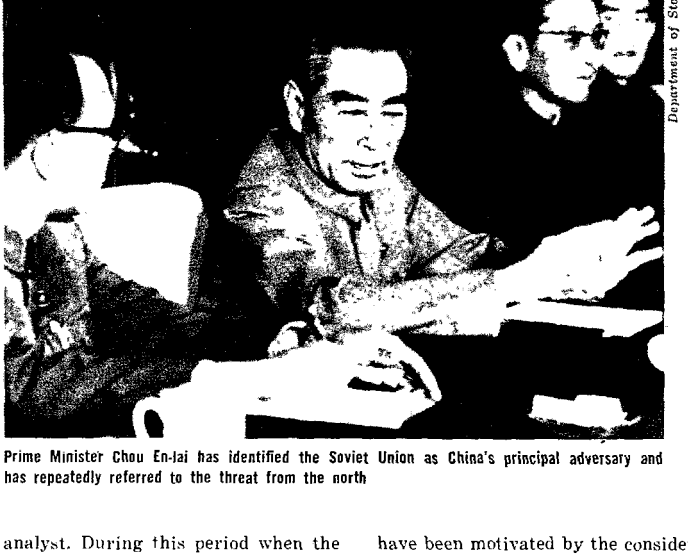
As with industry, the Soviets were generous with the transfer of their defense technology to China in the 1950s. They concluded an agreement for collaboration in advanced technology—namely, nuclear weapons—with China and transferred to them at a very early stage surface-to-air and surface-to-surface missiles. But the agreement, concluded in October 1957 in pursuance of which teams of Soviet technicians moved into China to train Chinese scientists and technicians, was repudiated in July 1959. Even now, it is not clear why the Soviet Union repudiated the agreement. The Chinese version of it suggests that they were not agreeable to the stipulation that the Soviets would continue to have the custody of nuclear warheads and a veto over Chinese national security decisions. If this is true, then the Soviets appear to have been extraordinarily insensitive to the Chinese susceptibilities and worried about the possibility of a nuclear war being triggered off by third-party actions.

It is likely that some of the Maoist pronouncements on nuclear war served to aggravate Soviet fears about Chinese cynicism and callousness in regard to triggering off a nuclear conflict.

It is also difficult to be certain about the exact process of evolution of Chinese perceptions about nuclear war. Mao Tse-tung had called nuclear weapons "paper tigers" even in 1946. In 1954, he is reported to have told Jawaharlal Nehru that, even if 300 million Chinese perished in a nuclear war, 300 million would survive to proceed to build a glorious new civilization. This was a period when there was insufficient understanding about the nature and scope of nuclear war, and nuclear weapons were generally considered to be scaled-up versions of conventional explosives. This was also a period before the missiles which introduced a qualitative difference into the concept of nuclear war. From the Sino-Soviet polemics, it would appear that the Soviets felt that either the Chinese understanding of nuclear war was deficient or Mao Tse-tung did not care about the enormity of casualties that would result from a nuclear war. To some extent, the Maoist assertion about east wind prevailing over the west wind on the basis of the Soviet ICBM capability (liquid-fueled at that time) indicated an insufficient understanding of nuclear war. And so did the thesis of drowning the invaders in a sea of humanity. This assessment is supported by the current Chinese posture which does not emphasize these aspects any more and seems to display better understanding of the implications of nuclear war.

From the very beginning, the Chinese appear to have opted for an independent nuclear weapon capability. Their constraints were in the development of a necessary industrial infrastructure. Once they felt confident at the end of their First Five-Year Plan, they decided to go straight for nuclear weapon capability. Fortunately for them, they had a group of talented scientists trained abroad in nuclear physics and rocketry, assistance from the Soviet Union for training young scientists, and Soviet technical cooperation in the initial period to set up a reactor and uranium enrichment facility. The Soviet-developed uranium mines in Sinkiang were useful for their program. The Soviets also assisted in the formulation of a 12-year science and technology plan which emphasized research in nuclear weapons, missiles development and electronics.

The circumstances which led to the withdrawal of Soviet technicians are still not clear. According to the current Chinese version, in 1960 Liu Shao-chi was ascendant and in charge of policy. He is accused of attempting to collaborate with the Soviet Union. Yet it was during this period that Peng Teh-huai was dismissed for his links with the Soviet leaders, and the Soviet Union came out against China on the Sino-Indian border issue, abrogated the treaty on advanced technology and withdrew its technicians. Lin Piao's article "Long Live the Victory of People's Wars" written in 1965 was widely interpreted in the United States as a communication that China would not intervene in the Vietnam War and that the Vietnamese must fight it on their own. It is possible to interpret this as the beginning of a process of signaling to the United States that China was prepared to enter into negotiations. This was also followed in quick succession by the Great Proletarian Cultural Revolution and the fall of Liu Shao-chi. But the period 1959-65 is puzzling for the



Department of State

Prime Minister Chou En-lai has identified the Soviet Union as China's principal adversary and has repeatedly referred to the threat from the north

analyst. During this period when the Great Leap Forward had failed and China faced major natural calamities, the Chinese leadership alienated both India and the Soviet Union while professing all the time their hostility to the United States as well. This style of exacerbating their problem of security and creating new adversaries is not characteristic of the Chinese leadership. They were developing nuclear weapons and were highly vulnerable.

One possible explanation is that the Chinese had decided earlier to reduce their hostility toward the United States in the expectation that, with their dispute with the Soviet Union coming into the open, they could count upon the United States not to threaten their security and, if worse came to the worst, even to balance off the Soviet Union. Their attack on India may have been motivated by the consideration that India when attacked would move into the Western camp and would thereby be detached from the Soviet Union with whom a break was inevitable for China. It is difficult otherwise to explain why the Chinese tolerated US overflights over Tibet which were landing in and taking off from Pakistan, and why they were so eager to cultivate Pakistan though it was an alliance partner of the United States assisting them in their anti-Chinese activities. One of the US calculations in Vietnam could have been that they did not have to worry about Chinese intervention. The Chinese reluctance to coordinate the assistance to Vietnam with the Soviet Union would fit in with this scenario.

China's relations with the Soviet Union and the United States were major issues in the political struggle

during the cultural revolution. Those charged with favoring collaboration with the Soviet Union and presumably opposed to the move for negotiations with the United States were eliminated in the struggle. The way was open for the visits of Kissinger and then Nixon. This relationship with the United States has been bought at a price. In spite of refusing to have anything to do with nations who supported a two-China policy, China has permitted a US mission to operate in Peking while the United States maintains full diplomatic and security relations with Taiwan. This arrangement has been covered with a lot of sophisticated verbiage which hardly conceals the essential fact.

This speculative scenario raises the issue whether the Ussuri clash in March 1969 and the assumption of office by President Nixon in January 1969 were juxtaposed coincidentally or whether the clash was meant to convey a message to the United States in regard to the state of Sino-Soviet relationship. After this, the Americans started spreading stories about a possible Soviet nuclear strike against China and indicated that the United States would try to countervail any such action. The year 1970 saw the use of the Rumanian and Pakistani good offices in bringing about Sino-US negotiations. Kissinger's visit to China came about in the middle of 1971.

The Chinese nuclear program as developed so far has an anti-Soviet orientation. China has not yet tested an ICBM though the missile program is headed by the legendary Dr. Tsien Hsieh Shen, one of the fathers of the US missile program, and was started as far back as 1956. This lack of emphasis on the ICBM may be another gesture to reassure the United States. The entire Chinese nuclear arsenal is now targeted on the Soviet Union. Prime Minister Chou En-lai has identified the Soviet Union as China's principal adversary and has referred repeatedly to the threat from the north. It is estimated that 45 Soviet divisions now face an equivalent number of Chinese divisions on the Sino-Soviet border. This confrontation is considered as the most dangerous and explosive one in the world today. The Chinese who carried out intensive propaganda against Japanese militarism switched it off once they reached a settlement with Tokyo. The erstwhile advocates of "national liberation wars" elsewhere in the world are now prepared to wait patiently for peaceful reunification with Taiwan, even as Taiwan is developing a nuclear option for itself. While the dispute with India on an uninhabited border justified the use of force, Chinese populations are allowed to continue indefinitely under colonial rule elsewhere in Hong Kong and Macao. While they reject the McMahon Line in a very sparsely populated area as an imperialist imposition, they support the imperialist Durand Line which divides a major ethnic group—the Pathans. While they dropped the proposal for the Asian Pacific nuclear-free zone once they acquired nuclear capability, they support the South Asian nuclear-free zone even after India has acquired nuclear capability. In assessing China's perception of its security problems, one has to fit in all these contradictions and explain why a country which was humiliated, harassed and divided by the United States has now chosen to negotiate with it. The Chinese no doubt continue to attack the United States ritually and for form's sake, but it is obvious that a considerable convergence of interests has developed between the two.

The leadership's strategy to develop China into a great power appears to have made it inevitable that they confront the Soviet Union. Given US support to Chiang Kai-shek and the proximity to the Soviet Union, they calculated that leaning to the Soviet side was the best possible strategy to build up Chinese power. But this leaning to one side inevitably meant leaning away from it if China was to be an independent third power. At the height of his power, Stalin was not going to allow an independent nonaligned China to build itself, especially with Soviet assistance. In Stalin's days, it was unthinkable for the Chinese Communist Party to label itself Communist and yet not toe the Stalinist line. After Stalin's death, China decided to assert its independent role, and this necessitated deliberate development of doctrinal differences with Moscow. Without those differences, China could not have been the third global power and would have continued to remain under the Soviet shadow even as Western Europe has been under the US shadow. That was not Mao's idea of China "standing up."

China found in the 1950s that the Soviet Union was not willing to launch on a course of confrontation with the United States or to risk a nuclear war, while the United States was more prone to risk taking. All the needling of the Soviet Union by China about Yugoslavia's revisionism did not trigger off any Soviet reaction against Yugoslavia. Except where they felt that their own security was directly and immediately threatened—as in Hungary and Czechoslovakia—the Soviets were not willing to act militarily. China appears to have derived a number of lessons from their study of the Soviet behavior pattern: The Soviet Union will not involve itself militarily in any confrontation between China and the United States to recover Taiwan; it was less likely to launch military action against China as an adversary than the United States; doctrinal dissidence would not necessarily provoke outright Soviet military intervention; the Soviets were extremely worried about their demographic vulnerability in Siberia. Lastly, the Chinese came to conclude rightly that the US confrontation with the Soviet Union was not motivated by ideology but by power considerations. The United States could not care less whether a regime was Communist, Fascist, theocratic or democratic. The US leadership had assumed erroneously in the early years of the Cold War that communism in any country was an extension of Soviet power and influence. In the late 1950s and early 1960s, they came to realize that it was not so. Therefore, they were prepared to support any regime—including one which styled itself Communist—so long as it opposed the Soviet Union. The rationale was the same as the one that underlay Churchill's support to Stalin against Hitler.

China, therefore, decided to lean away from the Soviet Union. It presumably hoped that this would ultimately lead to the restoration of Taiwan, attenuation of US hostility to the development and growth of Chinese power, greater access to Western technology and a major role in world affairs. But this leaning away from the Soviet Union and moving toward the United States was not easily accomplished. A whole decade (the 1960s) had to be devoted to it, and it became a major issue in the cultural revolution. At the end, anti-Sovietism became the central strand of their foreign and security policy. This policy

China Pictorial

China's relationship with the United States was a major issue in the potential struggle during the cultural revolution, but eventually the way was open for visits to China by Nixon and Kissinger

was perhaps adopted after full calculation of the costs and benefits involved. The risk of direct Soviet military intervention was rated low, and, in any event, countervailing US support was available. Its open hostility to the Soviet Union helped identify China as the third major power and indirectly helped China to secure its seat in the Security Council. There was the vague promise of an ultimate peaceful reunification of Taiwan. Hostility to the Soviet Union was to ensure that China would devote considerable attention and effort to its military preparedness, thereby also ensuring its place in the world power hierarchy and hopefully warding off any future extension of Soviet influence in the internal politics of China. The United States was able to slight and humiliate China earlier. The Soviet Union was not in a position to do it. Even though peace with the United States was bought at a price, China was now able to project an image of a major power in the world, especially with some assistance in its public relations from the latter. Externally, therefore, it is possible to claim that China has improved its security environment by substituting the United States, with its proclivities for ready intervention, for the cautious Soviet Union as its adversary. On the whole, this substitution has been a cost-effective proposition for China in the short run.

But it has not been wholly without costs and risks. The Soviet Union preempted Chinese efforts by arriving at a détente with the United States. If US-Soviet relations had not improved significantly, the United States would have had to pay a higher price to China in its bargain and might even

have agreed to immediate unification of Taiwan. The Vietnamese, the Cambodians and the Pathet Laos regard China with increasing reservation. The Third World nations too no longer take China's revolutionary posture at its face value. By proclaiming itself Marxist-Leninist and by being anti-Soviet at the same time, China has ensured that its dissidents at home would in the future look to the Soviet Union for support, even as Kao Kang, Peng Teh-huai, Liu-Shao-chi and Lin Piao are alleged to have done in the past. Lastly, China may well have made the reunification of Taiwan less probable since the latter, without completely losing US support, may quietly work for Soviet support as well. China's reluctance to decolonize Hong Kong and Macao will over a period of time weaken its moral case for reunification with Taiwan.

The recent seizure of the Paracel Islands by China is likely to have a major long-range impact on the countries of the Indo-Chinese peninsula and Southeast Asia. North Vietnam and the Provisional Revolutionary Governments have indicated that they do not approve of Chinese action. The Spratly Islands, also claimed by China, have been occupied by the South Vietnamese and the Filipinos as well. China's reluctance to move against the white colonial powers and US protection of Taiwan, its readiness to use force against India in 1962 and the Republic of Vietnam in 1974, and its disregard of Burmese sovereignty (the Chinese regularly trespass into Burmese territory and permit Burmese Communist Party insurgents to use Chinese territory as an asylum in spite of President Ne Win's efforts to maintain correct relations of peaceful coexistence with China) may have led some Southeast Asian countries to think in terms of neutralization of the Association of Southeast Asian Nations region on the basis of a balanced presence of external powers. Since US credibility in Southeast Asia has been very low after the Kissinger-Nixon trip to China, they may welcome Soviet naval presence in the area.

