Military Review

U. S. Army Command and General Staff College
Fort Leavenworth, Kansas

In This Issue

- Self-Training for Senior Officers
- Intelligence in Vietnam
- Vietnamese Artillery Support

August 66

UNITED STATES ARMY COMMAND AND GENERAL STAFF COLLEGE FORT LEAVENWORTH, KANSAS

COMMANDANT
Maj Gen Harry J. Lemley, Jr.

ASSISTANT COMMANDANT
Brig Gen Robert C. Taber

The Military Review is published by the United States Army Command and General Staff College in close association with the United States Army War College. It provides a forum for the expression of military thought on national and military strategy, national security affairs, and on doctrine with emphasis at the division and higher levels of command.

Military Review

Professional Journal of the US Army

FORTY-FOUR YEARS OF MILITARY SERVICE

VOL XLVI *AUG 1966* *NO 8*

MILITARY REVIEW—Published monthly by the U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, in English, Spanish, and Portuguese. Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 28 May 1965.

Second-class postage paid at Fort Leavenworth, Kansas. Subscription rates: $3.50 (US currency) a year in the United States, United States military post offices, and those countries which are members of the Pan-American Postal Union (including Spain); $4.50 a year in all other countries. Address subscription mail to the Book Department, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas 66027.

Military Review

Award Article

The Military Review announces the selection of the following article from the June 1966 issue as a MILITARY REVIEW AWARD ARTICLE:

"Denmark—Key to the Baltic Gate"
Captain Henrik B. Konradsen, Danish Army

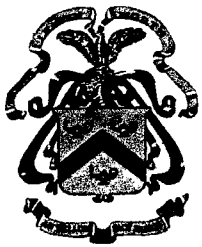
Denmark occupies an area of great strategic importance on the North Atlantic Treaty Organization's northern flank. This situation has resulted in a complete change in Denmark's defense policy which was molded by a doctrine of neutrality prior to World War II. The author describes the geography of Denmark and defines her strategic importance, especially from the naval point of view, as the key to the Baltic gate. Danish and NATO interests are identical in that holding Danish territory and controlling the exits from the Baltic Sea are considered essential to protect communications and operations in the North Sea area.

COMING:

General of the Army Omar N. Bradley expresses his views on leadership. He believes the greatness of a leader is measured by the achievements of the led. Mental and physical energy, human understanding, courage, personality, and character are among his list of qualities for a good leader.

Charles M. Goetz, in "Some Answers on ADP," responds to questions posed by General Bruce C. Clarke in the February issue of the *Military Review*. He feels that upcoming tests will prove the capability of automatic data processing equipment to perform under the stress and confusion of modern battle.

1922 MR 1966



Colonel A. E. Younger, *British Army*

The views expressed in this article are the author's and are not necessarily those of the British Government, US Department of Defense, or the U. S. Army Command and General Staff College.—Editor.

SUCCESS in any walk of life that involves original thought or decision making requires continuing study. Memoirs and statements by the best military leaders continually underline the message that they prepared themselves in peacetime for the problems of war by reading and by study. The difficulty is that so much material is available from mass communication media that it is now possible to employ all one's leisure hours in just keeping up with the affairs of the world, without really studying the effects of any single item. Not that it would be best to cancel the newspaper, break up the television set, and settle down to a good, serious book; on the contrary, a knowledge of world affairs is essential to military thinking, and these media make available the required background.

One must be selective, which is not too difficult, and try to fit pieces of information together so that, over a period, they complete a picture of intellectual value, which is much more difficult. To select the framework for such a picture requires considerable

thought and the adoption of certain ground rules. Each person's rules will be different, developing from his own experience and taste. But unless he makes the effort to spell out the rules to himself, he will find it hard to reach conclusions over a period of time.

Strategy Today

The final objective of military study must be to enable valid strategic decisions to be taken. Many a general has shown that he knows how to site a weapon position better than any of his platoon commanders, and in peacetime there may be times when this proves valuable. When it comes to war, however, it will be the general with the surest strategic touch who will gain the initiative. This will not necessarily mean that he will win the whole war, but it is a prerequisite to winning a campaign.

General André Beaufre in his *An Introduction to Strategy* defines strategy as "the art of applying force so that it makes the most effective contribution towards achieving the ends set by political policy." The French are particularly experienced in fighting midcentury wars and have learned well the lesson that a purely military victory may not be possible. Success is only finally attainable if all types of pressure—including military, if necessary—are directed toward undermining the will of the opponent until he accepts whatever solution it is desired to impose on him.

The only similarities among the strategic problems of modern wars are that they are all different and all complex. Their solution must come from truly original thought which, to be valid, must be based on a deep understanding of the real nature of all the factors involved.

Since these factors are so complex, there is no shortcut to the hard mental effort involved in their mastery. Study in peacetime must relate world developments to the strategic capability of nations for waging war—a task more easily said than done.

Military History

The study of strategy has altered greatly since World War II. Gone are the days when the campaigns of the Duke of Marlborough, Napoleon, and Stonewall Jackson set senior commanders examples of how to win wars. For instance, victory over the hearts and minds of the people has been given as a primary reason for the success of the American Revolution. It was also the basis of success against the Communist insurrection in Malaya, but no amount of study of the Revolution would have pointed the way to victory in Malaya.

The need now is to study those authors whose ideas are developing strategy, supplemented by the pronouncements made by leaders who hold responsibility for the use of armed force in the world today. The speeches made by the national representatives at disarmament conferences offer another useful field for ideas.

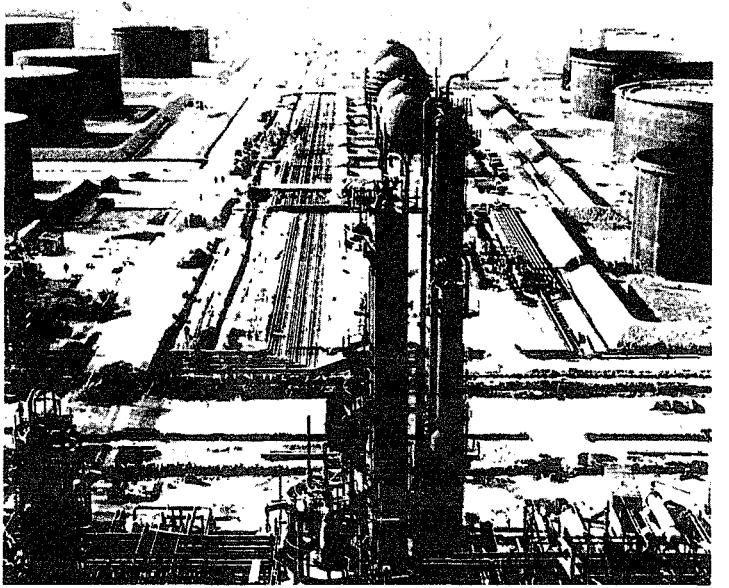
This certainly does not mean that

Colonel A. E. Younger is assigned to the British Ministry of Defense and has recently completed a tour as representative of the British Army on the faculty of the U. S. Army Command and General Staff College. A graduate of the College, he holds a Master's degree in Engineering from Cambridge University. He served in France and northwest Europe during World War II, in Malaya in 1948, and in Korea in 1950-51. He has held command and staff assignments in Kenya, Burma, Germany, and with the War Office.

the study of military history should be neglected. On the contrary, there is much to be learned from military history concerning the important human lessons of warfare, particularly since many officers in midcareer have not heard a shot fired in anger. But history makes up a distinct subject which is not strictly a part of the study of modern strategy although it is an important preparatory step toward it.

Strategy as a subject cannot be subdivided into precise, watertight compartments. But for convenience in discussing the whole concept, five main aspects can be recognized: military, psychosocial, economic, geographic, and political. All are interrelated, none are simple, and they cannot be accurately measured against each other or added together to make a sum.

In deciding on the strategic ability of nations to wage war, it is obviously necessary to weigh the size of their armed forces and their capability to wage the types of war considered most probable. The available strengths of any allies must then be considered, along with any responsibilities or threats that would tie down forces away from the critical theater



Service de Presse et d'Information

Possession of a major portion of the world's supply of a fuel or product can be both a strength and a weakness of a country

in time of war. The range of alternatives may be wide, embracing all-out nuclear war; limited wars on the Korean scale, with or without tactical nuclear weapons; insurgency; and, lastly, sanctions of varying severity in which armed units are merely waiting in the wings.

Purely military techniques can be taken off the list. Their mechanics are taught in schools and staff colleges, and, since new facts about weapons and delivery systems are necessarily highly classified, their study does not belong to off-duty hours.

Nuclear Capabilities

In a different category, and by themselves, stand nuclear capabilities whose study is really a separate subject—at least where full nuclear war is concerned. Then the significance of the war potential of the participants would be restricted to forces in being since the decisive phase would be over too quickly to mobilize and train new units or to manufacture new weapons. But if nuclear weapons can be used tactically, without escalation to the all-out exchange of strategic weapons, then the possession of such tactical weapons must be taken into account as a part of a long-term strategic capability.

The psychosocial potential for war covers all those facets of human existence that cannot be classed as economic or political, but that still have a strategic effect. History has shown the depth to which race, religion, or class can divide a country and sap its national spirit. It is essential, therefore, to be able to make some assessment of how well one's friends and enemies would fight. Will they fight to the bitter end, or will their hearts not be in the contest? No final answer can ever be given to such a question, and, even if it could, it would be out of date in six months.

There are two points to remember: conclusions are useless unless they are comparative between two probable antagonists; and, while the will to fight is impossible to measure absolutely, it is possible to make up one's own mind about the comparative determination of two groups, just as it is to make a decision on which of two men is better.

Military commanders spend much of their careers consciously or unconsciously weighing the characters of others. Most find this impossible to do at first sight, but, the more that is known of the people concerned, the better the judgment of their probable worth becomes. A similar effort must be made to judge whole peoples, not by quick guesses based on prejudice, but by careful study of the opinions of people who should know, suitably flavored by personal experience, if any.

Economic Potential

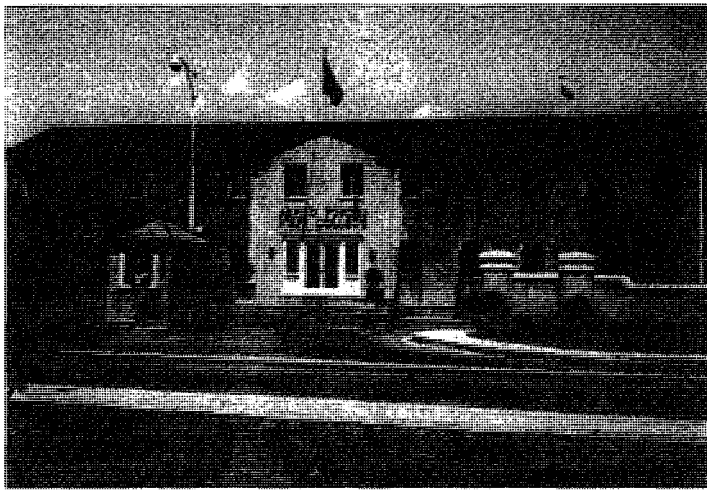
It is not possible to rank in order of importance the main aspects of a nation's potential for war. Pure military strength is obviously of great value, but, except for all-out nuclear exchange, economic strength is of greater importance in most types of war. In the final analysis, all will depend on the will to fight, so the psychosocial aspect should not be underrated.

A study of economics is essential to an understanding of warfare of today, but it is unnecessary for this purpose to cover the whole wide field. The economic theories of Adam Smith, John M. Keynes, and others may be glossed over quickly or even neglected since the requirement is only to evaluate real strength, in being or in re-

serve. Economic policies become important to the study only if they give a country a marked advantage or disadvantage over others—for instance, centrally controlled economies can respond more quickly to emergency requirements than can those based on free markets.

The need is to know the strengths and weaknesses of an economy. Perhaps one nation controls a major source of the world's supply of one mineral or product, or is completely deficient in others. It is important also to know how vital any deficiencies are and whether they are or can be offset by stockpiling. In some cases, it may be a weakness for a country to contain a large amount of one mineral since this is analogous to a lack of diversity in farming. If war comes, normal markets are cut off, and the whole economy of the country may be seriously hurt, whereas its enemies will have stockpiled to cover their needs and may be able to develop alternative sources of supply.

Comparisons of the size and educational standards of population and of total industrial strengths are valuable guides to potential for war. It was the size and comparatively homogeneous nature of the French population that provided the strength for France's dominance in Europe for so many centuries. During that period, alliances against French aggression had to insure that the combined population of her opponents should exceed that of France and her allies or dependent peoples. Now, bulk totals are not enough—quality is also important. Guides should be sought in comparing such items as the number of university graduates and the number of doctors or engineers.



Staff colleges can initiate students into the study of strategy

It is useful to compare gross national products (GNP's) and per capita GNP's, but there are difficulties which must be appreciated. Exchange rates are sometimes controlled and are, therefore, not directly comparable; all countries, and particularly Communist nations, do not calculate their GNP's in the same way; and there may be great differences in the cost of identical goods or services between two countries. It is, therefore, advisable to supplement comparisons of GNP's with other indexes such as steel production or energy consumption.

Interrelated Factors

The complexity of this type of study may be seen from the fact that many aspects of economic strength are interrelated. For instance, it is not enough just to compare mineral production without also comparing the distances between mines and consumers and the relative abilities to import deficiencies from outside, which leads to an assessment of means of transportation. But pure comparisons of means of transportation are valueless; it is transport surplus to the essential wartime needs of the community that is more significant.

This, in turn, leads to an inquiry into the dependency of rival powers on foreign trade, and its advantages and disadvantages. It is commonly assumed that such a dependency is all bad, but this is not so. A healthy foreign trade permits specialization and, therefore, economic efficiency at home. Foreign trade to a neighboring friendly country—for instance, between the United States and Canada —provides a measure of dispersion which is militarily advantageous to both. Only when a country's foreign trade is liable to effective blockade in war does it become a serious strategic disadvantage, a point well taken by the Soviets who have striven for years to achieve autarky.

The prime importance of a healthy and sufficiently diverse agricultural production is of well-known strategic value. The disadvantages to Rhodesia of a heavy reliance on tobacco have recently provided one more illustration. Fewer countries are self-sufficient in food as populations increase, so it is a useful sign of strength if a country has a surplus and can afford to draw recruits from its farming population in an emergency.

This is only the briefest outline of the complexities of economic aspects of war potential. The types of war which have occurred in the last 20 years have made it important that military strategists have some knowledge of them. The need for such knowledge is likely to increase over the years if there is any truth in General Beaufre's assertion that "war on the grand scale and peace in its true sense may be buried side by side."

Geographic Aspect

Sheer size is a strategic asset to a country, as are some of the other constants of physical environment, such as rainfall, fertility of soils, and warm water ports. Therefore, a grasp of world geography is necessary to senior commanders, and no opportunity to visit new places should be lost. The immediate value of such a trip may be negligible. In the long term, however, there is no substitute for firsthand knowledge of the relevant areas when a strategic problem is raised, particularly as it may, by then, be impossible to pay a visit.

Luckily, the present generation of military leaders is well traveled al-

though movement by air, unlike motor transport, does not make for an easy grasp of geographic factors. A trip by car usually provides a good balance between the time available to view an area and the time needed to take in sufficient detail to make the trip worthwhile. Since nobody can expect to cover all the world, or even all the important areas, other means must be used to supplement personal knowledge and bring it up to date.

Strategic Import

A main strategic importance of geography is the location of a country relative to its friends or enemies. This importance may change with scientific or major constructional developments, or with changes to the threat posed by the enemy. For example, the Falkland Islands lost their importance with the building of the Panama Canal, and Gibraltar and Malta lost much of theirs with increased ranges of ships and aircraft and a changed threat to Great Britain. To take another example, a Cuba under Soviet control poses a severe threat to the United States, whereas, in the reverse position, a Cuba dominated by the United States would not threaten the USSR.

As stated earlier, all these main aspects are interrelated. Geography is no exception since economic and ethnic factors are inextricably interwoven into it. From the military aspect, the strategic importance of geographical features must be kept under constant mental review. By far the easiest way of doing this is by building on personal experience.

It is not necessary to spell out the political aspects of strategy in much detail. It will be realized that there is another side to strategic analysis which concerns the ability of the government of a country to wage war. Monolithic dictatorships have great advantages, particularly at the start of a war, since decisions can be made quickly without the need for prolonged debate. Their disadvantages need no enumeration here.

Also of importance are such political factors as the existence and strength of any political party in a state that might favor a potential enemy; the degree to which the ruling party is committed to international alliances; and, particularly in the case of dictatorships, the personalities of key leaders. All these, and many others, add up to make the fascinating kaleidoscope of political power. If properly appreciated, it can provide endless opportunities for exerting subtle but telling influence, or, if incorrectly appreciated, it can seriously injure or ruin an otherwise sound plan.

Progressive Study

This description of the requirement for the study of strategy in the mid-20th century indicates an infinitely greater complexity than anything that has been needed in the past. It cannot be sufficiently stressed that familiarity, through study, sensibly reduces the difficulties inherent in such work. Some bibliography is available for the beginner: Klaus E. Knorr's book, *The War Potential of Nations*, and Volume I of the series entitled *The Economics of National Security*, published by the Industrial College of the Armed Forces, are particularly helpful.

However, the finest contribution to mastery of the subject of strategy would be achieved if the staff colleges of the Western World initiated their students into it. Most of these institutions recognize something of the

importance of subjects which are usually classed as nonmilitary by inviting prominent authorities to speak and answer questions on them.

But a more positive line should be taken than merely introducing students to economic geography, politics, and international alliances. All these subjects are far too wide, and the mastery of any one of them involves a life's work. The need is to be more specific, to extract only such aspects of the subjects that are relevant to the comparative potential of nations for war.

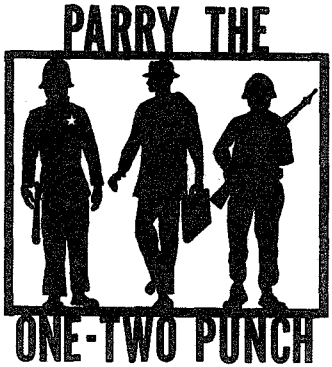
An imaginative program on these lines, including some written work that involved students in elementary research, would undoubtedly stimulate the interest of many, even if the end result were only to improve their ability to invest savings wisely—which is no bad thing incidentally. But the few who had a real desire to prepare themselves for the higher posts in their armed forces would be started on the road toward the top, with a good chance of being able to solve their country's strategic problems when the call comes.

GOING UP

Printing costs, postage, and salaries have all gone up. In spite of all our efforts for efficiency and economy, we can no longer hold the line. After 17 years at the same subscription rate, the price for the MILITARY REVIEW will be increased by 50 cents effective 1 September 1966.

Annual subscription rates will be $4.00 a year in the United States including APO's and in those countries which are members of the Pan-American Postal Union (including Spain); $5.00 a year in all other countries. Subscriptions entered before 1 September will be at the old rate.

The MILITARY REVIEW asks your understanding and cooperation so that we may continue to provide a magazine to meet your professional needs.



Colonel Joseph F. H. Cutrona, *United States Army*

HOW can a new nation achieve an effective and desirable balance between the civilian and the military segments of government, particularly in establishing a basic order which will permit growth? Which tasks are properly assigned to the military? Which should be handled by standard government bureaus, as in the more established nations? Which should be handled by specialized bureaus that would be peculiar to developing nations?

These are questions which developing nations must answer satisfactorily if they are to parry effectively the "one-two punch" delivered by the Soviets and the Red Chinese. Close coordination between the political and military activities of a state are essential—particularly in the new countries of the world.

The Soviets and the Chinese, as the two main proponents of "national liberation" in today's world, recognize the importance of politico-military harmony to the existence of nations. They use their appreciation of the decisive nature of this relationship as an avenue for exploiting their aims. That they have developed two opposite approaches to their goals has lent strength rather than weakness to their effort. They have, in effect, developed a one-two punch in the field of "national liberation."

The neat and complementary nature of the Soviet and Chinese ap-

proaches almost appears to be by design, rather than by accident. Calling it a one-two punch would seem to support a theory that the Soviet approach of infiltration of governments at the top and the Chinese approach of fostering the peasants' revolt is actually a planned and coordinated attack—but it is not. Most analysts today, although they might agree that there are some complementary aspects to the two approaches, emphasize that the Sino-Soviet split is real, and that their approaches are completely uncoordinated.

Political Stability

The very nature of the one-two punch requires that one of the first aims of a developing nation must be the establishment of political stability, an orderly environment in which development is possible. A viable government with influence reaching from the capital down to each individual, a government which guarantees the rights of the individual and provides him with basic services, is essential. If the central government is to earn the respect and support of each citizen, that government must provide him with security, an opportunity to earn a livelihood, and with means for social and economic improvement.

Colonel Joseph F. H. Cutrona is assigned to the 4th Infantry Division at Fort Lewis, Washington. He received his Master's in Journalism from the University of Missouri, attended the U. S. Army Command and General Staff College in 1959, and was graduated from the US Army War College in June of this year. His assignments include duty with the 3d Infantry Division in Korea; Office of the Chief of Information, Department of the Army, Washington; and with the 2d Battalion 15th Artillery, in Alaska.

A nation's internal security includes not only protection of its citizens from criminals, but also protection from brigands, from insurrectionists, or from any "national liberation" type force which might set up a competing or parallel government. Furthermore, the basic order which the government establishes must be evident in the smallest village. Long-range growth projects cannot be successfully undertaken unless these basics are accomplished.

Security and the opportunity for individual advancement go hand in hand. It is not likely that both can be provided by the same government agency without introducing a situation which can lead to further instability. This potential instability is an even greater probability when the only element of the government with a real sense of organization and strength is the military.

Paramilitary Force

To the maximum extent possible, government bureaus that are responsible for such normal and necessary activities as roadbuilding, education, natural resources, and similar activities must be established at an early date. They must perform their normal functions from the very beginning of a state's existence.

The internal security requirement can best be met by a paramilitary force which has sole responsibility for internal security, but has no other responsibilities. Additional functions dilute its capabilities. On the other hand, the requirement to provide the means for social and economic improvement concerns many projects, primarily in rural areas. These projects must demand a government's particular attention for they contribute directly to the well-being of the individual.