With the normalization of relations with the United States, the security problems of China will depend largely upon the policy it pursues toward its neighbors. Its primary concern will continue to be the Soviet Union which in Chinese perception constitutes a major external threat and a serious political challenge internally. As the Soviet Navy becomes increasingly modern and steps up its ocean staying capability, the Soviet interaction with Southeast Asia is likely to grow. The Soviet Union is also developing its Baikal-Amur railway line rapidly. With the increase in prices for its oil and gas exports, its need of outside credit to develop its Siberian resources is much less than was thought two or three years ago. It is also pursuing a policy of détente in Europe so that it can concentrate on its eastern borders. The Chinese leadership, having attained its goal of recognition as the third global power and the attenuation of US hostility, may still opt for a less tense relationship with the Soviet Union on the basis of noninterference in each other's internal affairs and peaceful coexistence. There is some evidence that the Soviets are hoping that this will come about after the Mao-Chou leadership is no longer on the scene. On the other hand, the relationship may further deteriorate, especially if there is to be a power struggle in China in the post-Mao phase. The faction which is not in power in Peking may try to involve Moscow in the struggle by seeking its

Chinese border patrol. It is estimated that 45 Soviet divisions now face an equivalent number of Chinese divisions on the Sino-Soviet border.

China Pictorial

support. If the People's Liberation Army (PLA) were to be drawn into it—and it is difficult to see how it can be avoided—then there may even be the danger of two opposing factions getting possession of nuclear weapons. This may lead to the breakup of China since a state of mutual deterrence is likely to develop between them, if both possessed nuclear weapons.

A China in a state of continuing hostility with the Soviet Union will have dreadful security problems. It will have a nuclear confrontation along the larger part of its land borders and will also face a nuclear armed Soviet Navy in the East. China has already disputed with the Republic of Korea and Japan their agreement to exploit the continental shelf. There is a potential cause for dispute with the Philippines and Vietnam. Over and above these is the issue of the return of Taiwan. A hostile Soviet Union will be in a position to intervene in and influence all these disputes.

The Chinese are believed to be developing a second-strike deterrent capability by way of submarine-borne missiles. The first-generation missiles are not likely to have a range of more than 2000 miles. Consequently, if they are to be deployed effectively against Moscow and other European Soviet city targets, then the most appropriate area of deployment will be the Arabian Sea. Any such attempt on the part of the Chinese will increase the Soviet naval deployment in the Indian Ocean. The Chinese may well be indulging in a self-fulfilling prophesy when they accuse the Soviet Union of attempting to encircle them. Such an encirclement is likely to be more burdensome for China than the earlier American attempt at partial encirclement.

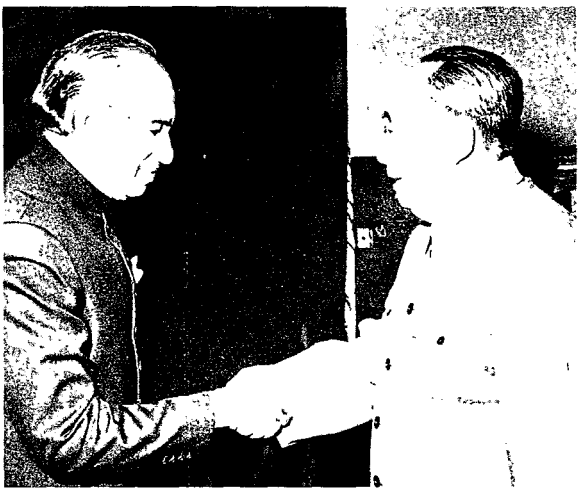
The Chinese have carried out a 180-degree turn in their policy toward the United States to lighten their security burden. Therefore, the possibility of their carrying out a similar adjustment in their anti-Soviet policy,

when faced with an awful security burden, should not be ruled out. If this is to come about, it is more probable after Mao passes away from the scene. If the US leadership of the free market economies were to suffer a setback in the next few years, then this development may come about much earlier than otherwise.

In the West, there was considerable speculation in 1973 about the possibility of a war between China and the Soviet Union, and the latter resorting to a "surgical strike" against the former. The history of the last 29 years reveals that the Soviet Union is generally reluctant to initiate a military operation, especially one which may escalate. China is not a Hungary or a Czechoslovakia. There can be no certainty that the hostilities will be confined to the nonnuclear level or that the United States, which has shown itself to be less inhibited in taking risks, will not become involved. Currently, the Soviet Union is attempting to build on the détente and to get as much transfer of technology as possible from the West. One may, therefore, exclude the possibility of the Soviet Union initiating a major war against China though one cannot completely rule out border clashes of the 1969 type. However, even in such cases, the discipline of nuclear weapons will impose itself, and both sides will try to deescalate them. Prolonged confrontation with the Soviet Union all along the long land frontiers, the development of the Chinese Navy and Air Force for the purpose and nuclear forces are likely to professionalize the PLA increasingly, and this, in turn, will change its role in politics and its self-image. Given the strains in the relationship between the PLA and the party, these developments are not likely to contribute toward the kind of control which the party exercised over the PLA before 1966.

Irrespective of the Indian declaration about not going in for the manufacture of nuclear weapons, the Chinese are likely to regard India as a developing nuclear weapon power. Initially, their reaction to the Indian nuclear test was in a low key. But, subsequently, both in the UN General Assembly debate and in the 15-Nation Ad Hoc Committee on the Indian Ocean, the Chinese have supported Pakistan in characterizing the Indian nuclear test as a destabilizing factor in the region. Pakistani Prime Minister Bhutto claims that he has some kind of nuclear guarantee from China though he qualifies it in private conversations with journalists. China cannot maintain its "no-first-use" posture and give such guarantees to third countries. The Chinese nuclear missile submarines will need to be deployed in the Arabian Sea if they are to perform the second-strike role vis-à-vis the Soviet Union.

In these circumstances, China may pursue one of the alternative policies vis-à-vis India. If their perception is that China will be encircled by nuclear powers on all sides, it will be prudent to attenuate their hostility to India since the cost of normalizing relations with India is considerably less than that of doing so with the Soviet Union. On the other hand, they may conclude that, to break the encirclement, they should strike at the weaker link. Since they cannot try any of their military ideas with the Soviet Union, they may opt to destabilize India. It looks as though the Chinese at present are developing the second option. This is evident from their attacks on the Indian nuclear test and on the latter's granting the associate status to Sikkim and from the revival of their links


China Pictorial

Pakistani Prime Minister Bhutto claims he has some kind of nuclear guarantee from China. He's shown here with Mao Tse-tung.

with the Naga rebels. Their reluctance to recognize Bangladesh and their gross interference in the internal affairs of Burma by sending a message of greetings to the insurgent Burmese Communist Party all fit into an overall policy toward South Asia which is correlated to their policy toward the Soviet Union. There are also reports of varying credibility about the Chinese developing Tibet as a major missile deployment area and plans to test their ICBM by firing it into the Indian Ocean. If the Indian perception of the potential Chinese hostility were thus reinforced, then India's nuclear and space programs are likely to be accelerated with increased cooperation between India and USSR in these fields. The Chinese may by their own mistakes bring about the very strategic encirclement of China which is so dreadful to them. While it is too early to assert that the Chinese have embarked upon this policy, more evidence points to their having taken this course rather than that of peaceful coexistence and normalization with India. Indeed, China is still in a position vis-à-vis India to switch over from its policy of hostility to a policy of peaceful coexistence and vice versa. But while such switchovers may not be very costly in the next few years, they may indeed be prohibitive over a period of time.

A question frequently asked in India is whether China cannot make up with the Soviet Union while pursuing its policy of hostility toward India. Anti-Communists at one time used to hold that the two Communist countries would find greater mutuality of interests than India and the Soviet Union could find, or that even if they could find such mutuality it would be

difficult to sustain it over a length of time. This view no longer commands the wide acceptance it used to even among the anti-Communists, but those who are inclined to be anti-Soviet are not sure whether at some time in the future India may not find itself confronted by a China with the Soviet Union being either neutral or opposed to India. International relations being what they are, such a scenario cannot be dismissed out of hand. But such a development is less likely so long as both China and the Soviet Union profess allegiance to the same ideology. Such allegiance involves interaction on the plane of internal policies, and, given the superior power of the Soviet Union, it will in all probability mean constant Soviet intervention in Chinese internal developments. And, to this, the Chinese are not likely to reconcile themselves. Therefore, so long as both states claim to be Marxist-Leninist, the chances of their coming together again are to be rated low. If, on the other hand, China is prepared to declare itself Maoist (as Yugoslavia is Titoist) and, therefore, not the only legitimate heir to Marxism-Leninism, then China and the Soviet Union are more likely to find some mutuality of interests. But such a declaration by China would mean virtually conceding to the Soviet charge of ideological deviation retrospectively.

Further, unlike the Chinese strategy which sought to manipulate the Cold War hostility between the Soviet Union and the United States to further its own power and in the process substituted one adversary for the other, the Indian strategy has been merely to take advantage of the Cold War to further Indian interests and not to get involved in an adversary relationship with either the Soviet Union or the United States. That was and continues to be the essence of nonalignment. Consequently, India will find it easier to maneuver in any situation of changing alignments among China, the Soviet Union and the United States than the Chinese will find when they want to change their alignment. Further, in the next decade in international perception, India would develop an independent deterrent capability which, however limited, would be sufficient to give India a bargaining strength in the international balance-of-power game.

Looked at from any point of view, over the long term, China's security outlook is fraught with grave uncertainties if the Chinese leadership is to persist in its present course. The policy of attenuation of hostility toward the United States and confrontation with the Soviet Union has paid its dividends. China is recognized as the third power, it has taken its place in the Security Council and has established trade relations with the West. Continued hostility toward the Soviet Union is likely to prove extremely counterproductive, and so will its hostility toward India. One need not be surprised if the Chinese take into account the realities of their security situation and make necessary changes in their foreign policy in the coming decade. Such a change is likely to be obfuscated by a lot of ideological verbiage. They may even blame the dead Lin Piao or Liu Shao-chi or a Chou En-lai, after he passes away, for their mistakes in the 1950s and 1960s. China may well spend the whole of the next decade trying to undo gradually the mistakes in its Soviet and Indian policies. Any other course will impose such heavy burdens on China that its newly developed American relationship cannot alleviate. MR

The United States Army

CAMEL CORPS: 1856-66

John Shapard

ON 10 MAY 1855, Secretary of War Jefferson Davis personally penned one of the most unusual orders in the US Army's history to Brevet Major Henry C. Wayne. It read, in part:

Sir: [You are] assigned to special duty in connection with the appropriation for importing camels for army transportation and for other military purposes. . . . [1]

The order represented a victory for Davis in a four-year struggle with Congress to establish a camel corps within the US Army. As a US Senator, he introduced the measure in Congress in 1851 and 1852, only to have it literally laughed out of committee on both occasions. [2]

An American camel corps was initially suggested by Major George Crosman in 1837. [3] The idea was ignored at the time, but, in 1848, two events combined to resurrect the camel project. The Treaty of Guadalupe Hidalgo, signaling the United States' victory over Mexico, added over one-half million square miles of new lands, including the vast deserts of the Southwest, to the country's real estate. [4] Almost simultaneously, the discovery of gold in California sent thousands of immigrants streaming across the new territory. To the tiny 42,000-man US Army fell the duty of keeping the peace between the ever-increasing flood of settlers and the almost 100,000 Indians who inhabited the region. [5] The southwestern deserts presented special problems to the cavalry horse and supply mule Army of the 1850s. Military operations either ranged from water hole to water hole, or grain supplies and water casks had to be transported, reducing both the speed and the range of cavalry units. On the other hand, the desert Indians could travel without supplies. Living off the inhospitable land and covering as much as 100 miles in a 24-hour day,

they found water in places unknown or inaccessible to the less mobile Army units.[6]

Major Wayne, who saw these problems while in the Southwest during the Mexican conflict, became the leading military advocate for a camel corps to be used in the desert regions of the country. He suggested the corps to a close personal friend with some influence, Senator Jefferson Davis from Mississippi. Davis, who as a colonel also saw the problems of desert warfare in Mexico, immediately sought funds for a test project. Finally, four years later as Secretary of War, he secured a $30,000 appropriation for the acquisition and testing of a small camel herd.[7]

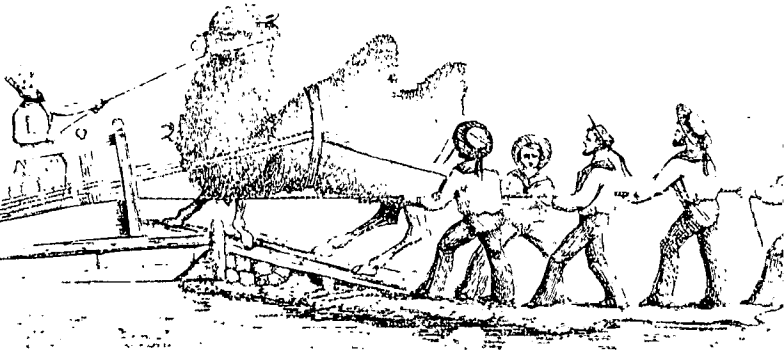
A joint Army-Navy operation was put into motion. Major Wayne was in charge of the selection and purchase of the camels. Lieutenant David Dixon Porter, a 42-year-old Naval officer, was assigned the task of safely transporting the animals to the United States. Porter, the son of a US diplomat, was raised in the Mid-East and was familiar with the problems of camel care. He took several precautions to ensure success of the mission. A 60-foot camel barn with individual stalls was constructed on the spar deck of the USS *Supply*. A special hatch was cut in the top deck to accommodate the huge beasts, and a novel forced-air ventilation system was developed which sent fresh air pouring out of the ship's sails into two specially designed hatches and out individual ports situated in each stall. A harness system was devised to hold the camels secure in rough weather, and a unique camel car was developed for loading and unloading the animals.[8]

Wayne, after examining the preparations, left ahead of Porter for England on 19 May to "visit persons whom it would be desirable to consult on points connected with this special service."[9] The energetic major visited the British Zoological Gardens, studied the camels there and took a quick course in the feeding and care of the shaggy animals from M. S. Mitchell, Secretary of the Royal Zoological Society.