These undertakings have been referred to in the past by the term "civic action," and they have usually been performed by military agencies. But why should not civic action be the responsibility of civilian agencies? Why would it not be appropriate to establish a special government bureau for civic action, and a civilian organization to carry out civic action projects? This arrangement would permit the paramilitary force to concentrate on its important internal security mission.

Insofar as possible, normal nation-building functions that are performed by various government bureaus of the more highly developed nations should also be performed by similar bureaus within developing nations. Unfortunately, much of the impact of the accomplishments of such agencies is relatively long range. Because of the emergency conditions which exist in most emerging nations, however, the proposed civic action agency is necessary to provide an immediate impact, particularly in the rural areas. The need for such an agency is somewhat akin to the need for some of the special agencies that appeared in the United States during the depression years.

There is also a need for especially close coordination of paramilitary and police functions in internal defense. It would be useful, therefore, to establish a single internal security command to supervise both functions. The police agency in the command would be the source of the intelligence which is critical to the success of internal defense operations. The paramilitary force would be the striking arm.

The proposal that civic action in the developing nations is a civilian task which must be performed by civilians, and, therefore, is not the business of a paramilitary force, runs counter to most recent thinking. It has been ar-

The Chinese use huge demonstrations to arouse hatred for the United States and to foster revolt among the masses within a new nation

gued that civic action is a means of gaining respect and admiration for the armed forces. But too much power vested in them may well lead to a military takeover. In late 1965 and early 1966, for example, the governments of five African nations were taken over by their armed forces. It is the government itself, not the military, which most needs to be respected and admired if enduring stability is to be achieved.

The importance of security in gaining support for a government has been clearly demonstrated in Vietnam. One political observer points out that the difficulties encountered in gaining popular support for the central government in Saigon have stemmed primarily from its inability to provide security for the individual. No South Vietnamese Government has been able to guarantee security nor insure that the villagers will be required to pay only one set of taxes.

In most emerging states, however, insurgency is not yet a problem. There is still time to organize to prevent it, but how to provide police protection and general security poses a number of questions.

Separate Police Force

While it would seem desirable to establish a separate police force as a purely civilian agency, this has not worked effectively in all developing nations. The reason has usually been a lack of coordination between the police elements and the military forces. The military services often have not been readily available when needed as a backup to the police, and there have not been regular forces of any type available in many instances when their availability might have controlled an insurgency situation.

There is a need for a force of regulars that is primarily concerned with internal security. This force of regulars should be a constabulary-type force with both police and paramilitary capabilities.

It would also be desirable to restrict the armed forces in developing nations to a constabulary force, and eliminate the conventional army, navy, and air force elements which tend to become little more than prestige items—and costly ones at that.

Secondary Mission

Realistically, however, no matter how astute and persuasive an outside spokesman might be, he would never be able to convince the heads of state of most developing nations that there is no real external threat to their security; and that, if one did develop, mutual security pacts would provide the type of protection that they would need. Therefore, the paramilitary element of the internal defense force probably must continue to have a secondary mission of joining other elements of a national security force in external security missions when needed.

Both police and paramilitary elements of the constabulary force, to be effective against incipient insurgency, must be located throughout the country, with detachments stationed in or providing security to each village. Furthermore, the force in each province and in each district must be responsible to the civilian head of the government in that area, and be responsive to his requests. The commander of the force assigned to each area should probably be the internal security director for the head of the government, and be the coordinator for all police and paramilitary activities.

If conventional elements of the armed forces should be substantially

reduced, the slack of providing external security would have to be taken up by other, more highly developed nations. No small nation can effectively protect its own security from outside aggression. The armies of South Korea and South Vietnam were unable to guarantee security when external forces came into play. Without US intervention, both nations might well have disappeared as nations. It is doubtful that more could be expected of other developing nations.

US Army

A civic action program can have a long-range impact as well as providing an immediate source of employment

It is not an external threat, however, that most new nations should fear. The earliest threat to developing nations is the possibility that insurgency will develop within the nation. The means to lessen the probability of such a development, and to meet and defeat any insurgency that does develop, is an effective internal security force with its primary attention focused internally.

But just as an insecure populace cannot be expected to support a central government, a hungry, underprivileged population can hardly be expected to look with favor upon a government which provides it no hopes for a better future. Just as the police and military influence of the government in a developing nation must provide a sense of security that can be felt by the least of its citizens, so must a civic action program cause a citizen to feel a sense of opportunity for the future.

Civic action forces should be made available to each province and district so that there is civilian governmental representation in each village. Their mission would be of short duration since the force should be designed to

meet immediate specific needs. However, such actions will certainly have long-range impact and will permit other government bureaus to accomplish their long-range goals in a more effective manner.

In addition to providing opportunity for the individual to improve his lot through the various projects which are carried out, the civic action force would also provide a source of employment for many who would otherwise be unemployed. Those employed in civic action projects should be recruited, to the greatest extent possible, in the area where the projects are to be undertaken. This practice will further create a feeling that a citizen is helping himself, with only minimum assistance from the government.

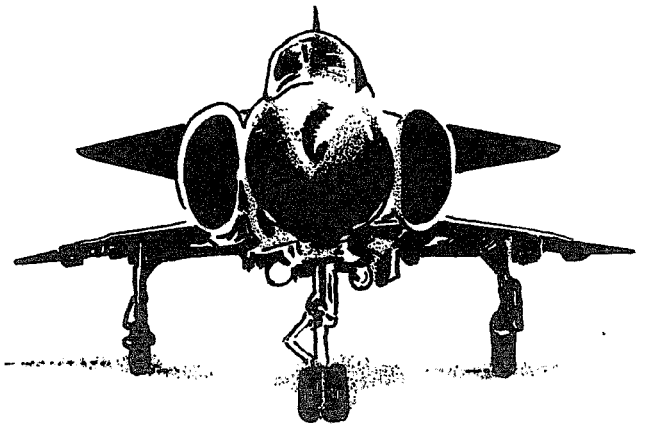
No developing nation can accomplish all this alone. Aid programs by the developed nations are essential to the growth of developing nations.

The plan for providing an ordered environment that is conducive to economic and social growth includes elements to insure security and elements to provide opportunity. The key principle in the parrying of the one-two punch is the division of security and civic action responsibilities between separate agencies of government.

To provide internal security, an internal defense force which includes both police and paramilitary elements is needed. This force would operate under a unified command, and be distributed throughout the country. Effective civic action programs would be executed by a civilian organization. These programs not only would provide increasing opportunities for social and economic betterment, but they would also extend the influence of the government into the smallest community—an influence which has a favorable impact upon the individual. The net result of these two actions would be to gain the support of the populace for the central government.

From *Wehr und Wirtschaft* (Fed Republic of Germany)

SWEDEN'S



AIR DEFENSE

Rudolf F. Christ

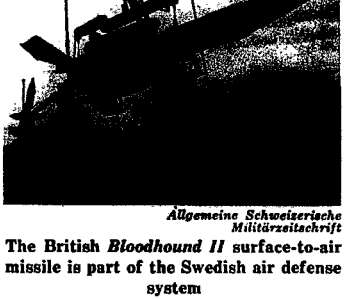
IF WE view the Swedish defense effort in the light of the cooperation between politics, the military forces, and the economy, it becomes apparent that this country succeeded in bringing its difficult geographical situation and its productive power into harmony. This presupposed the development of a politico-military concept exclusively defensive in character and precisely limited in scope.

The defense organization is particularly impressive because of the humanitarian considerations given to the protection of the civilian population. The facilities, evacuation plans, and provisions are so far advanced that they must be regarded as unique and as an example for the entire world.

Occupying an area of nearly 175,000 square miles, Sweden is the fourth largest state in Europe. With a population of only 7.5 million, it is relatively sparsely populated. The largest part of Sweden is forested. There are barren mountain ranges in the north at the border with Norway, and in the south are farming areas making the country largely self-sufficient in agricultural products.

Sweden's foreign policy has always

been based on the desire to preserve the 150-year-old peace and to maintain her independence. She believes that this goal can best be achieved through a policy of nonalliance. Nor-



Allgemeine Schweizerische Militärzeitschrift

The British *Bloodhound II* surface-to-air missile is part of the Swedish air defense system

way and Denmark are members of the North Atlantic Treaty Organization; Finland, under the terms of the Paris Peace Treaty of 1947 and the Mutual Defense Treaty of 1948, must give special consideration to the interests of the Soviet Union. It seems understandable that Sweden has chosen the road of nonalignment.

Sweden realizes that, so long as there is no distinct sign of a relaxation between the major powers and of international disarmament, only strong armed forces can protect her independent policy and the independence of the country. The entire Swedish nation supports without reservation the foreign and defense policy the government pursues.

From a military-geographical point of view, Sweden is a buffer roughly 1,000 miles in length and 300 miles wide between the East and the West. The land border extends over 1,300 miles while the better part of the 1,550-mile-long sea border runs along the Baltic Sea.

Although the Swedish territory is of no central military significance, in an armed conflict between the two power blocs in the east and in the west, it represents a strategically valuable assembly area. Therefore, Sweden's defense must be so strong that the strategic advantages gained by taking forcible possession of the country are not in proportion to the price the aggressor would have to pay.

Defense Emergency

It is equally important that the great powers be convinced of Sweden's determination and ability to defend herself. Should Sweden be attacked despite this and her desire for neutrality, it will be the task of her strong armed forces to prevent the aggressor from gaining a firm foothold on Swedish soil. The Swedish watchword is that no part of the country may be surrendered without offering strong resistance. Sweden believes that the greatest danger, aside from a terrorizing war from the air, lies in a "blitz" invasion launched from the Baltic Sea and supported by air and missile attacks.

Sweden has built up a defense system which integrates all resources of the country. The military, civil defense, the economy, and industry are cooperatively prepared for a defense emergency. Each citizen, man or woman, has a task within the total defense organization of the country. Swedish geography is particularly favorable to defense, including defense against nuclear attack.

This article was translated and digested from the original, published in WEHR UND WIRTSCHAFT *(Federal Republic of Germany) December 1965, under the title, "Schwedens Luftverteidigung."*

The preconditions for a rapid mobilization of the Swedish armed forces are also extremely favorable. Many parts of the country could be seized only by landing operations. Such operations require the employment of large sea and air-transport means on the part of the adversary. This does not favor a surprise attack.

Soldat und Technik

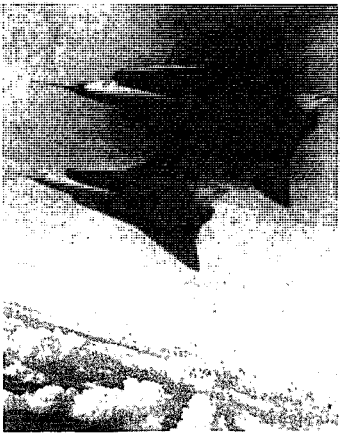
The Swedish Air Force uses roads as taxiways and landing strips

In case of an invasion, it will be the primary task of the Royal Swedish Air Force, especially the air defense units, to neutralize the initial thrust. An invasion would hold promise of success for an aggressor only after the Swedish Air Force, the fifth largest in the world, has been overpowered.

In peacetime, the Swedish Air Force is composed of four ground attack wings comprising 12 squadrons, three day-fighter wings with nine squadrons, six all-weather fighter wings with 18 squadrons, five reconnaissance squadrons, and one transport-missile wing. One squadron normally has 12 to 15 aircraft plus reserves. Accordingly, the combat strength can currently be estimated at between 550 to 700 tactical aircraft. Better than 80 percent of these aircraft are of Swedish origin.

Most surface and air weapons of the Swedish Air Force are also of domestic manufacture. The facilities belong either to the Defense Ministry or the internationally known *Bofors* works. British *Bloodhound II* surface-to-air missiles and US *Hawk* batteries have also been introduced for air defense. *Sidewinder* infrared homing air-to-air missiles and *Falcon* air-to-air missiles manufactured under license are standard armament of the Swedish fighter aircraft.

When all *Bloodhound II* missiles have been delivered by the British manufacturer, Sweden will have a total of six operational surface-to-air missile squadrons armed with this system. Each squadron has eight launchers.



The *Saab J-35 Draken* is employed in substantial numbers by the Swedish Air Force

The recently introduced semiautomatic air defense control system *STRIL 60* is based on data received from radar stations and, to a lesser extent, on information from optical

spotting posts. The system links the manned interceptors of the air force with the *Bloodhound* and *Hawk* missile positions, conventional antiaircraft positions, and the batteries of the coastal artillery, thus representing an extensive weapons system. All army and navy units, as well as civil defense and industrial defense, are incorporated in the *STRIL 60* system.

The existing radar system is being extended through long-range radar stations and special approach control stations for low-flying aircraft.

Base-System Program

Because of the nuclear threat, air defense cannot depend upon a few airbases; therefore, a network of bases was installed several years ago. At the present time, the Swedish Air Force has the following types of bases:

- Approximately 30 large peacetime bases with all required billeting and storage facilities for men and equipment. In part, they are underground.
- Wartime bases and alternates whose locations are mostly kept secret.
- Auxiliary bases on sections of highways which are suitable as landing strips.

The base-system program in its present form was begun in 1958. It is a long-term project for which an annual investment of roughly 5.8 million dollars is designated.

Because of her policy of nonalignment, Sweden herself must bear all costs for military defense. Small production of armament materiel is costly. Therefore, comprehensive military-technological research is indispensable.

Currently, Sweden allots better than five percent of the gross national product for military defense. In the defense budget for 1964-65, the Swedish Parliament approved the air force request for a seven-year procurement program for flying equipment within a cost limit of 1.4 billion dollars covering the period 1964-71. Sweden considers the manned combat aircraft to be the main pillar of an effective defense system.

Future Flying Equipment

Swedish industry succeeded within a decade in developing three models of tactical fighter craft which bear favorable comparison with corresponding aircraft of other countries. These aircraft are employed in substantial numbers by the Swedish Air Force.

Understandably, the Swedish Air Force looked for efficient and versatile aircraft which could make full use of the increasingly expanding air force base system and would be capable of operating, in an emergency, from those sections of destroyed runways which were still intact. These would be aircraft with a high payload capacity, versatile in use, of robust construction with simple servicing requirements, a wide spectrum of speed, and short takeoff and landing characteristics. This concept is quite different from that of other European air forces which are more concerned with the development of vertical and short takeoff and landing-type aircraft for various missions.

In searching for a successor for the *Saab J-35 Draken*, an excellent fighter in itself, the Swedish Air Force selected the flying platform *Saab JA-37 Viggen*. This aircraft is to be considered the typical representative of the future generation of manned weapon systems.

Of course, the Swedish Air Force examined carefully many foreign alternatives and came to the conclusion

that only the British *TSR.2* and the US *F-111* would meet the operational requirements. However, these two aircraft are designed for much greater ranges which make them too big and expensive for Sweden's geographical conditions. The US *Phantom II* was considered, but rejected.

According to the specifications of the Swedish Air Force, the standard aircraft, the *Saab-37 Viggen*, must exceed the performance of the *Saab-35 Draken* which is an excellent fighter and light attack aircraft. The three basic roles which the Swedish Air Force expects the new standard aircraft to perform are:

- Attack from very low altitudes at high approach and departure speed to and from the target area which calls for advanced navigation equipment, airborne search radar, and fire control equipment.
- Reconnaissance, which requires modern systems for airborne processing of film and image delivery to the ground.
- Interception.

The *Saab-37* uses a foreplane with flap-blowing and delta configuration giving the system short takeoff and landing characteristics. A supersonic Swedish development of a US turbofan engine with a powerful afterburner of Swedish design will enable the *Saab-37* to cruise at very low altitudes and, at the same time, facilitate the acceleration performance required for interceptor missions. The engine, fitted with a thrust reverser and automatic speed control during landing, in combination with the aerodynamic configuration, give the aircraft the ability to be operated from narrow and relatively short runways.

The internal digital and miniatur-

Interavia

The *Saab-37 Viggen* will begin to replace the *J-35* in 1970

ized computer system makes it possible to replace major components as called for by new weapons or tactics and requires only reprograming of the computer. The new digital computer makes the *Saab-37* not only a highly automated aircraft—automatic navigation, fire control, fuel monitoring—but also an extremely versatile system.

The development and construction work for building the *Viggen* prototype were nearly completed by the middle of 1965. Flight tests of several subsystems—such as the radar equipment, the flight control unit, and the digital computer—are now being made. Flight trials of the *Viggen* prototype are scheduled to take place around the close of this year, and the delivery of the initial production order of the attack version and a small number of trainers is expected in 1970. One year later, the first reconnaissance and interceptor versions will begin to replace the *J-35* aircraft.

The Swedish air forces require slightly more than 800 *Viggen* aircraft in several versions. The execution of the program requires close coordination of all industries involved; for this reason, a coordinating committee for the system was set up with representatives from all major manufacturers.

Besides the introduction of the *Saab-37 Viggen* aircraft, the Swedish Air Force is awaiting the delivery of the initial production order of another new type of aircraft, the twinjet trainer *Saab-105*, of which 150 have been ordered.

This versatile aircraft, with multipurpose characteristics, will be used by the Swedish Air Force primarily as a trainer and ground support craft. It is powered by two ducted fan engines. The tricycle landing gear includes a forward-retracting, hydraulically steerable nosewheel. The tire pressure permits takeoff and landing on concrete runways and also on firm grass-covered earth.

The military trainer version of the *Saab-105* will replace the British *Vampire* trainers currently used in the aviation school of the Swedish Air Force. It is intended primarily for intermediate and advanced phases of training, but can also be used for elementary flying training.

The *Saab-105* used in a light attack role is capable of carrying a considerable load of modern and effective weapons. All the provisions for the attachment of weapons can also be fitted in the trainer version. In an emergency, a fleet of these trainers can, within a short period of time, be converted into light attack aircraft and deployed in a combat role. The craft can be armed with either twelve 135-millimeter air-to-surface missiles, six 300-pound bombs, two 550-pound bombs, two guns, or two *Saab-305* air-to-surface guided missiles.

With 12 air-to-surface missiles and full fuel tanks, the radius of action is about 200 miles, when the approach to and the departure from the target area is performed at maximum operational speed. This would allow enough fuel for another approach and a flight to an alternate landing area if necessary. The aircraft is also suitable for photoreconnaissance, in which case its range would be considerably increased.

Because Sweden's early warning time may be limited, only an extremely flexible defense system holds prospects for success. Sweden has such a system. It is modest in style and enlists all resources of the country.

CONTROL OF FEAR IN COMBAT

Major David A. Hicks, *United States Army*

The views expressed in this article are the author's and are not necessarily those of the Department of the Army, Department of Defense, or the U. S. Army Command and General Staff College.—Editor.

DURING World War II, 450,000 American soldiers were determined unfit for military service because of their inability to withstand the stress of combat, of impending combat, or of merely being in the Army. This figure represents 40 percent of all discharges from the US Army due to wounds and diseases during the war. The proper medical term for discharges of this type is "war neurosis," but need for a term with less stigma attached led to the term "combat exhaustion."

To develop the means of controlling fear in combat, we must understand the nature of fear and some of its effects. Edmund Burke, the great English statesman of the 18th century, cast some light on the nature of fear with the observation that "Early and provident fear is the mother of safety." Burke accurately outlined the initial stage of fear—an awareness of danger. Just as an automobile driver is more cautious when driving through a congested area where children are playing, a combat veteran is more alert and aware of his surroundings when on patrol in enemy territory.

Causing this more alert attitude is the instinct of self-preservation. A soldier's morale and *esprit de corps* are basic elements which determine the degree of initial awareness he will experience. If he has much individual

and group pride, he will feel the first warnings of danger earlier than a soldier with low morale and *esprit de corps*, simply because he has a greater concern for his and the group's safety. Awareness of danger is the first stage of the fear reaction, and an individual becomes more alert to his surroundings because of a potential threat to his well-being.

Reactions of Anxiety

Anxiety, the stress caused by worrying about a suspected or impending danger, is closely related to fear. An anxiety-producing situation occurs while waiting for an attack to jump off. Artillery preparatory fires are normally falling at this time; therefore, future artillery barrages may recall the anxiety experienced, and an artillery barrage in itself may cause reactions of anxiety in an individual.

Increased alertness demands increased concentration. As a result, stress is placed on the body functions —all senses are more acute. Every small noise, movement, or odor is analyzed by the mind and classified as an increase to the danger present or as a natural occurrence. Stresses imposed are cumulative, demanding more and more mental concentration and physical preparedness.

Individual reaction to increased stress may take many forms. Well-adjusted persons will accept added stress, knowing the danger will eventually pass. But each person has his breaking point—the point beyond which he can no longer accept stress and at which he must take some overt action to relieve accumulated stress.

This point varies widely among individuals; some never make it through basic training. For example, a trainee may have just completed a bayonet course. If he was not properly supervised, he may have been allowed to perform in a slipshod manner. The parry he made prior to his thrust may have been a slap, causing him to miss the perfect thrust.

This poor performance may prey on his conscience. As he projects this one incident into the future, he may become convinced that the shortcoming will cause him to be killed or horribly mutilated. Constant self-confrontation with this fear and its accompanying cumulative stress may cause him to reach his breaking point without ever experiencing combat.

Too often men are told why they must learn a job, made vividly aware of the consequences of not learning the job properly, and then are not given the supervision or opportunity to become as proficient as they feel they must to have complete confidence in the skill.

Effects of Fear

The effects of fear manifest themselves in the actions taken by an individual unable to accept further stress. Instinct dictates one of two courses of action: on one hand, the body instinctively remains in place to investigate the danger; on the other, instinct tells the body to flee to safety.

A soldier confronted with intolerable stress and unable to decide which of the two instincts to follow may become frozen with fear and be unable

Major David A. Hicks is with the Military Assistance Advisory Group in Iran. He served with the 1st Cavalry Division in Korea in 1951 and with the 14th Armored Cavalry Regiment in Germany in 1958-59. He holds a Master's degree in Mechanical Engineering from the University of Virginia and is a 1965 graduate of the U. S. Army Command and General Staff College.

to move a muscle in his defense. Or he may follow the instinct to fight, or investigate danger, and rush headlong into the danger without regard for his personal safety until the instinct of self-preservation causes him to seek cover. The instinct to fight may cause the soldier to strike or even fire into groups of his friends.