Moving on to Paris in early July, Wayne discussed his mission with the French Secretary of War, Marichal Le Vaillant, and, through Le Vaillant, made valuable contacts in the French Camel Corps.

Meanwhile, Lieutenant Porter completed refurbishing the USS *Supply* and set sail for La Spezia, Italy, where he rendezvoused with his Army counterpart. The two sailed for Tunis immediately, and, upon arriving there on 4 August 1855, they began their search for America's camels. In the

John Shapard is a Tribal Operations Specialist with the Bureau of Indian Affairs, Washington, D. C. He received his A.B. from the University of North Carolina and his M.S. from Florida State University. He has served as a Tribal Operations Officer on several Indian reservations throughout the Southwest and as a Legislative and Historical Research Analyst with the Bureau of Indian Affairs in Washington, D. C.



The embarkation of a Bactrian on the USS Supply. Since Artist Heap took the trouble to record the loading of this particular animal, it is possibly the gigantic Bactrian that required Lieutenant Porter to modify the Supply. (Drawing by G. Wynn Heap, artist with the first expedition to acquire camels from the Mid-East. From Reports Upon the Purchase, Importation and Use of Camels and Dromedaries, 1855-'56-'57.)

next seven months, Wayne and Porter visited Alexandria and Cairo, Egypt, and Constantinople and Smyrna, Turkey. Their only difficulty occurred in Egypt where there was an express prohibition against the removal of any animals from the country without governmental approval. At first, the Egyptian viceroy refused to allow the exportation of any camels because it would set a "precedent for demands of a similar nature" from consuls of other countries.[10] However, persuasive arguments by the major and a gift of two US *Minié* rifles convinced the viceroy to allow the exportation of 10 camels, including six from his own dromedary herd.

Wayne and Porter sailed for America with 33 camels on 11 February 1856. They had been careful to select their stock from a wide range of countries and from different breeds in order to compare the adaptability of the animals to the American climate. Nine of the 33 beasts were dromedaries or Arabian camels, the fast, mobile, one-humped variety; 23 were the large, more powerful, Bactrian, two-humped type. One was a hybrid. Wayne's prize acquisition, a 2000 pound, 7-foot-4-inch Bactrian, was so large that Lieutenant Porter was forced to modify the *Supply* again to accommodate the huge beast by cutting a large hole in the deck to allow the animal's giant humps to protrude through.[11]

The two officers now faced the problem of getting their valuable cargo back to the United States alive. It was no small task. Some of the animals had been aboard the ship for almost five months before the *Supply* departed Smyrna. The trip home would take another 87 days.

As it turned out, the voyage, although stormy, was uneventful, and,

on the morning of 14 May 1856, 34 camels (including one newborn calf) safely reached Indianola, Texas. Wayne described the scene:

On being landed, and feeling once again the solid earth beneath them, the camels became excited to an almost uncontrollable degree, rearing, kicking, crying out, breaking halters, tearing up pickets, and by other fantastic tricks demonstrating their enjoyment of the liberty of the soil. [12]

Through the strenuous efforts of the attending troops, Wayne managed to get his unruly camels stabled by eight that evening.

Only $8000 of the $30,000 appropriated for the project had been spent on the trip, and, almost as soon as the camels were unloaded, Lieutenant Porter was ordered to return to the Mid-East for more animals. He left by the end of July and returned on 30 January 1857, six months later, with an additional 41 Bactrians and dromedaries. [13] The US Army now had its Camel Corps—75 animals strong.

While Porter was on his second trip, Wayne began testing the original 34 animals. The objectives of the tests were twofold. First, the Army wanted to determine the combat capabilities of the animals. A camel cavalry and mounted infantry and artillery units were envisioned. Second, and more important in the minds of top officials, was the transportation potential of the beasts. The camel was viewed as a possible solution to the mind-boggling costs and lengthy time element involved in supplying military posts in the new territory. Jefferson Davis personally hoped that the tests would establish the commercial benefits of shipping goods by camel.

The camels' home base was established at Camp Verde, Texas, 60 miles north of San Antonio. Here, Wayne informally outlined his plans for the testing:

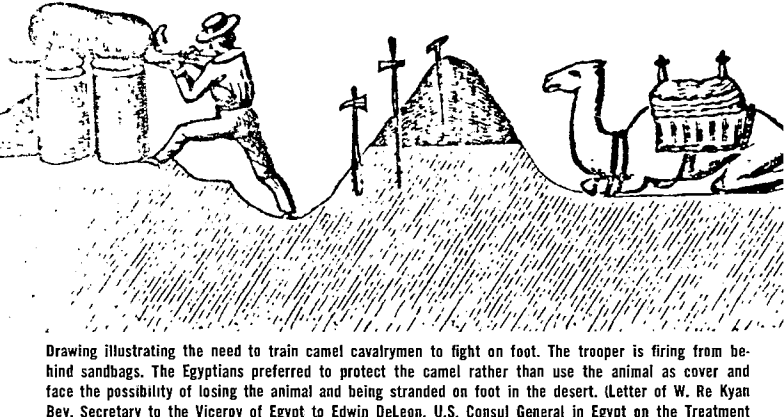
The burden animals can be used for transporting supplies from San Antonio to the camp and to other points. The dromedaries may be sent express anywhere along the frontier or within the settlements, as necessity may require, and may be used as pack animals to scouting parties instead of mules. In some cases men may be mounted with a small gun throwing shrapnel. . . . These experiments may be so conducted as not only to show the absolute value of the animal for burden and for the saddle, but also a relative usefulness in comparison with the horse, the mule, and waggoning. [14]

To ensure Presidential interest in the camel project, Major Wayne sent Secretary of War Davis a special package for delivery to President Buchanan. The attached letter read:

I have the honor to enclose herewith a pair of socks knit for the President by Mrs. Mary A. Shirkey, of Victoria, Texas, lately of Virginia, from the pile of one of our camels. [15]

Whether the President actually wore his camel's-hair socks goes unrecorded.

Through Wayne's thorough testing program, it was soon apparent that the noble animal was simply not suited to the American style of combat. The configuration of the camel's nose, while admirably designed to filter out blowing sand, impeded breathing during violent exertion, and the camel's lung capacity was such that it could not maintain a sustained rapid pace or violent action. Under extreme excitement, the animal would blow the buccal membrane which normally hangs in the pharynx, balloon fashion, from its mouth, further reducing its air supply. Another serious disadvantage in combat was the fact that the camel, unlike the horse, was unwieldy

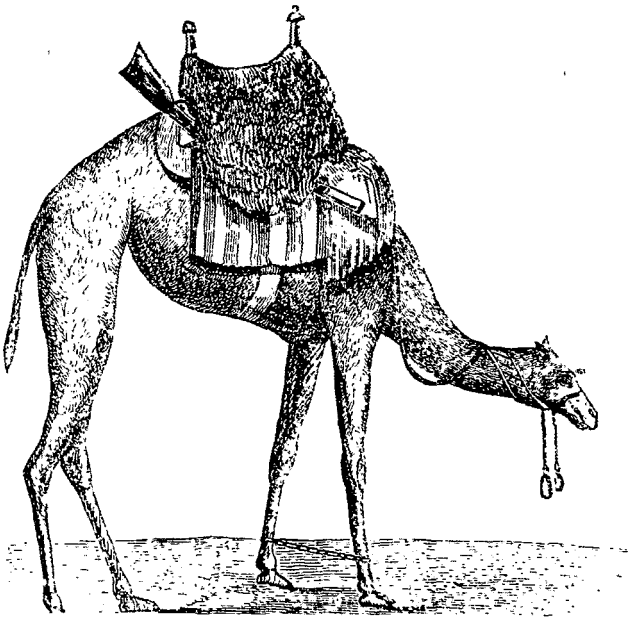


Drawing illustrating the need to train camel cavalrymen to fight on foot. The trooper is firing from behind sandbags. The Egyptians preferred to protect the camel rather than use the animal as cover and face the possibility of losing the animal and being stranded on foot in the desert. (Letter of W. Re Kyan Bey, Secretary to the Viceroy of Egypt to Edwin DeLeon, U.S. Consul General in Egypt on the Treatment and Use of the Dromedary.)

in close situations.[16] Notwithstanding all of this, the most troublesome drawback to the combat usage of the camel was the resistance of both men and officers to the animal. Compared to the horse, the camels required an extraordinary amount of care. Without it, they developed a severe form of the mange which was highly contagious, unsightly and difficult to cure. What is more, the camel, at best, smelled different from the horse—at worse, he simply stank. Even after the troopers adjusted to the smell, the camels had three habits to which the men would not reconcile themselves. Although generally docile, the camels could be stubborn, and, if disciplined for their stubbornness, they would often vomit their cuds on the disciplinarian. This and the camels' ability to defecate without any warning whatsoever to anyone standing to their rear quickly overrode whatever lovable or useful qualities they may have possessed. What is more, the shaggy creatures could deliver a vicious bite when annoyed with their keeper. Finally, the troops, almost to a man, complained of motion sickness after riding the animals for any distance or at a gallop.[17]

If the camels gave the troops a difficult time, there is good evidence that the men returned the favor with interest. Wayne wrote on 22 July 1856:

It is with regret that I report the death of one of our best female camels from Smyrna . . . this one strayed, and when hunted up was found about two miles off, lying upon its side and evidently very ill. It was brought into camp carefully under the personal superintendence of Mr. Ray, and there, after lingering several hours, died. Its death was supposed to be inflammation of the bowels, but after death an examination was made by Dr. A. Z. Herman, M.D., a physician living in the neighborhood, who discovered that the animal had been killed by one or more heavy blows . . . as the animal was gentle, I can hardly think the act one of self-defence.[18]



A tethered camel cavalry mount with saddle. The camels were trained to keep their head in a lowered position to give the cavalryman an unrestricted range of movement and an unlimited field of fire. (Letter of W. Re Kyan Bey, Secretary to the Viceroy of Egypt to Edwin DeLeon, U.S. Consul General in Egypt on the Treatment and Use of the Dromedary.)

One week later, Wayne reported another mysterious death, and, in November, two more.

Finally, after a series of incidents, a rash of complaints and a series of tests, Wayne unhappily reported that the combat usage of the camel in America was not feasible.[19]

If the camel was a failure for the Americans as a combat animal, it was a godsend for quartermaster units, then in charge of supply transportation. Ordinary dromedaries could easily carry a 550-pound load, slightly more than twice what a common pack mule was expected to carry. The larger dromedaries could comfortably pack 700 to 800 pounds and, on occasion, would carry as much as 1000 pounds for short distances.[20] The larger and stronger Bactrians could carry close to three-fourths of a ton with ease.

In February 1857, Wayne staged a demonstration for the doubting public. He wrote of the incident:

Needing hay at the camel yard, I directed one of the men to take a camel to the quartermaster's forage-house and bring up four bales. Desirous of seeing what effect it would produce

on the public mind, I mingled in the crowd that gathered around the camel as it came to town. When made to kneel down to receive its load and two bales, weighing in all 613 pounds, were packed on, I heard doubts expressed around me as to the animal's ability to rise under them; when two more bales were put on, making the gross weight of the load 1,236 pounds, incredulity as to his ability to rise, much less to carry it, found vent in positive assertion . . . to convey to you the surprise and sudden change of sentiment when the camel, at the signal, rose and walked off with his four bales of hay, would be impossible.[21]

Wayne not only proved that the camels' payload was larger than the pack mules; but he also established their advantages over the mule-drawn wagon. The major first successfully pitted camels against wagons in September 1856. He recorded the experiment in his report to Jefferson Davis: "I sent down six camels under my clerk, Mr. Ray, to San Antonio, for oats, in company of wagons from this post. . . ." Both the wagons and the camels were timed, and their loads were carefully measured. The camels won easily. Wayne noted the results with satisfaction:

From this trial it will be seen that the six camels transported over the same ground and distance, the weight of two six mule wagons, and gained on them 42½ hours in time.[22]

Wayne also successfully tested the concept of camel support for cavalry units:

Lieutenant Chablis [sic] went out with a small party, and with him I sent a dromedary to transport the provisions and forage [corn] for the men and horses, seven each. The next day he returned and from his report, and that of his men, the trial was very successful, the dromedary following the horses, wherever they went, not only keeping up with them, but showing that if not restrained, he would have gone ahead of them. The weight transported was between 300 and 400 pounds.[23]

By October 1856, Major Wayne expressed the belief that he had conclusively proved the camels' worth for both military and civilian cargo transportation in the Southwest. He wrote:

The usefulness of the camel in the interior of the country is no longer a question here in Texas among those who have seen them at work, or examined them with attention.[24]

With his task apparently at an end, Wayne was transferred from the project in January 1857 to The Adjutant General's staff in Washington. Before leaving Camp Verde, however, he recommended a large-scale field trial of the camels which would prove the value of the humped creatures once and for all in the minds of the public and the Congress. Enthusiastic officials in the War Department liked the idea, and 25 camels (both dromedaries and Bactrians) were included with the military survey expedition scheduled to map a wagon road from Fort Defiance, Arizona, to the Colorado River.

No more severe test of the camels' worth could have been proposed. The bone-dry route stretched from the barren Texas plains, across the Sandia Mountains, into the New Mexican wastelands to Fort Defiance. From there, the route led through Arizona's high desert and petrified forest areas and directly down into the scorching Mohave Desert.

President Buchanan personally appointed a former Navy lieutenant turned explorer, Edward Fitzgerald

Beale, to lead the survey. On 25 June 1857, the expedition, complete with 46 mules, 250 sheep (for delivery to Fort Defiance) and 25 camels, surged westward from Camp Verde.