The four general reactions to uncontrollable stress resulting from the two basic instincts of "fight or flight" are regression, camouflage and disguise, explosive panic, and psychosomatic reactions.

Regression is a return to a simpler, less complicated form of life and to a state of safety. A mature man may return to his childhood, to a time in his life when he was not faced with uncontrollable stress. A soldier in the state of regression may eat more candy, boast more, believe in special charms or magic invulnerability, stutter or stammer, and, in the more advanced stages, cry, babble unintelligibly, or even be overcome by temper tantrums.

A camouflage and disguise reaction causes a person to hide or change himself so the danger will not notice him and will leave him unharmed. "Gooseflesh" is a natural reaction which causes the hairs of the body to stand on end. The skin is thereby made more sensitive to changes in the environment, and this enables the body to shrink from danger sooner. Extreme stress might cause a dark blotching of the skin termed "fear melanosis" —a primitive attempt to blend into the surroundings. The most common incapacitating effect on a person with a camouflage reaction is his freezing in place—not moving in the belief that he will not be noticed.

United Nations

A soldier must be mentally prepared for a lack of activity since much time is spent in watchful waiting

In the explosive panic reaction, the soldier may exhibit "rage, fury, self-destruction, running amok, uncontrolled impulsiveness, frenzied running around," and may behave like an angry child.

The psychosomatic reaction was well demonstrated by a group of soldiers preparing to conduct an assault landing on an island in the Pacific during World War II. They developed an intestinal disease, but doctors were not able to isolate any germ causing the disease. After the landing was made and fighting began, the disease disappeared. The stress of fearful anticipation caused a psychosomatic reaction in the entire group—an attempt to escape the danger of an assault landing.

A psychosomatic reaction is an unconscious attempt to escape a fearful situation by developing an honorable, or socially acceptable, reason to be evacuated. In many cases, psychosomatic reactions cause real illnesses. Constant stress may cause excess acids in the stomach which will eventually cause ulcers—a very real, although unconsciously instigated, illness.

Causes of Fear

The basic cause of fear is fear of death. Closely allied is a fear of being mutilated or disfigured. Fear is contagious; one soldier showing the effects of fear will cause others who have been controlling their fear to break also. The person who has been accepting the stress of fear is likely to give vent to his emotions when one of his friends reaches the breaking point.

Fear of the unknown is the most apparent cause of stress. The individual may not know whether he is capable of surviving the situation confronting him; he may not know what to expect.

Another phenomenon which exists is a fear of being afraid. While waiting for an attack to jump off, a soldier reviewing his skills may experience a fear of being afraid, wondering what the action will do to him personally.

Lack of confidence may cause a soldier to doubt his ability to use his weapons or skills to the fullest. A soldier may also lack confidence in his fellow team members or in his leaders. Changes in orders, hesitancy, or fear displayed by his commanders will shake his confidence in his leaders and will cause the soldier to fear for his own safety.

Weapons

Certain weapons cause a greater degree of fear than others. In general, weapons such as the bayonet which threaten the soldier personally are more fearful than impersonal weapons such as the grenade and submachinegun. Also, the degree of fear produced varies directly with the potential degree of mutilation. The soldier is more afraid of massed tanks attacking or of a flamethrower than he is of an armored car.

The soldier must be convinced during training that a tank cannot fall into a foxhole on top of him and that he is safer in the foxhole than he is running from the tank attack, exposed to shell fragments and bullets. The training should be repeated until he knows that the foxhole protected him, not the fact that he crouched as far down in the hole as he was able.

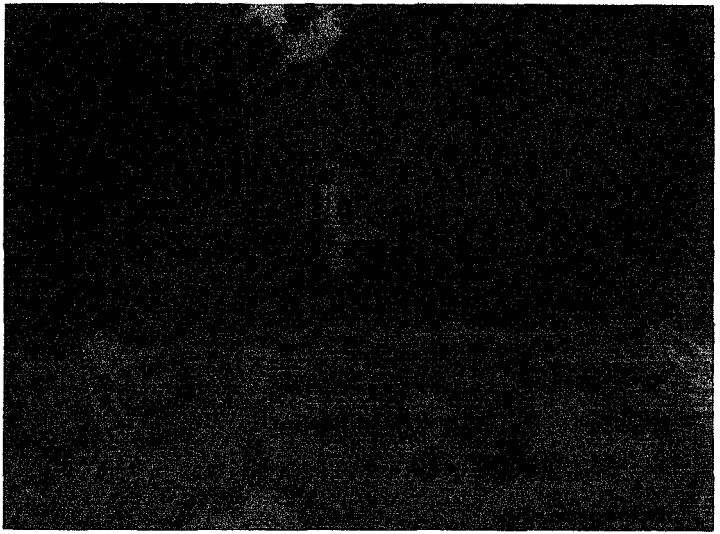
Many of the means available to control fear are evident from the nature, effects, and causes of fear. The stresses caused by fear and anxiety must be either eliminated or minimized.

Captured weapons and equipment should be displayed to convince the soldier that the enemy is not equipped with weapons better than his own. Enemy doctrine should be explained in terms that the soldier can under-

stand so that he will not be surprised. The few moments saved by eliminating the factor of surprise may save the soldier's life.

A soldier must know where his friends are located. One minute he is part of a group advancing toward an enemy position; the next moment he may find himself apparently alone on the battlefield. Encouraging soldiers to "talk it up" during the assault not only gives the soldier something to do, but also lets him know that he is not alone on the battlefield. A battle cry is an example of this means of controlling fear.

Most of the soldier's time is spent in watchful waiting—waiting for an attack to begin or observing the field of battle for enemy movement. A soldier must be quiet, especially at night. He must be prepared mentally for a lack of activity. At the very least, he should be told that most of the time he will be doing nothing. He must be told that it will take a major effort on his part to keep his mind from creating nonexistent dangers and imposing unnecessary stress. He should be made to listen for and to identify night noises during training; he should be able to distinguish between a man and a rat crawling through the underbrush.



Army News Features

The soldier who has a strong belief in God is more able to control his fears by sharing the stress

Self-confidence can be instilled in soldiers by requiring high-order performance while training. Facilities should be made available during normal off-duty hours for a soldier to practice under supervision and become

as proficient in individual skills as he desires and is able. Soldiers who are not able to learn a particular skill should be placed in a position where that skill will not be needed. They will be ineffective, undependable, and will cause a general lack of confidence among team members if kept in an unsuitable job.

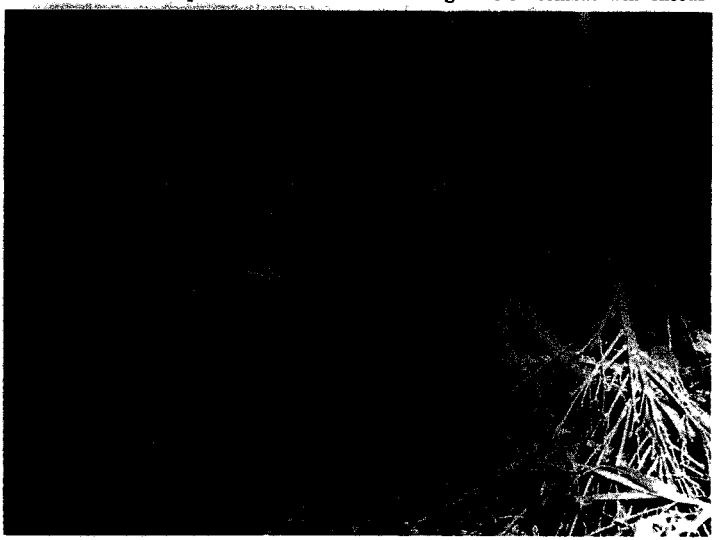
Soldiers should be trained as a team and allowed to fight as a team. The team should be given time to become accustomed to a replacement before being assigned a combat task; therefore, replacements should be received while off the line if possible.

Most men try to be accepted by their group; they will control their fears better when with a group so as not to lose face in the eyes of their friends. Further, when a man is part of a group, he feels that someone else is sharing the load.

A soldier who has a strong belief in God is better able to control his fears and accept stress by sharing the stress. If he believes his future is the will of God, he will face fears—against which he can take no direct action—with faith that God will somehow see him through.

Unit pride also helps in controlling fear. A unit which has a reputation of doing well in combat will encourage the individual members of that unit to desire to do well, also, so as not to let the unit down. The redesignations of many Army units has given each unit a proud history to be matched by future performance.

A soldier needs to believe in the national cause. He will not willingly



US Army

Fear of the unknown and of being alone are the two most apparent causes of stress

risk his life for a cause he does not believe is just. Why we fight must constantly be explained to him, not as a defense or rebuttal to enemy propaganda, but in a positive, matter-of-fact manner to leave no doubt that he and his friends are personally involved in the outcome of the war.

It is obvious that a dry, warm, well-fed, cheerful soldier is better able to control his fear than a soldier who is wet, cold, hungry, and miserable. Unfortunately, battlefields are not inherently comfortable. Therefore, the soldier who believes he is as comfortable and as well-cared for as possible, who knows that his leader is doing all he can for him, and who is not worried about his family's welfare is better able to concentrate on the task at hand and control ensuing stress than another soldier whose personal problems keep him in a state of constant stress. It does not take practice to be miserable, but experiencing the physical discomforts of the battlefield during training does prepare the soldier mentally for the physical deprivations of combat.

The principles of leadership are interwoven in all of the means to control fear. An ineffective leader is not able to apply the means, is not able to communicate to his troops, and will not be able to set the example by controlling his fear. The leader determines the personality of the unit; it will never be less afraid than he.

It is generally impossible to expose a soldier to fear in training; the best that can be done is to explain fear to him, to let him know that he will experience fear and to recognize its symptoms. He will develop a respectful understanding, but not a fear of fear. Understanding fear is the first step toward controlling fear.

Commanders who understand the nature and causes of fear can control many of its undesirable effects. Some of the fear of the unknown can be alleviated and minimized by realistic training with attention to eliminating these "unknowns" of the battlefield.

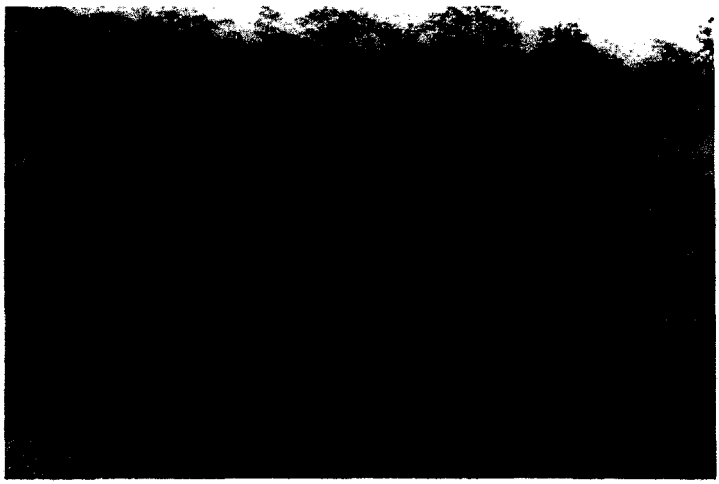
A respectful understanding of fear by all personnel is the first step toward controlling fear in combat.

We must still produce the courageous individual who is highly motivated and disciplined; who is in excellent physical condition; who can take care of himself in the field; who has mastered his weapons; who knows the fundamentals of patrolling, local security, camouflage, and fire discipline. In sum, the characteristics we seek to instill in the ground combat soldier have not really changed very much.

General Creighton W. Abrams

Artillery Support of Vietnamese

Lieutenant Colonel Harry O. Amos, *United States Army*



THE partnership of the Vietnamese infantry battalion commander and US advisor which has been a trademark in Vietnam for several years has been joined by a third member. The US artillery forward observer is now a familiar sight as Army Republic of Vietnam (ARVN) units move out on operations.

At his immediate call are the fires of US artillery completing the firepower picture and providing to the ARVN commander a 24-hour a day fire support capability similar to that available to US commanders. This added support is not only making direct contributions to the success of the operations in which US artillery participates, but works to reinforce tbe ARVN programs of increasing the capabilities of their own artillery. Since arrival in Vietnam, over half the US artillery has supported Vietnamese forces.

Mission

The normal mission for US artillery in this role has been to reinforce the ARVN artillery of the maneuver force or the ARVN artillery in the general area of the operation. The reinforcing mission implies, of course, that there is an ARVN unit already performing direct support. This may not be the case with ARVN, at least in the way that we understand the direct support mission.

The ARVN unit may have no artillery, or the ARVN artillery unit may not wish or may not be able to maneuver because of dual missions. Or, finally, the situation may require airmobile artillery for which ARVN artillery has no capability at this time. Thus, when there is US artillery available for support, it usually does most of the things a direct support unit would do. It provides liaison officers and forward observers who call directly to their own fire direction centers (FDC's) for fire; it displaces to support the plan of ground maneuver.

Support

In recognition of this gap between the desirable and actual performance, the 1st Cavalry Division (Airmobile) Artillery has developed a fifth mission called simply "support" to cover the situation of US artillery in support of Vietnamese or other Free World forces. It is defined as:

The mission of support when applied to an artillery unit requires the execution of fire missions in support of a specific force. The artillery unit remains under the command of the next higher artillery commander. This mission is commonly assigned to the artillery unit performing the functions of direct support with an allied force and, unless modified, implies the normal communications, liaison, positioning and fire planning of the direct support mission.

The normal distribution of forward observers and liaison officers to ARVN units has been one forward observer section per ARVN battalion and one liaison officer per major headquarters and maneuver control headquarters. The use of a single forward observer

Lieutenant Colonel Harry O. Amos is with Headquarters, Military Assistance Command, Vietnam. He is a graduate of the United States Military Academy and of the U. S. Army Command and General Staff College. He commanded the 2d Battalion, 17th Artillery, which is attached to the 1st Cavalry Division (Airmobile) Artillery as a general support battalion, and was chief of the Fire Support Element, Headquarters, 1st Field Force Vietnam Artillery.

for an entire battalion is a realistic recognition of the relatively small size of the ARVN battalion which results in battalion operations often resembling that of the US company.

The battalion is usually divided into two elements—lead company or group and the remainder. The commander usually moves at the head of this second element accompanied by the US advisor. When there is an assistant advisor, he is often with the lead company. The US forward observer is usually with the battalion commander and his US advisor. Rather than attacking targets on his own initiative or at the request of a platoon or company commander, the forward observer calls for artillery fire only when authorized by the battalion commander.

If the lead company needs fire support, the company commander requests the support and the battalion commander either authorizes or disapproves its use. If the battalion commander approves the request, the US forward observer is then asked to call for fire.

An adjustment of the fire may be accomplished by means of corrections relayed from the company commander to the battalion commander, to the forward observer who then finally passes them to the FDC. It should be noted that similar procedures are observed for all forms of fire support. The battalion commander decides on their use, and their employment is directed from his location. The US advisor often identifies the target to the airborne forward air controller when US close air support is employed.

The artillery forward observer, US advisor, forward observer radio operator, and ARVN airborne battalion commander are a partnership in Operation *Masher*

The US artillery liaison and forward observer are still defining their functions while working with ARVN units. ARVN's past lack of artillery support in the quantity and responsiveness to which US commanders are accustomed has made it impossible for the liaison officer and forward observer to slip automatically into the roles that are now so firmly established for them in the US Army. The functions actually performed include the standard ones of calling for fires; planning on-call concentrations to cover an advance; and planning, requesting, and triggering preparations on objectives.

Planning and Coordinating

When battalions halt for the night, the forward observer and liaison officers plot and fire in defensive concentrations around infantry positions. As a further guard against firing into friendly positions, both military and civilian, it is normal for the ARVN battalion commander to request the forward observer to transmit to the FDC or the combat support coordination center (CSCC) the four corners of a box or zone within which the local commander does not want artillery fire unless he calls for it. The area enclosed will not only include his own military positions, but also villages in the close vicinity where pacification efforts have begun.

Whether the mission is reinforcement or support, the US artillery unit will find itself involved in planning and coordinating fires when it supports ARVN. The specialized knowledge of those techniques possessed by US observers and liaison personnel is in large measure responsible for the effectiveness of our support of ARVN infantry. At the headquarters controlling the operation, the US artillery unit should be represented by its own liaison officer, regardless of its specific mission.

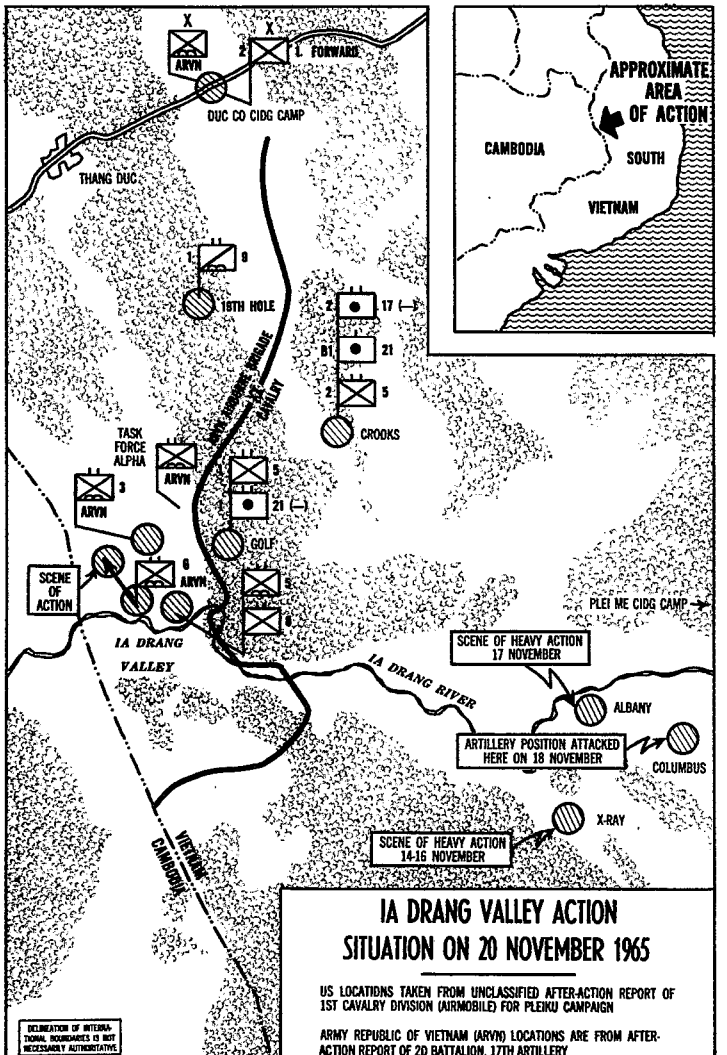
A recent Military Assistance Command Vietnam directive requires senior US advisors to establish a CSCC for all operations. This CSCC, established at the over-all command level of each operation—division, brigade, regiment, or battalion—becomes the focal point for the coordination of US artillery along with other means of fire support.

Control Agencies

The CSCC contains, among other elements, an artillery support element supervised by the senior ARVN artillery commander and assisted by his senior artillery advisor. Regardless of the specific mission being performed, the US artillery unit operating with ARVN will find it desirable to have its own liaison officer—or that of the senior artillery commander supporting the force—present in the CSCC. This not only facilitates fire planning, but speeds up the clearance of artillery fires.

The presence of large numbers of aircraft in a zone of operations, the rapid movement in all directions of friendly ground elements, and the dense civilian population in some areas have made the clearance of fires one of the major aspects of fire support coordination. When ARVN is supported, clearance is slowed somewhat by the language barrier and by multiple jurisdictions, each with its own authority to control fires into and over its area. On one operation, my battalion dealt with an ARVN unit, a US unit, a subsector headquarters, and a Civilian Irregulars Defense Group (CIDG) camp for clearance of fires from the same position.

Not only does the US unit need to acquire rapidly a facility for dealing



IA DRANG VALLEY ACTION
SITUATION ON 20 NOVEMBER 1965

US LOCATIONS TAKEN FROM UNCLASSIFIED AFTER-ACTION REPORT OF 1ST CAVALRY DIVISION (AIRMOBILE) FOR PLEIKU CAMPAIGN

ARMY REPUBLIC OF VIETNAM (ARVN) LOCATIONS ARE FROM AFTER-ACTION REPORT OF 2D BATTALION, 17TH ARTILLERY

with these control agencies, it must also learn where it can and cannot deliver fire safely. Maps should be supplemented by aerial reconnaissance since a friendly village can spring up overnight. CSCC's organized on a territorial basis will do much to reduce the number of clearances an artillery unit must receive in order to fire. Nevertheless, the artillery's normal procedures by which it assures itself that it can fire safely are nowhere more important than when it supports Vietnamese forces.

Security Forces

When US artillery began to arrive in Vietnam, it was felt that artillery positions were especially vulnerable and would require a large infantry force around each position. This idea was reinforced by the early attitudes of ARVN commanders who, having lost a few 105-millimeter howitzers to Viet Cong assault and ambush, were accustomed to taking unusual precautions with their artillery.

When my battalion supported ARVN in its first few operations, it not only had US infantry attached for security, but was also assigned additional ARVN infantry for security. As operations continued, more use was made of ARVN security forces so that in recent operations US artillery units supporting ARVN were secured exclusively by ARVN forces.

On the whole, the language barrier is easily overcome. The advisors are already communicating in English with their counterparts. By staying with the advisor, the forward observer or liaison officer makes use of this link to transfer requests from Vietnamese to US artillery channels. After arriving at an understanding of what is desired, one American can then speak to another over the radio or the telephone. The same is true in the CSCC's.