The camels assigned to Beale were only recently off the boat, having been acquired by Lieutenant Porter during his second voyage to the Mid-East, and Beale was initially disappointed with their performance. On 26 June, the second day out, he wrote in his daily journal:

Thus far, the camels have not been able to keep up with the wagons, but I trust they will prove better travelers as they become more accustomed to the road. [25]

Two weeks later, however, Beale wrote with growing confidence in the animals, "The camels are now keeping up with the train, and come into camp with the wagons." [26] As the days continued to pass, Beale's appreciation of the camels grew. After traveling on a gravel road for several days in late July, the lieutenant commented:

It is a subject of constant surprise and remark to all of us, how their feet can possibly stand the character of the road we have been travelling over for the last ten days. It is certainly the hardest road on the feet of barefooted animals I have ever known. . . . [27]

A few days later he wrote:

The camels are travelling finely. . . . It is worthy of especial note [that] I have never seen or heard of one stumbling, or even making a blunder. [28]

By 6 September, two and one-half months out, Beale could not contain his optimism for the tireless camels:

Certainly there never was anything so patient and enduring and so little troublesome. They pack their heavy load of corn [Beale had the animals loaded with 750-1,000 pounds each] of which they never taste a grain; put up with any food offered them without complaint and are always up with the wagons; withal, so perfectly docile and quiet that they are the admiration of the whole camp. [29]

The most severe test of the entire journey for the camels occurred in September 1857 somewhere near the vicinity of the modern town of Winslow, Arizona. The expedition was virtually out of water, unsure of their location and led by an inept scout. Beale recorded the incident:

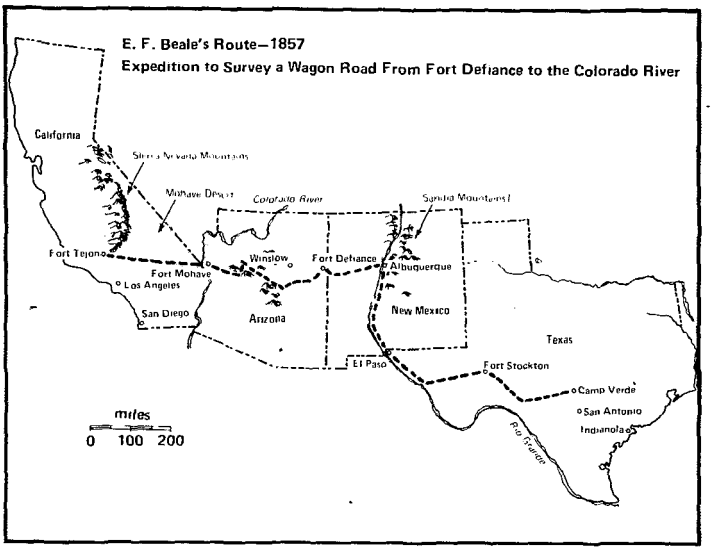
Our guide . . . came back to tell that the distant mountain towards which our course was directed, was not the one he thought, and that he was completely lost. I ought to have killed him there, but I did not. [30]

Beale set up dry camp on the evening of 19 September. The expedition was 20 miles from the nearest known water. As the troops broke out a small keg of water for the animals, Beale observed:

Our animals were now beginning to suffer very much, having been almost constantly at work for 36 hours without water; and one of the most painful sights I have ever witnessed was a group of them [the expedition's mules] standing over a small barrel of water and trying to drink from the bung hole, and seemingly frantic with distress and eagerness to get at it. The camels appeared to view this proceeding with great contempt, and kept quietly browsing on the grass and bushes. [31]

The mules were saved the next morning when Beale set them free and they raced, full gallop, back to the last known water hole.

Beale ended his mission on 18 October when the strange caravan reached the Colorado River. He then



herded the camels to Fort Tejon, California, where they were stabled at a nearby camp, only a few hundred yards from the summit of the Sierra Nevada Mountains "for the sake of testing their capability of withstanding cold."[32]

After a brief stay in the Golden State, Beale packed up several of the camels and retraced his trail eastward in order to test "the practicability of the road surveyed last summer for winter transit."[33] He reached Fort Defiance on 21 February 1858, ending the Camel Corps' first and only major expedition.

The camels' unqualified success as cargo transports convinced the new Secretary of War, John B. Floyd, of their value, and, after receipt of Beale's report, he proclaimed, "The entire adaptation of the camels to military operations on the plains may now be taken as demonstrated." Floyd enthusiastically requested an appropriation in 1858 for the purchase of 1000 camels.[34] The request was not acted upon, but Floyd tried again in 1859. By that time, however, the request was lost in a Congress preoccupied with the tensions between the North and South. When the Civil War was finally declared in 1861, the Federal camel herd was located at two widely separated posts, 80 animals at Camp Verde, Texas, and 31 at Fort Tejon, California.

For reasons unknown, the results of the camel tests went unheeded, and the Union considered the animals a liability. The Confederacy, however,

assumed the bulk of the burden from their Northern brothers when they captured Camp Verde on 28 February 1861. The remaining 31 Union camels at Fort Tejon languished at the post, used only for modest hauling purposes and for mail transportation in the vicinity of the fort.

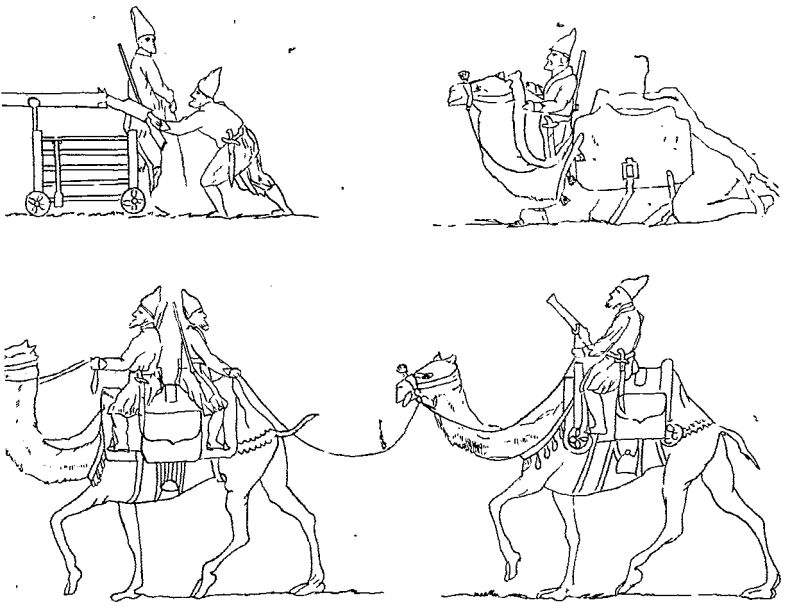
The Confederacy attempted to make better use of the captured animals. Confederate General Magruder's Quartermaster Department relied heavily on the Camel Corps. One officer, Captain Sterling Price of the Noxubee County, Mississippi, infantry managed to acquire one of the beasts and used it throughout the war to carry his entire company's baggage.[35]

Despite the Confederate Government's positive attitude toward the Camel Corps, the smelly brutes were just as unpopular with Johnny Reb as they were with his Federal counterpart. There were several recorded instances of malicious killing of the animals by Confederate troops. Cuba Blanks, a slave in Texas during the war, admitted, after much coaxing from a professional journalist in the 1930s, that he helped several of the boys in gray push a camel over a cliff because the beast was "naturally hard to get along with."[36] He also claimed to have seen another soldier kill a camel with a dirk.

The Union camels in California fared only slightly better. After being named a public nuisance in a law suit because of their odor, and, after repeated complaints from the officers at Fort Tejon that the camels were useless, expensive and troublesome, the entire herd, numbering 37 (including births), were sold at public auction in San Diego on 24 February 1864. Circus owners purchased most of the animals. A few went to prospectors, and some were purchased by ranchers. The Confederate camels were ultimately reacquired by the United States after the war, and, within a year, the *Army and Navy Journal* wrote the obituary for the US Army Camel Corps in an article entitled, "Camels":

The Camels are going. They are going at auction. It will be remembered that, before the war, under Floyd's gentle administration of the War Department, the Government imported a large number of camels, and sent them to Texas, for the purpose of transporting supplies over the plains in the western part of that state. Their career is now run, and they are to be sold at auction. We believe that they once went across to San Diego, and returned through Arizona to San Antonio.

When the Rebellion broke out, they seceded, but unlike most of the Confederate quadrupeds, the survivors were not exempted from surrender as 'private horses of officers' in the grand series of capitulations. This latter fact is more remarkable, as some animals much less resembling the ordinary models of an officer's horse escaped capture on the grounds of being such. Accordingly these camels were transferred from General Kirby Smith to General Canby. They had been employed for transportation in the Confederate Quartermaster's Department under Magruder. The Government finding that it had drawn, if not an elephant, several camels, in the Confederate lottery, seems to have desired to get rid of the prize as speedily as convenient. Sixty-six of the camels are now at Camp Verde, near San Antonio, offered for sale by the Quartermaster of the Department of the Gulf. Bids for one or more of the animals will be received until the first of March, when the proposals



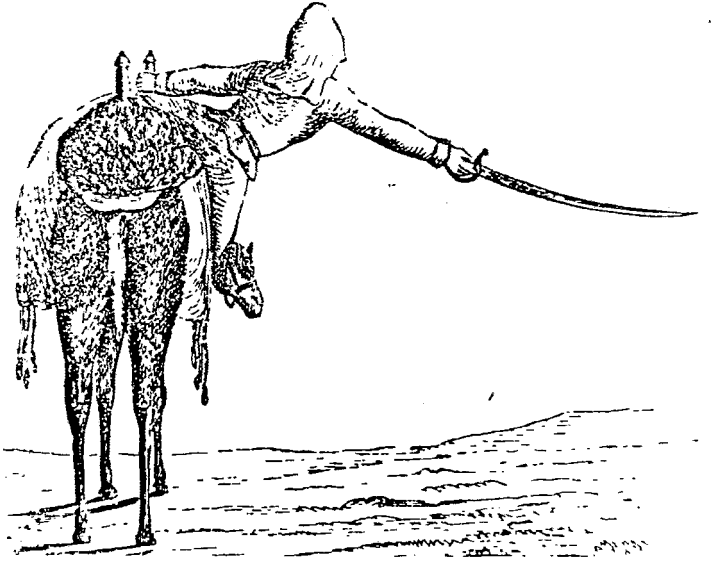
A camel artillery crew. The cannoneer of the right sponged, rammed down, primed and fired the piece. Cannoneer of the left purveyed, closed the pan and aimed. The number three cannoneer held the camels, served ammunition and assisted with purveying. Cannoneers two and three also served as mounted infantry to protect the piece while in transit and were used to lead the artillery camel in case of the necessity to fire from the saddle. Ammunition and rations for the crew were divided between the two camels and carried in the large saddlebags as shown. (From Zembloureks, The Persian Camel Artillery, translated by H. C. Wayne.)

will be opened at New Orleans. This is a fine opportunity for Mrs. Toodles to invest. They are so handy to have in the house.[37]

The article told the tale. Except for a handful of dedicated individuals, few people ever took the camels seriously—not even to the last. There is no question that the Army's Camel Corps, during the period 1856-66, was a failure.

John Marsh, Minister to Constantinople, foresaw the cause for that failure as early as 1854 when he wrote:

If the experiment shall fail it will neither be because the attempt is in its nature hopeless, nor because the public agent entrusted with the charge of it has committed any error in the execution of his duties, but because the means appropriated by Congress



One advantage of the camel over the horse was the ability of the rider to make a more extensive saber cut by holding the frontpiece of the saddle and leaning to the side. (Letter of W. Re Kyan Bey, Secretary to the Viceroy of Egypt to Edwin DeLeon, U.S. Consul General in Egypt on the Treatment and Use of the Dromedary.)

did not admit of an experiment on a scale extensive enough, and varied enough, to embrace all of the reasonable chances of success.[38]

Adequate funds were never forthcoming. Henry Wayne predicted in 1857 that it would take 10 years to establish the camels in this country and to prove their value to the public. Three and one-half years later, the Civil War, not camels, consumed both the country's funds and the public mind. By the end of the war, the railroad and all-weather roads were the order of the day, and the camels were no longer needed.

Not all of the blame, however, can be placed with the Congress nor can it be attributed to the Civil War. The failure of the 1856 camel experiment was in a large part—if not entirely —due to the lack of acceptance by both men and officers and to public indifference toward the project. It was a 19th-Century demonstration of the need to indoctrinate personnel carefully into a new and innovative system. The Camel Corps also provides a historical lesson on the need to develop and maintain a well-coordinated public relations program to inform and educate the general public and the Congress about new programs and systems.

Clearly, if the Camel Corps had enjoyed the unreserved support of military personnel and the public, it could have saved hundreds of thousands of dollars in the development of the Southwest and considerably shortened the 38-year conflict with the Indians in the region.

NOTES

1 *Reports Upon the Purchase, Importation and Use of Camels and Dromedaries, 1855-'56-'57,* US Congress, Senate Executive Document Number 62, Committee on Military Affairs, 34th Congress, Third Session, Washington, D. C., 1857, p 13, Letter from Jefferson Davis to Major Henry C. Wayne, 10 May 1855.

According to Francis B Heitman, *Historical Register and Dictionary of the United States Army From Its Organization, September 29, 1789 to March 2, 1903,* Superintendent of Documents, US Government Printing Office, Washington, D C, 1903, Volume I, pp 358 and 1010, Jefferson Davis was born in Kentucky and graduated 23d in his class from the US Military Academy on 1 September 1824. He was commissioned as a colonel in the 1st Mississippi Rifles until 12 July 1847 when he resigned his commission Davis was Secretary of War from 7 March 1853 to 6 March 1857. He later became President of the Confederate States, serving from 1861 until 1865. Henry C. Wayne was born in Georgia. He graduated 14th in his class from the US Military Academy on 1 July 1834. He was promoted to brevet major on 20 August 1847 for gallant and meritorious service in the Battles of Contreras and Churubusco, Mexico. He resigned his commission on 31 December 1860 to serve in the Confederate Army as a brigadier general.

2 *The Congressional Globe,* US Congress, 32d Congress, First Session, 1852, Volume 21, p 2430.