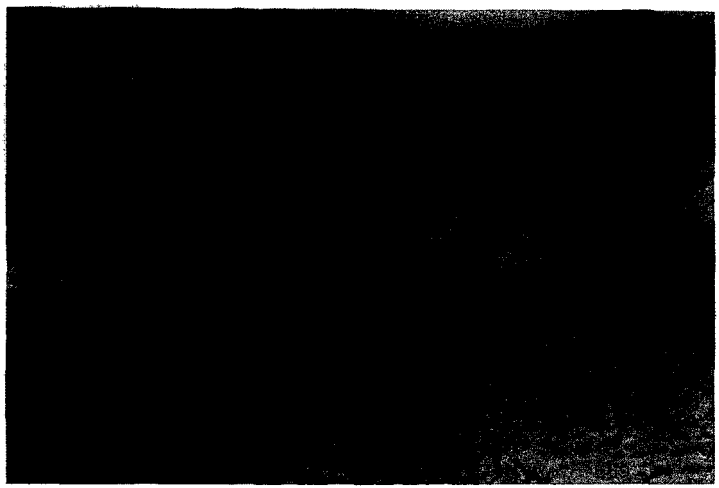
Other methods which have been used consist of placing an ARVN interpreter in the US FDC to translate for a Vietnamese observer or for an ARVN firing battery. Experience from joint Vietnamese-US service practice during lulls in operations shows that the English fluency of many ARVN observers is such that, by training with a particular US unit, they could easily learn to adjust fire over the radio in English.

The experience of the 2d Battalion, 17th Artillery, in providing fire support to ARVN illustrates some of the typical problems to be encountered by a US artillery unit assigned this mission.

Phu Ly Bridge

One of the first operations involving US artillery support of ARVN occurred in October 1965. Elements of the 22d ARVN Division were given the mission of protecting the Phu Ly bridge along Highway 1 while it was under repair. A US battery provided support. The fire control arrangement consisted of having the ARVN stand in the US battery FDC and pass commands in Vietnamese to the reinforced ARVN artillery platoon located in the same position with the US battery. These commands were based on firing data developed by our FDC.

This arrangement was used for one day when, at the request of the senior ARVN artillery officer, the two FDC's were separated. A telephone was placed between them, and the normal relationship of reinforcing to reinforced artillery unit was observed. Battalion liaison officers and forward observers functioned at the bridge where they plotted defensive concentrations and fired them in conjunction



Battery position of A Battery, 17th Artillery, at Tam Quan during Operation *Masher*

A 105-millimeter howitzer is loaded aboard a *CH-47*

Canal bank is unusual but workable position for C Battery, 2d Battalion, 17th Artillery

Photos courtesy of the author

The *CH-47* proves its versatility

with the ARVN forward observers at the bridge. Requests for fire from the district chief were transmitted to the ARVN FDC. However, when US artillery is in position by itself, it is customary for it to answer these calls for fire from the local Vietnamese authorities in addition to any other mission.

In this operation, the artillery broke up an attack against the defenders of the bridge which was launched by an estimated reinforced company the first night the battery was in position. Two nights later, the artillery broke up a second attack. In both cases, US forward observers requested the firing of previously adjusted defensive concentrations. Here, the artillery was used to good effect in a role the ARVN understands well —the defense of a position. What did surprise them was having artillery placed closer than 220 yards from friendly positions. Watching this, one battalion commander said: "That's too close, but very good!"

Shiny Bayonet Operation

In the Shiny Bayonet operation northwest of Qui Nhon, the battalion reinforced the fires of the 1st Cavalry Division (Airmobile) direct support artillery and, at the same time, the fires of an ARVN division artillery. The battalion liaison officer and organic forward observers were sent to the ARVN regiment operating to the east of the US forces. During the operation, the battalion liaison officer functioned in the normal fashion, helping the battalion forward observers who were assigned to the regiment on the basis of one per battalion. Since no ARVN artillery was in range of the regiment, the battalion was, for all practical purposes, the direct support artillery for the ARVN regiment. An ARVN liaison officer operated at the battalion FDC.

In this operation, the ARVN regiment had little or no contact. The artillery support took the form, primarily, of preparations on intermediate objectives and on-call concentrations fired ahead of the advance of friendly troops. While the ARVN were well pleased with the support received from US artillery, their use of it reflected their relative lack of experience with the integration of close artillery support into the plan of ground maneuver. In the initial phases of the operation, preparations were fired as much as two hours prior to crossing the line of departure. Concentrations to lead the advance were adjusted as much as 1,000 yards in front of friendly troops.

Ia Drang Valley

At the beginning of its participation in the Ia Drang Valley battle in November 1965, the ARVN airborne brigade had a task force of two battalions committed. Later, additional battalions and a second task force headquarters were committed, and the brigade headquarters established itself at the Duc Co Civilian Irregulars Defense Group camp. The 2d Battalion, 17th Artillery, using its headquarters and FDC and one firing battery provided—in effect—direct support to the airborne brigade while reinforcing the fires of 1st Air Cavalry direct support artillery.

The liaison officer remained with Task Force Alpha, and forward observer teams were assigned on the basis of one per battalion. The brigade did not attempt to coordinate or control fire support from its location some 12 miles from the operational area. Artillery fire planning and control were performed between the bat-

talion FDC and the liaison officer-advisor team in the operational area. The majority of the firing was done by one battery, but at times the fires of from one to three batteries of other US artillery were directed onto brigade targets through the battalion FDC.

This operation produced some spectacular results and an improved, although not perfect, ability to utilize artillery in close support of the plan of maneuver. At about noon on 20 November 1965, the 6th ARVN Airborne Battalion observed that, as the 3d Airborne Battalion maneuvered from west to east across its front, it was being followed by a reinforced enemy battalion. The task force commander ordered the 6th Battalion to assault the flank of the enemy force. When contact was made, artillery was requested by the lead company commander and relayed through the battalion commander to the US forward observer with him. The forward observer, in turn, passed the request and corrections to the battalion FDC.

Heavy Casualties

After adjustment, nearly 1,000 rounds were fired into an area approximately 500 yards in diameter in the space of just over one hour. Contact was broken about 1600, and over 80 bodies were counted prior to dark. Moving into the impact area the following morning, the body count went up to over 200 with an estimate that twice that many were actually killed. The artillery was given credit for doing 50 percent of the damage. Regardless of the exact number, it was clear that close support US artillery had provided the ARVN units involved with a most dramatic example of the value of artillery.

Two days later, two battalions moved south across the Ia Drang River and utilized a preparation planned by the US forward observer and liaison officer to assault their first objective. Following immediately behind the preparation, they counted eight bodies in prepared defensive positions, and further up the hill found evidence leading to an estimate of some 20 additional casualties.

Operation 'Masher'

Operation *Masher* in January and February 1966 involved elements of the 1st Cavalry Division (Airmobile) operating west of Highway 1 and the ARVN airborne division east of the highway in the Bong Son area of northeast Binh Dinh Province. The battalion was in general support reinforcing the fires of the airborne division. The division operated its CSCC, and the battalion was represented there by its liaison officers. Additional liaison officers were provided to each of the two task force headquarters and a forward observer team was given to each of the battalions participating in the operation. When the division received the attachment of a troop of armored personnel carriers, it, too, was provided with a US forward observer.

In the early phases, artillery preparations were planned in the CSCC. Through it or directly from the battalion FDC, fire from medium and heavy US artillery positioned in the vicinity was directed onto targets in the airborne division's zone of operation. In the latter phase, when the battalion displaced about 10 miles north of the CSCC, the bulk of the artillery fire planning and fire support was handled directly between the US observer and liaison personnel and the battalion FDC.

Because of the many small-unit ac-

tions moving in different directions at the same time, civilian population, and large numbers of aircraft in the air, the clearance of all artillery fires was handled in the CSCC. On some missions, clearance took undesirably long periods of time.

At the start, an artillery preparation planned and fired on schedule was not exploited until two hours later. In another action, a task force of one battalion and an APC troop made excellent use of close support artillery in moving through a series of three objectives. Enemy casualties were apparent, and on the third objective, the enemy came out of his positions waving safe conduct passes as soon as the artillery preparation started.

US Artillery Support

On the night of 30 January 1966, an ARVN battalion perimeter was attacked from three directions by an estimated battalion. The US observer called for fire on and in the vicinity of previously adjusted defensive concentrations. Approximately 750 rounds from all of the US artillery available in the area were fired during a period of about 45 minutes. The artillery fire broke up the attack, and inspection of the area the following day revealed nine bodies and about twice that many fresh graves. A villager reported two days later that on the night the battalion was attacked, the Viet Cong pressed 400 villagers into service and evacuated 82 bodies from the area of the artillery fire.

Although not coordinated as smoothly as it might have been and, in hindsight, not employed as skillfully as one might have wished, US artillery support made a vital contribution to the success of this operation. The airborne task forces were able to eject three battalion-sized units from heavily defended positions some of which had been in use by the Viet Cong for over 18 months.

As significant as the contribution it makes to a particular operation is the inherent ability of the US artillery unit to provide a live demonstration of the potential of artillery. This practical example of artillery as an integral part of the ground plan employed in quantities envisioned by US doctrine is making an important contribution to programs aimed at increasing the capability of ARVN artillery itself.

Artillery Organization

At present, the artillery with an ARVN infantry division consists of two 105-millimeter howitzer battalions. There are several 155-millimeter howitzer battalions within ARVN which serve as corps artillery. This artillery force provides for support of:

- ARVN search and destroy and defensive operations.
- Static defense of the sector and subsector where the artillery is located.
- Regional and popular force operations.

The latter two often are under the control of the sector commander rather than the ARVN division commander.

The artillery organization cited is a minimal force considering the level of enemy activity and the immense areas to be controlled. Also, traditional methods of employment tend to limit further the amount of artillery available to support a particular operation.

The reluctance to maneuver artillery goes hand in hand with an observer and liaison organization which is weak by US standards. ARVN commanders also hesitate to give their artillerymen their proper place on the

team. Although firing battery and gunnery procedures are generally sound, and gun crews are well trained and rapid in response, artillery tactics and techniques at battery level and above are below US standards. As a result, there are many operations where the artillery potential is not fully realized.

Recently, several steps have been taken by the Vietnamese to increase the capability of their artillery. Additional numbers of officer forward observers are being trained. A basic body of doctrine for ARVN artillery is also being developed.

The absence of sufficient artillery to support many operations has forced a reliance on tactical air for fire support of the infantry battalion. The significant results obtained from the employment of air account for a tendency on the part of ARVN commanders and some US advisors to use air support only, even when both artillery and air are available and both might be used to good advantage.

US artillery units have demonstrated that effective support can be given Vietnamese forces through the standard observer and liaison organization.

Operations to date have provided ARVN with support which frequently proved to be the margin of success. At the same time, the ARVN has been introduced to the full potential of artillery. Where the same two units have been able to work together during more than one operation, the quality of the support has improved as all concerned became better acquainted.

There will be a continuing mission for US artillery in support of Vietnamese forces in order to provide them with a firepower edge similar to that enjoyed by US forces. The procedures to date, which are simply an adaptation to a particular situation of accepted doctrine, provide a firm basis for future support. As time goes on, this should take the form of more US forward observers—perhaps two per battalion—the integration of US and ARVN forward observers, more massing of US and ARVN batteries on targets, and an expanded role for ARVN artillery in the war of maneuver.

Most US artillery units in Vietnam can expect to support Vietnamese forces at one time or another. They will find themselves performing the dual role of fire support agency and instructor by example. The experience will be a rewarding one.