3 "Camels· The Story of a Long Ago Experiment," *Indians at Work,* February 1919, pp 28-30

According to Heitman, *op. cit.*, p 341, George Crosman was born in Massachusetts, graduated from the US Military Academy on 1 September 1819, and was promoted steadily until his retirement in 1866. He received brevet promotions for gallant conduct during the Battle of Palo Alto, Texas, during the Mexican War. He was promoted to major general on 13 March 1865 for faithful and meritorious service during the Civil War He died on 28 May 1882.

4 William M Malloy, *Treaties, Conventions, International Acts, Protocols, and Agreements Between the United States of America and Other Powers, 1776-1909,* Superintendent of Documents, US Government Printing Office, Washington, D. C., 1910, Volume I, pp 1107-21.

5 *Report of the Commissioner of Indian Affairs,* Superintendent of Documents, US Government Printing Office, Washington, D. C., 1852, Appendix, and Jack Bauer, *The Mexican War, 1846-1848,* The Macmillan Co., N Y, 1974, p 397. This figure represents the Regular Army at the close of the Mexican War An additional 73 000 men were in the volunteer ranks.

6 John G. Bourke, *On the Border With Crook,* The Rio Grande Press, Chicago, Ill., 1962, pp 35-38

7 *Reports Upon the Purchase, Importation and Use of Camels and Dromedaries, 1855-'56-'57, op. cit.*, p 7, Davis to James M. Mason, President *pro tempore,* US Senate, 24 February 1857.

8 *Ibid.*, pp 106-7, Porter to Davis, 13 August 1855.

9 *Ibid.*, p 13, Davis to Wayne, 10 May 1855.

10 *Ibid.*, p 35, Wayne to Davis, 28 December 1855.

11 Commander Malcolm W. Cagle, "Lieutenant David Dixon Porter and His Camels," *United States Naval Institute Proceedings,* December 1957, pp 1327-33.

12 *Reports Upon the Purchase, Importation and Use of Camels and Dromedaries, 1855-'56-'57, op. cit.*, p 98, Wayne to Davis, 14 May 1856.

13 *Ibid.*, p 200, Captain W. C. Van Bokkelen to Davis, 30 January 1857.

14 *Ibid.*, p 155, Wayne to Davis, 12 August 1856.

15 *Ibid.*

16 *Letter of W. Re Kyan Bey, Secretary to the Viceroy of Egypt to Edwin DeLeon, U S. Consul General in Egypt on the Treatment and Use of the Dromedary,* US Congress, Senate Miscellaneous Document Number 271, 35th Congress, First Session, Washington, D. C., 1857-58, p 33

17 *Ibid.*, pp 8-18; and Harland D Fowler, *Camels to California,* Stanford University Press, Stanford, Calif., 1950, pp 41-42.

18 *Reports Upon the Purchase, Importation and Use of Camels and Dromedaries, 1855-'56-'57, op. cit.*, p 152, Wayne to Davis, 22 July 1856.

19 *Ibid.*, p 195, Wayne to General Thomas S. Jesup, 12 February 1857.

20 *Ibid.*, pp 72-75, Frederick Ayrtoun to Edwin DeLeon, 3 December 1855.

21 *Ibid.*, p 197, Wayne to Davis, 21 February 1857.

22 *Ibid.*

23 *Ibid.*, pp 159-60, Wayne to Davis, 5 November 1856. In Heitman, *op. cit.*, p 294, the officer mentioned is Nathaniel Rives Chambliss of Virginia who graduated ninth in his class at the US Military Academy. He was dismissed from the Army on 25 May 1861 and served in the Confederate Army as a lieutenant colonel in the Ordnance Department He died on 7 March 1897

24 *Reports Upon the Purchase, Importation and Use of Camels and Dromedaries, 1855-'56-'57, op. cit.*, pp 159-60, Wayne to Davis, 5 November 1856.

25 *Wagon Road From Fort Defiance to the Colorado River,* US Congress, House Executive Document Number 124, 35th Congress, First Session, Washington, D. C., 1857-58. p 15. Beale kept a daily journal for the entire journey from Fort Defiance to California which Congress officially published in 1858.

26 *Ibid.*, p 17.

27 *Ibid.*, p 25.

28 *Ibid.*, p 26.

29 *Ibid.*, p 42.

30 *Ibid.*, p 57.

31 *Ibid.*

32 *Ibid.*, p 76.

33 *Ibid.*, p 77.

34 Fowler, *op. cit.*, p 68.

35 Cris Emmett, *Texas Camel Tales,* Naylor Printing Co., San Antonio, Tex., 1932, p 191.

36 *Ibid.*, p 210.

37 "Camels," *Army and Navy Journal,* 13 January 1866.

38 Fowler, *op. cit.*, p 89.

The American Revolutionary War: How Revolutionary?

By LTC C. C. M. Peters, Australian Army

Army Journal, October 1974 (Australia)

How well does the American Revolution conform to the definition of or exhibit common characteristics of revolutionary warfare?

Revolutionary warfare may be defined as "warfare against the established government of a country, by which an opposition political group, using local adherents, attempts to replace the government in some or all of its territory." American committees of correspondence usurped the authority of 12 of the colonial governors. With French aid, American local militias and the Continental Army won the war against the final governmental authority.

Internal change following a major war gives impetus to revolution. The residual standing British Army after the French and Indian War phase of the Seven Years' War and the accompanying extra taxes imposed on the American colonies to maintain this army helped to exacerbate the growing resentment in the colonies.

A strong ideology usually motivates the rebels in a revolution. New England puritanism reacting to the vulgarities of the British soldiers and antiauthoritarian sentiments aiming at protecting liberty helped the cause of independence.

Political means are used as much as military means in a revolution. The committees of correspondence assumed authority in the local communities, and patriot propagandists undermined British credibility and control in the colonies.

Insurgents use combinations of guerrilla and semiconventional warfare against conventional government forces. Patriots employed guerrilla warfare and tactics which were unconventional at the time, but, then, so did the British and the Loyalists in some of their raids.

Civilian attitudes are an important factor in a revolution. General Washington used public relations work to a much better advantage than the British and their Hessian and Indian allies who alienated civilian support.

Some historians might argue that the real controlling governments in the colonies were patriot and there was no clear-cut ideological basis for the war, but, for the most part, the American Revolution conforms to the accepted definition and characteristics of revolutionary war.

(Lieutenant Colonel Peters is assigned to the Directorate of Military Intelligence, Army Office, Canberra, Australia.)

The Return of the Infantry

By Lieutenant Colonel R. Gilli

Forces Armées Françaises
November 1974 (France)

Translated and condensed by
COL John W. Price, USAR

Each war brings new combinations of weapons. In World War I, the infantry-artillery team was preeminent; in 1940, tanks and planes used together produced the greatest shock effect. Today, would it be a contest between tanks and tactical nukes?

In the latest Middle East War, infantrymen came back on stage because of their new antitank *(Sagger)* and antiaircraft *(Strela)* weapons. In every 40-man section, the Arabs had about a dozen bazookas and wire-guided missiles. So effectively were they used that one Israeli armored brigade lost 70 tanks while trying to relieve the Bar-Lev Line. The mechanized infantry was present in all Arab maneuvering, either ahead of, with or behind the tanks. Infantry weapons and infantry-emplaced mines accounted for two-thirds of the Israeli tanks knocked out

The *Strela* (range: 45 to 1500 meters) has been given to the Polish Army; the British have the *Blowpipe;* the Americans, the *Redeye* and the *Stinger;* and the Swedes possess a superior *Robot 70* (range: 5000 meters). The cost-risk ratio has clearly turned in favor of the infantryman over the tank and the plane.

These synopses are published as a service to the readers. Every effort is made to ensure accurate translation and summarization. However, for more detailed accounts, readers should refer to the original articles. No official endorsement of the views, opinions, or factual statements in these items is intended or should be inferred. *The Editor.*

MR MILITARY NOTES

UNITED STATES

TRAINING AIRCRAFT

A fixed price letter contract for approximately $7.1 million has been awarded to Beech Aircraft Corporation by the Navy for 18 *T34C* trainer aircraft. First deliveries are scheduled for March 1976.

The single-engine, two-place tandem-seating *T34Cs* will replace piston-engine *T34B, T28B* and *T28C* aircraft which the Navy has operated in primary and basic training for more than 20 years.

The MILITARY REVIEW and the U.S. Army Command and General Staff College assume no responsibility for accuracy of information contained in the MILITARY NOTES section of this publication. Items are printed as a service to the readers. No official endorsement of the views, opinions, or factual statements is intended.—The Editor.

TRAINING TARGET

Beech Aircraft Corporation has been awarded a $7.7-million competitive contract for production and contractor operation of the US Army's new turbojet-powered Variable Speed Training Target (VSTT) (see also *MR,* Apr 1974, p 93).

The US Army Missile Command awarded the contract after a three-year evaluation of the Beechcraft *Model 1089* VSTT in a performance and cost competition.

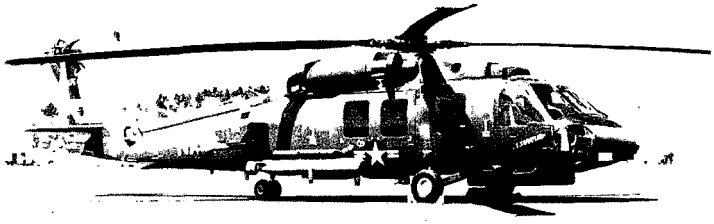
First deliveries of the 16-foot-long, swept-winged, 950-pound aerial target are scheduled for early in 1976.

Because of its variable speed and controllable performance, the VSTT will become the Army's primary subsonic missile training target. Its principal role will be to tow a variety of targets for training Army crews in firing surface-to-air missiles and air defense gun systems.

Launched from the ground with rocket booster assist, the VSTT is capable of being operated at variable speeds from 285 to 575 miles per hour and at altitudes from sea level to 40,000 feet. Control in flight is through remote command by a ground-based operator.

The VSTT is a reusable target. Recovery is by command using a two-stage parachute system.

UTTAS/LAMPS



Sikorsky Aircraft Division of United Technologies announced the following accomplishments for its *YUH60A* UTTAS (Utility Tactical Transport Aircraft System) prototype (*MR*, Feb 1975, p 87) during the first 183 hours of flight testing:

- Reached a true airspeed of 172 knots (195 miles per hour).
- Demonstrated its maneuverability and control response in nap-of-the-earth flights that included 70-degree banks and G-loads up to plus two.
- Underwent successful evaluation of the airborne and ground elements of the Tactical Landing System for use at night and in adverse weather.
- Was flown at gross weights in excess of 21,000 pounds—well over the mission gross weight—with airspeeds up to 147 knots (169 miles per hour).

Sikorsky has also shown this full-scale mockup of its UTTAS/LAMPS (Light Airborne Multi-Purpose Systems) candidate for the US Navy. The tail wheel has been moved forward to shorten the wheelbase for shipboard compatibility, and the aircraft has been fitted with a Magnetic Anomaly Detector, two *Mark 46* torpedoes, surface search radar (under the nose) and sonobuoys (not visible).

BRUCKER HALL

The US Army Band and Chorus building at Fort Myer, Virginia, has been dedicated as the Wilbur M. Brucker Hall. The late Mr. Brucker was the originator of the US Army Chorus and a former Secretary of the Army. General Bruce C. Clarke, Retired, was the principal speaker at the ceremony.

ITALY TO TEST TOW

Italy and the United States have signed an agreement for the supply of two *TOW* airborne antitank systems to the Italian Light Army Aviation. The systems are to be installed for experimental purposes on *Agusta 109* helicopters (*MR,* Jul 1974, p 95).

Hughes Aircraft Company will provide the subsystems and technical assistance while Agusta will be responsible for design and fabrication of the helicopter provisions and system integration. The evaluation in Italy is expected to be performed in 1976.

The *Agusta 109* is an eight-seat, twin-turbine helicopter now in series production. Its speed and maneuverability make it particularly suited to scout and antitank missions.

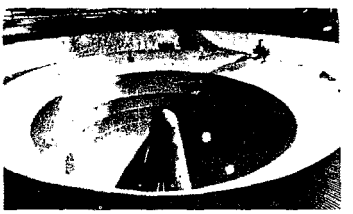
The Italian Army, which adopted the *TOW* in 1972, was the first in Europe to evaluate the antitank system.

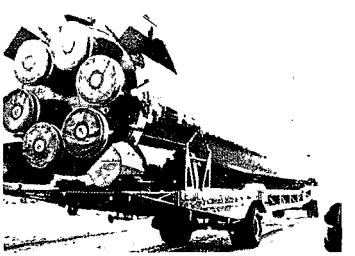
GYROSTABILIZED SIGHT

The gyrostabilized sight for an airborne *TOW* antitank missile system undergoes a final check before the system is delivered. Hughes Aircraft Company is building 291 systems for Bell Helicopter for installation on the Army's *AH1Q HueyCobra* attack helicopter. The sight's gyrostabilization makes it possible to keep steady aim regardless of the helicopter's maneuverings. Maximum system range is 3750 meters. Each system consists of the sight, guidance and control equipment, cockpit displays and four 2-round missile launchers.

USSR

LAUNCH SILOS





Some Soviet launch silos are designed to handle newer and bigger weapons systems.

The top picture shows the upper rim of a launch silo for *SS9 Scarp* intercontinental ballistic missiles.

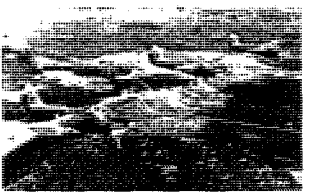
The *Scarp* is a multistage liquid-fuel rocket (bottom picture) which can be armed with either a 20 to 25-megaton warhead or with three 5-megaton warheads.

The top picture shows that the outer rim is smaller than the diameter of the lower part of the silo, indicating that, after smaller missiles have been fired, larger ones could be launched from the same silo.

The follow-on version of the *SS9* may be the *SSX18* now undergoing testing.—*Soldat und Technik*, © 1975.

PAKISTAN

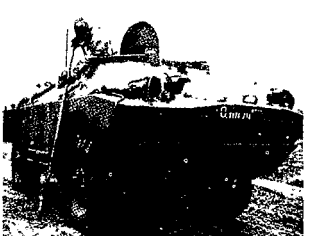
SAAB-SCANIA MFI17



The *MFI17* light support plane with piston engine, developed and built by Saab-Scania in Sweden, is also used for various military missions. Among other countries, Pakistan bought a number of these aircraft for training purposes to replace the *PAF T-6* training plane. Delivery of the aircraft began recently. The picture shows three of these planes with Pakistan Air Force markings during a test flight over Sweden.—*Soldat und Technik*, © 1975.

GERMAN DEMOCRATIC REPUBLIC

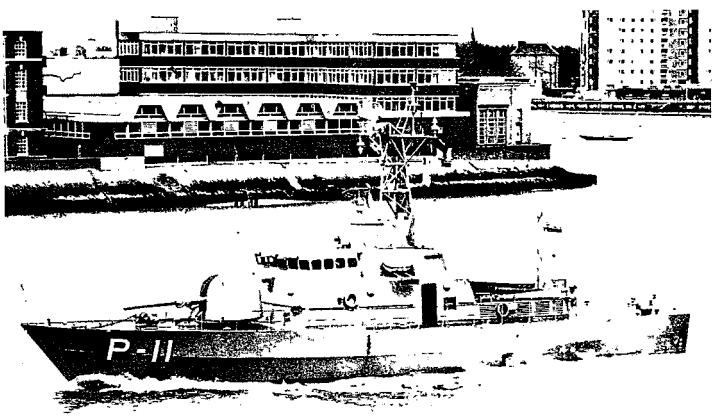
GROUND SAMPLES ANALYZED



With a special probe on a *BTR40PB RKh* tracked vehicle (without turret), mechanized troops of the East German *Volksarmee* can take ground samples to be transferred to the NBC defense company field laboratory. Inside the *LO1800* lab vehicle, the sample is analyzed to determine the presence of nuclear radiation.—*Soldat und Technik*, © 1975.

VENEZUELA

SPEED BOATS ORDERED



Delivery of six speed boats ordered from Vosper-Thornycroft for the Venezuelan Navy will begin this year (*MR*, Jan 1974, p 98). The boats are 37 meters long, 7 meters wide, 1.8 meters deep, and displace 125 tons. Three boats will be armed with a 76mm *L/62 Oto* rapid-fire gun, and the other three boats with a 40mm *L/70 Bofors* gun forward and two launchers for the *Otomat* surface-to-surface missile aft. Both versions have the *ELSAG NA10* fire control system including accompanying sensors. The boats can achieve a speed of 30 knots.—*Marine-Rundschau,* © 1975.

THE NETHERLANDS

LANCE SYSTEM PURCHASED

The governments of Belgium and the Netherlands have purchased the *Lance* missile system from the US Army.

Other countries that have previously announced their purchases of the *Lance* system include Great Britian and West Germany. The system is a highly mobile, supersonic artillery missile capable of delivering a 1000-pound high-explosive warhead. It is currently fielded with seven US Army battalions in the United States and Europe.

The Dutch announcement said that the *Lance* equipment would be used to equip a battalion which will be operational by 1978.

WG13 LYNX

Delivery of six *WG13 Lynx* search and rescue helicopters to the Royal Netherlands Navy by Westland Aérospatiale will begin in 1976.—*Wehrkunde,* © 1975.

SAUDI ARABIA

CROTALE SYSTEM

Saudi Arabia has concluded an $800 million arms sales agreement with France for tanks and additional Thomson-CSF *Crotale* low-level air defense systems. Saudi Arabia acquired a number of *Crotale* batteries in 1973.—*Wehr und Wirtschaft.*

BULGARIA

WOMAN GENERAL

The first woman to attain the rank of major general in Bulgaria is Polina Nedgalkowa. The 60-year-old daughter of a Communist functionary was an active participant in the Spanish Civil War and also in World War II. —*Die Bundeswehr.*

UNITED KINGDOM

FH70 HOWITZER

Joint trials of the new field howitzer (*FH70*) being developed by West Germany, Britain and Italy are to take place in Germany later this year. This 155mm howitzer has a range of over 24,000 meters, a high rate of fire, and is air portable. A full range of new ammunition is being developed, but it will also accept current NATO 155mm rounds.

The howitzer should be in full production by the end of the 1970s.

FEDERAL REPUBLIC OF GERMANY

A4 LEOPARD

The new version of the *Leopard* battle tank designated *A4,* now in production, includes an integrated fire control system and a fully automatic transmission.

An *EMES12A1* binocular stereogram range finder and stabilized sighting device are provided for the gunner. The commander uses a *PERI R12* panoramic periscope equipped with windshield wiper and primary stabilized sighting device for day and night (infrared) vision. The new integrated fire control system allows quicker firing and increased first round hit probability.—*Soldat and Technik,* © 1975.

MR BOOKS

DETERRENCE IN AMERICAN FOREIGN POLICY: Theory and Practice

By Alexander L. George and Richard Smoke. 666 Pages.

Columbia University Press. 1974. $17.50 clothbound. $6.95 paperbound.

Since the end of World War II, American foreign policy has been dominated by a strategy of deterrence through which the United States sought to discourage other countries from taking certain actions by convincing them that the costs of these actions would outweigh their potential gains. We supported this strategy by manifestations of our military power, by demonstrating our commitment to the defense of declared national interests and by threats of reprisal.

Deterrent strategy has succeeded in preventing the outbreak of general war. But it has been considerably less successful in aborting limited conflicts, not all of which have been resolved in accordance with American desires.

Deterrence in American Foreign Policy is a critical, provocative and systematic analysis of the theory and practice of deterrence as applied by American policymakers. It is not concerned with strategic deterrence, but, rather, with the far more complex and difficult problem of deterring limited wars. It proceeds from the assumption that this aspect of deterrent theory has not been sufficiently tested by historical assessment and that it is, therefore, incomplete and inadequate.

After an initial examination of contemporary deterrent theory, the authors—one a political scientist, the other a psychologist—undertake a perceptive evaluation of 11 instances in which the United States has attempted to apply deterrence to limited situations. These examples—from the Berlin blockade to the Cuban missile crisis—are valuable not only to demonstrate the weakness of existing deterrent theory, but also as comprehensive case studies of decisionmaking, crisis management and threat and counterthreat in international relations.

The result of this well-documented and searching critique is a set of valuable conclusions and suggestions. Deterrence, argue the authors, depends on the satisfaction of numerous, highly complicated preconditions and on the careful evaluation of perceptions and commitments. It should be applied more selectively and with a more sophisticated awareness of its operational requirements. And it must be supplemented by an "inducement"

strategy that makes it only one part of a grander, highly pluralized process of influence and control.

Not everyone will agree with the critical interpretations and conclusions of this thoughtful volume. Nor is its content easily or quickly digested. But it throws searching light on a basic and controversial aspect of national policy. And it lays out deterrent strategies for the post-Vietnam world that the United States must at least consider if it is to avoid previous errors.

STANLEY L. FALK,
Office of Air Force History

ALLEN: The Biography of an Army Officer, 1859-1930 by Heath Twichell Jr. 358 Pages. Rutgers University Press. 1974. $12.50.

This book is biography at its best. Written by an Active duty officer, the very readable writing style and detailed documentation mark the work as a significant contribution to American military history. These same characteristics illustrate why the book won the Allen Nevins prize for sound scholarship and literary excellence.

Major General Henry Tureman Allen is a little-known figure that this book should help to redeem from obscurity. Beginning with his graduation from West Point in 1882, Allen's career spanned the period from the Indian Wars to after World War I. He participated in all the significant military events that marked America's transformation into a world power. Allen's assignments included several that made him one of this nation's first soldier-diplomats.

His service included extensive exploration of Alaska, duty in Cuba and the Philippines during the Spanish-American War, a key commander under Pershing in Mexico, command of the 90th Infantry Division in World War I and commander of the American occupation forces in Germany after World War I. Interspersed between those principal assignments, Allen served on the War Department staff and as an instructor at West Point. He was the first Army attaché in St. Petersburg and later served in the same position in Germany.

In addition to the interesting story of General Allen as an individual and his personal accomplishments, this book is valuable for the historical material it provides. The author often departs from the life of Allen to discuss major national and international events and personalities impacting on the life of his subject. The background information on the Philippines before, during and after the Spanish-American War is particularly interesting. The discussion of post-World War I Germany and the interaction between the Allied Powers is also good.

The insights provided on the development of the US Army over Allen's long career should make this book of interest to career officers, as well as military historians.

MAJ JOHN A. HARDAWAY,
Department of Strategy, USACGSC

WILLIAM PENN by Harry Emerson Wildes. 469 Pages. Macmillan. 1974. $14.95

William Penn, one of the least known of the Founding Fathers, emerges from this biography as exceedingly human. As the proprietor and founder of Pennsylvania, he insisted on equal rights under the law for all citizens, except, of course, for non-Christians, blacks and indentured servants. Despite these limitations, Penn's political thought was decades ahead of his

time. Yet he insisted on a special status approaching royalty for himself and his descendants.

Penn could be generous to others, particularly other Quakers, in granting lands and in helping the poor to migrate to Pennsylvania. But, at the same time, he could be vindictive and petty toward those who criticized him, and rarely did he pay his debts on time or without complaint.

Penn's best gift to American political development was the Frame of Government, the basic law of Pennsylvania, which granted universal male suffrage. In later years, Penn became less inclined to promote further liberties.

The book, while unduly repetitious, presents a well-documented portrait of Penn. It is certainly the best biography available.

Perhaps the reason the book is not more exciting is that we expect heroics from our great names. Most people today would regard Penn in his later years as a stuffed shirt. His Pennsylvania legislature took a similar view.

COL DONALD J. DELANEY,
USA-Retired

CONFRONTATION: The Middle East and World Politics by Walter Laqueur. 308 Pages. Quadrangle Books 1974 $8.95.

Professor Laqueur discusses a wide range of actions before and after the 1973 October War, faithful to his stated aim "to provide an anatomy of a local crisis that became a world conflict." Because of his lack of access to government documents, Laqueur has had to use accounts and articles in the world's elite press—*Neue Zurcher Zeitung, Le Monde, Pravda, The New York Times*, and so forth—as well as lesser known newspapers and periodicals for his source material. Laqueur recognizes that a definitive history of the Middle Eastern crisis of 1973 is still years from being written, but he presents a new analysis, novel when compared to previous books written on the same subject.

The viewpoint is that of the historian political scientist, not the tactician. Military forces and actions are mentioned, but the political factors get the most attention. As part of his thesis, he shows that Western analysts failed to understand the real situation between the USSR and Egypt in 1972, concentrating on the dramatic expulsion of Russian advisors while forgetting that a powerful military force had already been created in Egypt. He shows that the aims of the Israelis changed from mobile defense to a more static defense of occupied territory, causing them difficulties in the initial stages of the war.

During the war, he contends that the superpowers both manipulated and were manipulated by the Middle Eastern powers. From his analysis, Laqueur predicts an increasing unity within Israel due to the revelations of internal weakness during the war. He likewise sees a strengthening of the Arab position against Israel through the lessons they learned not on the battlefield, but in the international political arena. The use of the oil weapon by the Arabs, bringing together such unlikely allies as conservative Saudi Arabia and radical Syria, revealed a capacity for unified action that few thought existed. Laqueur points out that this unity is only vis-à-vis Israel and says that the centrifugal positions within the Arab world have not really been affected.

The lessons for the United States based on the reactions of Europe are

more important. Laqueur says "after the immediate crisis had passed Americans had a much clearer idea of what to expect of friend and foe." He also claims that American firmness impressed the Arabs, and "unlike the Europeans it had earned their respect" though not their love.

Laqueur concludes that the 1973 October War and its aftermath in the world will have lasting effects on international relations. Europe was shown to be weak. Laqueur feels that America should seriously restudy its European and other international commitments because of the events of 1973.

This book is not the last word, but it is one of the best to come forth thus far. It merits the attention of the military reader.

LTC PAUL B. PARHAM,
Headquarters, Sixth Army

HITLER'S GUARD: The Story of the Leibstandarte SS Adolf Hitler, 1933-1945 by James J. Weingartner 208 Pages. Southern Illinois University Press. 1974. $8.95

The author, an Associate Professor of History at Southern Illinois University, used an impressive selection of published and unpublished sources in writing about one of the most famous units of World War II.

This book will interest most and may cause a change in some perceptions of the Nazi *Schutzstaffel* (*SS*) and its notoriety. While telling the story of a crack fighting unit and Sepp Dietrich, its colorful commander, Mr. Weingartner also presents an interesting picture of Hitler's management of his government, his army and his war. The fragmented nature of Germany with its emphasis on competing power centers was reflected in the armed forces where the *SS*, a formidable and favored military organization, never became a true part of the German Army.

The account of this unit which fought wherever the German Army fought is a welcome addition to the story of World War II. Unfortunately, in format, the book too closely resembles an academic dissertation which was in fact its origin. There is an irritating absence of maps of campaigns and battles; also, pictures of the principal characters, their equipment and uniforms are missed. These omissions, however, only detract from but do not obviate this book's value as a reference on the *SS*.

LTC WILLIAM J. MULLEN III,
G5, 1st Infantry Division

FEDAYIN—GUERILLA OHNE GRENZEN by Rolf Tophoven 158 Pages. Bernard & Graefe. 1974. $6.92

Little has been written in German about the guerrilla war in the Middle East or about the *fedayeen* movement. Tophoven's endeavor in this area is, therefore, noteworthy.

Tophoven sees the root of the conflict in a struggle between Arab nationalism and Zionism that goes as far back as World War I. Chapter III covers the different guerrilla organizations and the partisans supporting them. Chapter IV provides good insight into the little-known "Charta of the Palestineans," also known as the "Palestine Manifest." The author deals with the views and actions of the Israelis toward the *fedayeen* in detail.

One might disagree with some of the author's statements and conclusions. For instance, he incorrectly states that the Israelis fight the guerrillas by conventional means only. The Israelis have not abandoned the policy

of blowing up buildings in retaliatory raids. They are well-aware of the psychological advantage gained.

The book ends with June 1973, but the postscript includes the guerrilla activities during and after the October 1973 Mid-East War.

Among other questionable conclusions, the author disputes the possibility that the *fedayeen* influenced the political development after, and that Arafat's worldwide recognition are results of the Yom Kippur War. The new policy of Hussein of Jordan toward the *Al Fatah* movement and the possibility of future increased activities of the *fedayeen* in a fifth Middle East conflict also should have been included in the postscript.

Serious observers of the Middle East situation, the *fedayeen* movement and the Israeli counterguerrilla should not pass up this new work. Good photos, a chronology of guerrilla attacks between July 1968 and December 1973 and a selected bibliography help make this book interesting.

COL WOLFGANG GERHARDT,
German Liaison Officer, USACGSC

IMPERIALISM AND NATIONALISM IN THE FERTILE CRESCENT: Sources and Prospects of the Arab-Israeli Conflict by Sir Richard Allen. 686 Pages. Oxford University Press. 1974 $15.95

This book is a major work of comprehensive history of the Middle East. That so vast a subject could be handled at all in a single volume is made workable by the focus on the background of the Arab-Israeli conflict.

Sir Richard Allen is well-qualified to write such a book, having spent 35 years in the British Diplomatic Service after two years in the Palestine Service during the British Mandate. He states a chief purpose of the book as being "to clarify as simply and concisely as possible the far less familiar origins and causes of the present critical situation." In addition, he reviews the more apparent factors and events and suggests some conclusions.

Allen demonstrates his point that legend and tradition are both of importance, along with historical events. "The Fertile Crescent in its widest sense has been the seedbed of Judaism, Christianity and Islam, the three great religions of the one God, all significantly related to each other," and all giving rise to beliefs and aspirations which are "at the very source of the present-day conflict."

Palestine, according to Allen, has for many years been a pawn of the imperial powers who, he proposes, are primarily responsible for today's situation between the Arabs and Israel. Considerable evidence is cited toward this viewpoint. When the British promised freedom to the Arabs in return for Arab revolt against Turkey in 1916, the Arabs were, and still are, convinced that Palestine was included in the area in which they were to be free. However, Britain did not interpret the agreement that way. Then, the "world arbiters" in Paris at the end of World War I considered the postwar chaos in the Middle East as "a minor affair," and they did not provide for the rights of the Arabs.

Such emphasis on the responsibility of the major powers is not altogether persuasive to the extent of minimizing Arab-Israeli responsibilities. At times, despite obviously competent scholarship, Allen comes across as somewhat of a British apologist. To his credit, however, his interpretations do not seem to interfere with the reader's own assessment of the wealth of information presented for consideration. And something more of a balanced view emerges when, later in

the book, Allen recognizes that the Arab states and Israel both must play a significant part in solving the problem of the Palestinians.

The author wisely suggests no particular solution to the prevailing conflict. He recognizes that "the road to peace will be long and hard." Further, he does propose several conditions for peace and stability:

- Reparation must be made to the Palestinian Arabs.
- Israel must become self-supporting, not dependent upon outside help.
- Israel needs to become a true "Middle-Eastern state" among its neighbors, free from the "Western Orbit."

Further, he states that Israel must seek "conciliation and understanding, not dominance" in relations with adjacent peoples, "especially those who have been injured by the rise of Israel."

Detailed chapters on the ancient past of the countries and peoples of the Middle East and on early Judaism. Christianity and the development of Islam provide a solid background for studying the British and French experiences there, as well as more recent events. An epilogue on the October 1973 "Yom Kippur War" gives a concise overview of that conflict and seems to support the general direction of much of Allen's reasoning in the main part of the book which was written before October 1973.

The book includes a chronology from 1900 B.C. to 1973 A.D., an extensive bibliography, detailed footnotes and references. Overall, it is a monumental work of useful scholarship, not for casual reading but deserving careful study by the serious student of the Middle East.

LTC MELVIN J. STANFORD, *USAR*,
Consulting Faculty, USACGSC

BLACKS AND THE MILITARY IN AMERICAN HISTORY: A New Perspective by Jack Foner. 278 Pages. Praeger. 1974. $10.00.

This is an excellent survey of the role of Black Americans in the Armed Forces of the United States. For the casual reader who is seeking a single source from which he can get a general overview of the participation of Blacks in the military, this book is more than adequate. For the researcher looking for source material, this is an excellent beginning because the author's account is well-documented. For the reader who is trying to understand the more subtle nature of discrimination—namely, institutional racism—this work describes its historical antecedents.

It is not an assault upon the American conscience. It is, however, an attempt to "set the record straight." This "new perspective" reminds us that, ironically, Black Americans are a part of the military history of the United States *in spite of* the historical policies meant to exclude them. Even more importantly, this new perspective serves to remind us that, while Black Americans were *fighting* to *maintain* the freedom of their country, they were also fighting to *gain* their own.

MAJ JAMES D. BLUNDELL, *USACGSC*

THE PHILIPPINES: Shattered Showcase of Democracy in Asia by Beth Day. Introduction by Carlos P. Romulo and M Evans. 240 Pages. J. B. Lippincott Co. 1974. $7.95

Without some knowledge of the past, the average person is quick to condemn Philippine President Marcos for declaring martial law in September 1972. This book delves into the past to justify martial law and discusses the

present to show how the Philippines, because of martial law, is on its way to becoming a country of stature in the eyes of the world. Because of the corrupt political system, reform through existing governmental structure was impossible. In declaring martial law, President Marcos was moving to break the political strangle hold which choked the economic and social life of the country.

In relating the past, the book concludes that, after 400 years of being ruled by outsiders, the people were idealistically and culturally bankrupt. Ten percent of the population controlled the wealth and continued to get richer. The peasant was dominated spiritually by the Catholic Church and materially by the landlord. Civil liberties were not relevant. The major crime of the Americans during their colonization was to reinforce this stratified social structure. The government itself had adopted all the evils of the American system and improved upon them. Nevertheless, the Philippines were loyal to the United States and adopted most Western ways of life. For example, during World War II, the Philippines was the only Asian colony to remain true to its mother country. Rather than become part of the Asian community dominated by Japan, they paid dearly for this loyal support of the United States. Yet it appeared that this loyalty was not returned when the United States gave preferential treatment to Japan after World War II.

The Philippines are now becoming part of Asia and, like most developing countries, can put full effort into development because of détente. President Marcos has initiated land reform, is integrating the minority non-Christians into the mainstream and has shown enough stability to attract badly needed foreign capital.

This is an excellent book which provides the reader with a comprehensive background and understanding of the Philippines. The book is fully endorsed by Carlos P. Romulo, the President of the United Nations General Assembly and Ambassador to the United States for 14 years.

LTC CARL M. PUTNAM,
Headquarters, Forces Command

YEARBOOK ON INTERNATIONAL COMMUNIST AFFAIRS, 1974. Edited by Richard F. Staar. 648 Pages. Hoover Institution Press. 1974. $25.00.

As with the seven previous yearbooks, this volume has as its objective the goal of presenting a comprehensive survey—provided by over 50 contributors—of the past year's (1973) activities of the Communist parties throughout the world. What with the increased questioning at home of the meaning of détente, the gradual weakening of the entire Southern flank of NATO, and with what could be described at the initial call by the Communist Party of the Soviet Union for the development of an international united front, this series of profiles of national Communist parties and international front movements is indeed both a useful reference tool and a reminder that the reports of the death of the Comintern are—as were Mark Twain's—greatly exaggerated.

There are profiles on over 90 national Communist parties (including factional or rival movements within the major party element) and on 10 international front organizations. Each report focuses on the activities of the respective party for 1973 but, where necessary, makes references to previous *Yearbooks on International Communist Affairs*. The profile is presented

in factual language, without polemic, an approach which definitely aids in the use of this material. The standardized format for the profile that includes membership figures and the extent of government participation permits quick cross reference and comparison on both a yearly and a national basis.

The content, format and cost make the acquisition of this text a matter for librarians rather than for the individual reader. However, the existence of this book should indeed be known by all who are involved with or interested in international Communist affairs.

MAJ WILLIAM G. HANNE,
Office of the Assistant Chief of Staff for Intelligence

COUP!: Allende's Last Day by Jose Manuel Vergara and Florencia Varas 182 Pages Stein & Day 1974. $7.95.

Florencia Varas, Chilean correspondent for *The Sunday Times* of London, and publisher Jose Vergara were both in Santiago, Chile, on 11 September 1973. In a period of approximately 12 hours on that date, Salvador Allende—the first democratically elected Marxist head of state in the Western Hemisphere—was deposed by a military coup and lost his life.

Using their own observations, interviews with principal participants and an examination of the documentary evidence, the authors have reconstructed some of the events and issues of the coup. In this connection, Varas and Vergara reveal segments of the drama which took place in the Moneda Palace from the time of the arrival of the President on the morning of the 11th until after his death. This is done from the point of view of some of Allende's friends and Cabinet ministers who were there with him and from the point of view of General Javier Palacios whose mission it was to seek out and take the President under arrest. Through this and several other descriptions of action on that fateful day, the authors have brought the reader into the picture at a personal level—giving him a firsthand experience in a real-life situation.

Moreover, while reporting the events, pain and excitement of the day, Varas and Vergara address the question of the passivity of the workers who had been expected to rise up in defense of Allende's popular unity regime. One of the first things the authors describe is the frustration of Laura Allende as she drove from party headquarters to party headquarters in a vain attempt to organize some sort of help for her brother. She found that the leaders had fled to various places of safety. Another suggestion the authors put forward is that, while foreign arms had been provided, the workers lacked adequate weapons and training for an effective struggle. Third, it was pointed out that the Chilean Communist party well understood that Moscow was not prepared to take on another Cuba and, consequently, wanted peace, collaboration and national unity. Finally, credit was given to the Chilean military for a well-planned and executed coup.

Coup! seems to have been put together rather hurriedly and without a great deal of concern for detail or completeness. However, this short book is probably the most objective account available of Allende's last day.

MAJ MAX G. MANWARING, *USAR*,
Consulting Faculty, USACGSC

CRISIS: The Loss of Europe by Charles A Cerami 182 Pages. Harcourt, Brace, Jovanovich 1975 $7.95.

Book reviewing is a demanding, responsible and often unrewarding art. Once in a while, it becomes pure pleasure. This is the case with Charles A. Cerami's *Crisis: The Loss of Europe*. The compact volume is, in the estimation of this reviewer, among the best, most lucid, perceptive and intelligent introductory surveys of political and economic developments in Western Europe in the last decade or so, and of America's at times inspired, sometimes bumbling relationship to those developments. The title is a bit shocking, designed, perhaps, to make people reach for the book. The substance of the work is so informative and engagingly written that the content will surely guarantee the work a wide circulation. The book is a must for every informed layman and many an expert. It should be required reading in schools and colleges, civilian as well as military. The analysis of Western Europe's uphill struggle for political unity, the emergence of the West European countries as a fairly cohesive and formidable economic power, current strains and dangers ahead, and the US response to the quest, the power, present equivocation, and future threats is not just competently done, but unobtrusively illustrated with personal insights and perceptions that make the account more lifelike, graphic and convincing. It is a book of worth and merit. One can only urge everyone to get a hold of it. What more is there to add without slipping into bathos? Go out, get it, read it, and you will be better informed and the wiser for it.

JAN S. PRYBYLA,
Pennsylvania State University

PATRICK HENRY: A Biography by Richard R. Beeman 229 Pages McGraw-Hill Book Co 1974 $9 95.

This is an excellent political history of Virginia from the 1760s through the ratification of the Constitution and into the 1790s. The life of Patrick Henry is a useful vehicle for such a study as he spent all of his political career, except for a few months at the national level, in Old Dominion politics. This advantage has to be weighed against the fact that there is little material written by Henry which makes it difficult to follow him rather than the politics of the period.

In an age before political parties sponsored candidates, a man had to rely on his personality and oratory abilities to rally public opinion to his side. Henry was a master of public speaking as attested to by his political opponents such as Thomas Jefferson and James Madison. Henry's eloquence was at its height when he spoke out against ratification of the Constitution rather than in pre-Revolutionary days as most remember.

Beeman, like others who have studied Henry, found little in the way of a philosophy of politics or consistent ideology throughout Henry's life. The one constant theme seemed to be his love for his state. Before anything, he was a Virginian, and, the older he became, the more conservative a Virginian he became.

There are excellent sections that deal with Western land speculation, one of Henry's main interests, and a useful discussion of the opposition to the Constitution on the state level. Beeman tries hard to play down the "have versus have-not" rivalry in Virginia, but, despite his efforts, that distinction still remains a useful model for the period. There are important

observations about upward mobility through marriage, relatives and personal contacts. In many instances, these connections counted for more than talent.

The book is written in a flowing, easy to read manner, but discussions are launched without background information. There is little social history, and, as a result, this book will appeal only to someone who already knows about the period. There is a useful annotated bibliography, an index and a dozen photographs, but only two or three lend anything to understanding the subject.

This is an effective effort to deal with a difficult political character in a most important time. There is much valuable information and good interpretation of Virginia politics and as such is mandatory reading for any student of the period, but a biography it's not.

LYNN SIMS,
Department of Tactics, USACGSC

MARCH TO MASSACRE: A History of the First Seven Years of the United States Army, 1784-1791 by William H Guthman 271 Pages. McGraw-Hill Book Co 1975 $19.95.

The march was that of Governor (Major General) Arthur St. Clair's mixed force of regular troops, militia and levies from Fort Washington (near Cincinnati) to the headwaters of the Wabash River. His mission was to initiate peace negotiations. However, if that gesture failed, he was to attack the hostile tribes along the Wabash and Maumee Rivers and establish a line of forts north from Fort Washington. The "massacre" was the defeat of St. Clair's force of about 1400 men encamped near a tributary of the Wabash on 4 November 1791. Roughly 900 of the 1400 engaged that day were killed or wounded. Winthrop Sargent, St. Clair's adjutant general, estimated the Indian force to be 1000 strong. A half-hearted pursuit was soon discontinued by the Indians which certainly prevented complete annihilation of the soldiers. As it was, many wounded and about 200 women and children camp followers were left to the Indians. It was a major disaster.

Mr. Guthman's *March to Massacre* is primarily a showcase for his superb collection of period Americana. As a comprehensive history of the US Army from 1784 to 1791, it is less satisfactory. Much of the significance of the period is submerged in descriptions of how the piquets are emplaced to construct a frontier fort or a precise accounting of a recruit's clothing issue. Mr. Guthman's information is quite accurate, but the general organization and development of the material make the St. Clair "massacre" almost anticlimactic.

The important results and consequences of the defeat, which are ably told by historians Prucha, Weigley and Jacobs, are not included. Innovation and reform, a major theme of this early period, are clearly illustrated by the expansion of the American frontier—Henry Knox and Anthony Wayne understood the message of Harmar's and St. Clair's humiliations.

As a portfolio of first-person narratives, accouterments and arms, the book is excellent. The diaries and letters of Jonathan Heart, Ebenezer Denny and Winthrop Sargent provide very useful vignettes which reveal the nature of frontier military life.

MAJ JOHN F. VOTAW,
Headquarters, 2d Squadron, 11th Armed Cavalry Regiment, West Germany

ASSAULT IN NORWAY: Sabotaging the Nazi Nuclear Bomb by Thomas Gallagher. 234 Pages. Harcourt, Brace, Jovanovich. 1975. $6.95.

Although obliquely referenced in numerous accounts of World War II, the successful commando raid on the German heavy water plant at Vemork, Norway, has remained an obscure issue in the overall Allied victory in Europe. *Assault in Norway* fills this historical void with the most detailed work yet written on the raid and its strategic effect on the Nazi-Allied race to develop an operational nuclear weapon.

Author Thomas Gallagher, whose previous work, *The X-Craft Raid*, about British midget submarine operations against the German battleship *Tirpitz* received considerable praise, returns to the Norwegian locale and special operations for another little-known but important operation of World War II. As with *The X-Craft Raid*, Gallagher makes excellent use of personal interviews with surviving members of the Norwegian raiding party. Since the Vemork raid's successful execution marked a major setback to German hopes for nuclear weaponry, he heightens the already considerable level of suspense with valuable asides to Axis-Allied technological developments in this field prior to and as a result of the Vemork operation. Gallagher blends in the Allied strategic considerations which provided the genesis of the operation to add to the excellent balance between high-level strategy and tactical execution present in his work.

There are many noteworthy points on the conduct of special operations, especially in cold-weather locales, contained throughout the text. The choice of a small, all-Norwegian raiding party, with a majority of those indigenous to the immediate operational area, added immeasurably to clandestine activities. Similarly, the choice of a remote operational base prior to the raid precluded discovery by German patrols, permitted uninterrupted long-range communications with SOE in Britain and normalized the pattern of preparatory activities in spite of the harsh privations suffered by the raiders at the time. Besides these considerations, the work provides references to still valid techniques for winter survival, escape and evasion, and reconnaissance.

While basically a tale of high adventure, *Assault in Norway* deserves more than a quick glance by historical buffs and military professionals. In particular, its tale of success rather than the usual explanations for failure provided in many accounts of special operations gives *Assault in Norway* an intrinsic referral to those interested in special operations.

MAJ JOSEPH E. THACH, *USAR*

PROTEST AND THE URBAN GUERRILLA by Richard Clutterbuck. 309 Pages. Abelard Schuman 1974. $10.00

The bulk of General Clutterbuck's latest book focuses on guerrilla activities in Northern Ireland. He briefly presents his views on protest, violence and police response, then devotes half his book to the continuing conflicts in Northern Ireland. Almost on a day-to-day basis, he reports confrontations of the Irish Republican Army (IRA), Protestant and British Army forces, all with a wealth of detail—even down to city street maps. The result is not a series of after-action reports for record, nor tactical lessons. Rather, we read analyses of the causes of success or disaster in handling explosive situations engineered by a

small core of guerrillas. The manipulation of good-natured citizens who long to be rid of all the "trouble" is considered at length. Clutterbuck's subject is not tactics; it is social psychology. His final interest is not victory; it is peace.

The third section of the book discusses professional revolutions elsewhere in the world—in leftist organizations, on the campus or in labor groups. Finally, without predictions or school solutions, he looks to the future in a chapter titled "Prospects for a Peaceful Society."

Readers may recognize the author's name. In 1963, he was awarded the Toulmin Medal of the Society of American Military Engineers. After service in the Malay war (1945-60) and publication of his book *The Long Long War*, he lectured in this country.

The urban guerrilla about whom we read in every daily paper is most often the problem of local police or paramilitary forces. The success they seek, however, is revolution—thus, they threaten always to be an army problem. Readers who wish to understand their operations—and daily news bulletins as well—have a clear, readable account in *Protest and the Urban Guerrilla*.

COL TIMOTHY F. CLIFFORD,
USAR-Retired

HITLER'S LETTERS AND NOTES by Werner Maser 390 Pages Harper & Row 1974 $12.50.

Ever since Walter Langer's *The Mind of Adolf Hitler* came out with its impressive psychoanalytical portrait of the *Fuhrer*, very few of the new monographs on Hitler have acquired such distinction among scholars, much less controversy. Werner Maser's *Hitler's Letters and Notes* is a worthy successor to what Langer did in 1943: a revealing analysis based on hitherto unknown Hitler correspondence. While Maser's newest book on Hitler promises to fuel further acrimonious debates between scholars in all fields, this study confirms him as one of the leading German students on Adolf Hitler.

Maser's thesis is quite simple: to know Hitler is not just to examine his record, or even to review what has been said about him; rather, the observer must read his letters and notes in order to begin understanding this unique man. Past biographers like Alan Bullock and Telford Taylor broke the ground for partial understanding of Hitler the politician and leader, but Maser, like Fritz Fischer, is a revisionist.

For Maser, World War I transformed Hitler from a young *Bube* to a soldier. The letters he wrote back to those he knew in Linz show a man comparable to Hemingway's portraitures of himself in that conflict: a warrior who sees war firsthand, but whose ideals were tempered by fire and distress. Maser leads the reader through the maze of Hitler's correspondence and private thoughts until his career runs its course in 1945. Building on his earlier work, *Hitler: Legend, Myth and Reality*, he unmasks a vibrant demonic personality, one tormented by darkling political passions and ruled by histrionics.

Hitler's Letters and Notes is not only a primary source for scholars in the field to use but also a work the serious reader can enjoy. This is a seminal study whose value will appreciate in worth over the next few years, and one which tellingly sheds a bright light on the dark recesses of Hitler's mind.

JOSEPH R. GOLDMAN,
Department of Strategy, USACGSC

NEW BOOKS RECEIVED

This listing is published to bring new professional books to the attention of readers. Review copies have already been sent to reviewers.

THE BORDER SOUTH STATES: People, Politics, and Power in the Five States of the Border South by Neal R. Peirce. 415 Pages. W. W. Norton & Co 1975 $12 95

BRASSEY'S INFANTRY WEAPONS OF THE WORLD, 1975. Edited by Major General J. I H. Owen 323 Pages Hippocrene Books. 1975 £14.

CHURCHILL: A Photographic Portrait by Martin Gilbert. 373 Pages Houghton Mifflin Co. 1974 $15.00

CIVIL AIRCRAFT OF THE WORLD by John W R Taylor and Gordon Swanborough. 168 Pages Scribner's 1974 $6 95

TERRORISTS AND TERRORISM by Edward Hyams 200 Pages. St. Martin's Press. 1974. $7.95.

CORRECTIONS IN AMERICA: An Introduction by Harry E Allen and Clifford E Simonsen. 555 Pages Glencoe Press 1975 $12 95

THE DEATH OF STALIN by Georges Bortoli Translated by Raymond Rosenthal. 214 Pages Praeger 1975 $8 95.

DEATH WAS THE BLACK HORSE· The Story of Rough Rider Buckey O'Neill by Dale L Walker Foreword by Barry Goldwater 200 Pages Madrona Press 1975 $9 95

DIE SCHLACHT AN DER BZURA 1939 by Rolf Eble. 266 Pages Rombach & Co 1975 10. DU

THE EMERGENCE OF THE WAR DEPARTMENT INTELLIGENCE AGENCY· 1885-1918 by Marc B Powe 146 Pages Military Affairs 1975. $6 00

FIREPOWER: Weapon Effectiveness on the Battlefield, 1630-1850 by Major General B P Hughes 174 Pages Scribner's 1974 $12 50

FLAGS & STANDARDS OF THE THIRD REICH: Army, Navy & Air Force, 1933-1945 by Brian Leigh Davis 160 Pages Arco Publishing Co 1975 $15 00

FOUNDATIONS OF BRAZILIAN ECONOMIC GROWTH by Donald E. Syvrud 295 Pages Hoover Institution Press 1974 $12 00

THE THIN YELLOW LINE by William Moore 270 Pages St. Martin's Press 1975 $8 95

THE TIDES OF CHANGE: Peace, Pollution, and Potential of the Oceans. Edited by Elisabeth Mann Brogese and David Krieger. 361 Pages. Mason/Charter Publishers 1975 $12 50

TURKEY, THE STRAITS AND U.S. POLICY by Harry N. Howard. 337 Pages. Johns Hopkins University Press. 1974. $14 50.

GERMAN ARMOURED CARS OF WORLD WAR TWO by John Milsom and Peter Chamberlain 128 Pages Scribner's 1974 $10.00

GETTYSBURG: A Journey in Time by William Frassanito 248 Pages Scribner's 1975 $12 95

GIVE ME LIBERTY: America's Colonial Heritage by Franklin Folsom 230 Pages Rand McNally & Co. 1974 $19 95

GREAT TIMES: An Informal Social History of the United States, 1914-1929 by J C Furnas 576 Pages. G P Putnam's Sons 1974 $15 00.

GREEN BEACH by James Leasor. 202 Pages William Morrow & Co 1975 $8 95

THE GROWTH OF PRESIDENTIAL POWER: A Documented History: Volume I: The Formative Years by William D Goldsmith 592 Pages R R Bowker Co 1974 $96 50 Per Three Volume Set

THE GROWTH OF PRESIDENTIAL POWER: A Documented History: Volume II: Decline and Resurgence by William D Goldsmith 1273 Pages R R Bowker Co 1974 $96 50 Per Three Volume Set

THE GROWTH OF PRESIDENTIAL POWER· A Documented History: Volume III: Triumph and Reappraisal by William D. Goldsmith 2342 Pages R R Bowker Co 1974 $96 50 Per Three Volume Set

THE GUN IN AMERICA: The Origins of a National Dilemma by Lee Kennett and James LaVerne Anderson. 339 Pages Greenwood Press 1975 $12 95

A HISTORY OF ARTILLERY by Colonel H B Rogers 230 Pages Citadel Press 1975 $7 95

HOLDING THE LINE: The Eisenhower Era, 1952-1961 by Charles C Alexander 326 Pages Indiana University Press 1975 $12 50

HOW TO SPY ON THE U.S. by Alexander Steele 185 Pages Arlington House 1974 $7 95

INSURRECTION: Five Schools of Revolutionary Thought by Milos Martic 342 Pages Kennikat Press 1975 $18 50

JANE'S FIGHTING SHIPS, 1974-75. Edited by Captain John E Moore, RN, FRGS. 670 Pages. Franklin Watts Inc 1974 $65 00

JANE'S INFANTRY WEAPONS, 1975. Edited by Major F. W. A. Hobart. 860 Pages Franklin Watts Inc 1974 $55 00.

JANE'S SURFACE SKIMMERS, 1974-75: Hovercraft and Hydrofoils. Edited by Roy McLeavy 409 Pages Franklin Watts Inc. 1974. $40 00

UNITED NATIONS JOURNAL: A Delegate's Odyssey by William F. Buckley Jr. 280 Pages G. P. Putnam's Sons 1974. $7.95.

UNITED STATES DIPLOMATS AND THEIR MISSIONS: A Profile of American Diplomatic Emissaries Since 1778 by Elmer Plischke 201 Pages American Enterprise Institute for Public Policy Research 1975. $4.00.

THE UNITED STATES: 1789-1890 by W. R. Brock 352 Pages Cornell University Press. 1975 $15.00

VETERAN AND VINTAGE AIRCRAFT by Leslie Hunt. 336 Pages. Scribner's 1974 $12 50

THE VIRGINIA MANUFACTORY OF ARMS by Giles Cromwell 205 Pages University Press of Virginia 1975 $20 00

THE WAR AGAINST THE JEWS, 1933-1945 by Lucy S Dawidowicz. 460 Pages Holt, Rinehart & Winston 1975 $15 00

WAR IN THE NEXT DECADE. Edited by Roger A Beaumont and Martin Edmonds 217 Pages. University Press of Kentucky 1974 $9 95

WAR IN THE SHADOWS The Guerrilla in History: Volume I by Robert B Asprey 730 Pages Doubleday & Co 1975 $35 00 Two Volume Set

WAR IN THE SHADOWS: The Guerrilla in History: Volume II by Robert B Asprey 1622 Pages Doubleday & Co 1975 $35 00 Two Volume Set

WASHINGTON: The Indispensable Man by James Thomas Flexner 423 Pages. Little, Brown & Co. 1974. $12.50

THE WAY OF THE FOX: American Strategy in the War for America, 1775-1783 by Dave Richard Palmer 229 Pages. Greenwood Press 1975 $12.50

WEATHERING THE STORM: Women of the American Revolution by Elizabeth Evans 372 Pages. Scribner's. 1975. $12 50

WILKES: A Friend to Liberty by Audrey Williamson 250 Pages. Reader's Digest Press. 1974. $10.00.

THE WORLD ECONOMIC CRISIS. Edited and Introduced by William P. Bundy 252 Pages. W W. Norton & Co 1975. $8 95.

THE YEARS OF MACARTHUR, 1941-1945: Volume II by D Clayton James, 939 Pages Houghton Mifflin Co 1975 $15 00

THE ZAMBESI SALIENT: Conflict in Southern Africa by Al J Venter. 395 Pages Devin-Adair Co. 1974. $12 50

ZEICHEN DER ZEIT by General Reinhard Gehlen 302 Pages Von Hase & Koehler Verlag 1973 DM 25

STRICTLY SPEAKING: Will America Be the Death of English? by Edwin Newman 205 Pages. Bobbs-Merrill Co. 1974 $7 95