ZIP CODE

Postal regulations require the use of Zip codes in mailing the Military Review to United States subscribers. Please include your Zip code in all subscription correspondence.

Probability, Utility, and National Strategy

William D. Franklin

KARL von Clausewitz once observed that the theory of war on a great scale, or what is called strategy, presents extraordinary difficulties. Under modern thermonuclear conditions, these strategic difficulties often attain almost astronomical levels of complexity. The search for simplifying principles or axioms as a partial solution to this complexity has been further confounded because of the delicate nature of the modern thermonuclear framework surrounding the decision-making process.

Primary importance must be given to the concept that all military strategy is totally entwined with some aspect of national policy, and national policy has traditionally been the responsibility of civilians. No decision can be purely military or purely civilian in its over-all ramifications.

Each nation establishes broad objectives which, when attained, will further its national interests. National strategy is the long-range plan through which a nation applies its strength toward the attainment of its objectives. Military strategy is derived from that national strategy. Military power is only one element in this strategy, but it attains overwhelming significance in considerations of possible violence. It is that element of national strength which is specifically designed to apply physical force in the implementation of decisions. It must be able to operate effectively across the entire spectrum of war in any area where conflict may occur.

Existing principles of war have been adapted with admirable results to conditions of both nuclear and nonnuclear military situations, but no such set of general specifications has been promulgated to guide the decision making relating to over-all na-

tional strategy. Within the landscape of strategic decision making, the significance of economic science can be viewed from a number of perspectives.

Economics is not concerned exclusively with industrial activity. Rather, it is concerned with allocating resources so as to get the most out of available inputs whether they are industrial or military factors. Economics views the problem of combining limited quantities of military equipment and men to result in the production of combat-ready armies in the same sense that it views the combination of factors of production to produce a given output of any industrial good.

Theoretical Analysis

Economists have turned to differing forms of theoretical analysis in the economic world, to an interpretation which uses strategy and warfare as analogies for economic behavior and which represents economic laws as probabilities. What remain are rules of probability and logistics of strategic warfare. The oligopoly-theorists have turned to Clausewitz' *Principles of War*.

Utilizing this type of analysis, the efficient allocation of scarce or limited resources to alternative uses, and the decisions connected with this allocation, are viewed as a complex input-output model. In this model, military power is only one input factor in the total output of national strategy. The decisions relating to the efficient combination of inputs are of pivotal importance to the optimum strategic output. The study of metaeconomic decision systems is concerned with those stages or activities dealing with the actual decisions relating to choice among several "acts" or strategies connected with this output under conditions of both risk and uncertainty.

Bayesian Theory

One decision system is that which utilizes the Bayesian probability theory and the concept of an individual utility function. The adjective "Bayesian" comes from Bayes' theorem, an elementary result of probability traceable to the Reverend Thomas Bayes, an English clergyman of the 18th century.

The unique feature of Bayesian statistics is the personalistic interpretation of probability. That is, it is legitimate to quantify feelings about uncertainty in terms of subjective assessed numerical probabilities. Assessments are made of probabilities of events that determine the profitability or utility of alternative actions open to the decision maker. It can readily be ascertained that a number of strategic possibilities, such as thermonuclear war or biological warfare, cannot yield objective probabilities, but, nevertheless, must be analyzed, and must, therefore, be subjective in nature.

The real difficulty in applying statistics to problems of a military or strategic nature is that until recently no theoretical bridge existed between "statistics" and "strategic judgment." For the first time, we now know how to fit both these elements into the process of decision making. No statistical analysis of a strategic nature is complete unless this "judgment" is incorporated into it. It does matter

William D. Franklin is an Assistant Research Economist in the Department of Economics, Texas Transportation Institute, Texas Agricultural and Mining University, College Station, Texas. He holds a B.S. degree in History and Economics, and a M.S. in Economics.

what the decision maker thinks about the comparative effectiveness of act A or B before statistical evidence is analyzed.

Decision systems formalize the notion of uncertainty. Given a particular action, the underlying possible events are called states of nature. In most situations, the decision maker has had experience in facing at least broadly analogous situations—that is, he may well feel that some of the possible events are more likely to occur than others. Bayesian decision theory formalizes this notion by assuming that it is possible to assign numerical weights to the outcome of these events. These weights are called prior probabilities.

"Subjective" Probabilities

Empirical and statistical investigation has indicated that an experienced individual is capable of assigning a "subjective" probability to a given event A or B on a probability scale between 0 and 1. If a person can subjectively assign probabilities in this manner, he is known as a Bayesian, in a statistical sense. If a person will assign only 0 or 1 to an event, he is known as a non-Bayesian in that he believes that an event has only complete certainty or uncertainty of either occurring or not occurring and disregards all levels of probability in between.

This is exceedingly rare in men of considerable experience and training in the upper echelons of military rank. As an individual moves upward through the various grades, he attains the requisite ability to evaluate differing levels of probability associated with strategic events. Use of subjective probabilities permits incorporation into the decision model in a formal way many of the nonobjective variables usually taken into account in making decisions informally.

The end result of "experience," "knowledge of the subject," and "judgment" is summarized in the subjective probabilities assigned by the decision maker himself. Thus, the probability assignment, a number between 0 and 1, to each possible outcome of the decision reflects the degree of belief held by the individual that that outcome will occur.

In a mammoth work of mathematical economics published in 1947, called *Theory of Games and Economic Behavior*, John (Janos) von Neumann and Oskar Morgenstern developed a pragmatic, 20th-century, quantitative conceptual technique for determining

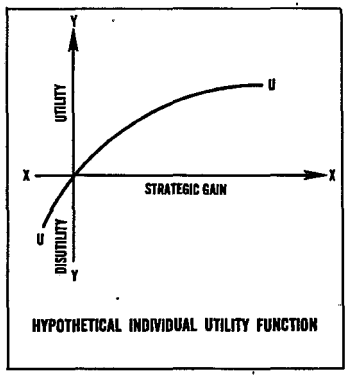


Figure 1.

an individual utility scale for outcomes known as the standard-gamble method. The idea of the standard-gamble is to set the decision maker a series of choices between which he must make a selection. They argued that decisions were made so as to maximize expected utility between events A and B as possible alternatives.

Given the alternatives A, B, C, or D, if an individual selected A over B, we would conclude that alternative A had more utility for him than alternative B. If he were indifferent between two alternatives C and D, we would conclude that each alternative

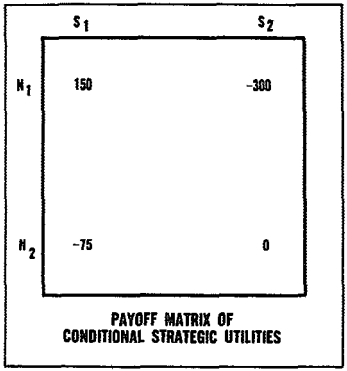


Figure 2.

offered the same expected utility or disutility. It is possible to derive generalizations about a person's utility function that are consistent with logic and observation of repeated decisions.

Without going into the definitional aspects of what is represented on the X axis of Figure 1, whether it represents such concepts as "lives saved," "lives lost," "megadeaths," "total destruction," or some other terminology, all such concepts are lumped under the term "strategic gain." We further assume that this figure represents the individual utility function of a selected decision maker involved in some aspect of national strategy on the appropriate level.

The utility measure of a large sum is expected to be greater than the utility measure of a small sum; the individual derives greater utility from large strategic gains than from small ones. The slope of the utility function is the ratio of an incremental change in utility as a result of an incremental change in strategic gain. This measure is known as the marginal utility of strategy.

Mathematics suggests a convenient way to present our breakdown of any decision problem. This method is to put it in the form of a matrix—called the payoff matrix. A matrix is simply a two-dimensional array of figures arranged in rows and columns where the columns represent the available strategies and the rows represent the states of nature, or the opponent's strategies. These figures should be thought of as representing "conditional" utilities.

Corresponding to each action taken and each event that happens, there is a certain conditional positive or negative utility. They are considered conditional in the sense that a certain utility results from following a specific course of action and having a specific event occur.

The criterion for choosing among courses of action under the Bayesian approach is actually quite simple: Choose the act which leads to the highest expected payoff. To find the expected payoff associated with a particular strategy, we multiply the conditional payoffs or utilities by our prior probabilities. Where actions are contemplated that involve large potential losses, it is desirable to make the analysis more appropriate by bringing in utility considerations. This can be done by calculating the expected utility value of possible actions.

As an illustration of this particular metaeconomic decision system, assume that, as a simplified example,

the United States has evaluated all available intelligence concerning country Alpha, bordering Communist China, in an effort to determine whether there is a probability that China will consider an attack on Alpha in an effort to incorporate it behind the Bamboo Curtain.

Further assume that Alpha is a small, underdeveloped country, and there is some question on a policy level as to whether the United States should commit forces to defend the territory in question should an attack be launched. Should the United States defend in the form of a movement of forces prior to any suspected attack, or not defend or otherwise make any strategic moves given either circumstance of attack or nonattack?

At this strategic level, the decision maker has assigned the probabilities, on the basis of existing intelligence, as .60 to "attack" and .40 to "no attack." Figure 2 is the matrix illustrating the conditional utilities connected with each strategy. S_1 represents the strategy employed by the United States as "defend," and S_2 represents the strategy "do not defend." N_1 represents the state of nature that exists if China attacks, and N_2 represents no attack.

It can be observed that there is a minus utility associated with defending Alpha when no attack takes place, possibly a combination of abrasive propaganda from the Communists caused by the US move and actual cost connected with the operation that may have been needed in an alternative use, or some such measure.

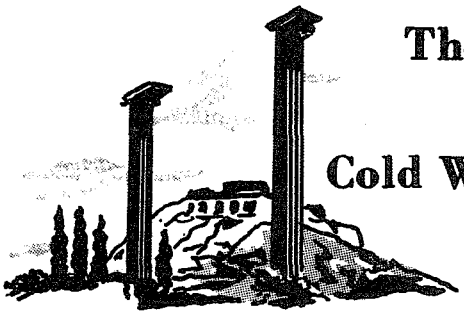
An even greater negative utility is connected with not defending and an actual attack taking place, possibly a combination of actual loss of Alpha or greater cost in world opinion. The measure would consist of some type of individual utility index that would consider all relevant factors.

The solution to the unique strategic matrix involves calculation of the expected utility associated with each act. This is derived by multiplying the relevant conditional utilities by the associated probabilities and adding the results to obtain the comparative expected utility of both alternatives S_1 and alternative S_2 and accepting the one with the highest positive numerical utility.

In this case, S_1 is $.60(150)+.40(-75)=60.0$, and S_2 is $.60(-300)+.40(0)=-180.0$. Since the decision maker has arrived at a numerical calculation of 60.0 associated with the defense of Alpha, and a minus 180.0 associated with nondefense, utilizing this particular metaeconomic decision system, the indication would result in defense of Alpha.

This type of quantitative analysis has been objected to by some civilian intellectuals as being too abstract and by some military professionals as too mechanical. It is actually neither. The use of abstraction or quantitative analysis is only a method whereby the various alternatives of a situation may be objectively evaluated.

The actual "normative" choice, in a national strategy sense, is made by governmental policy wherein, as indicated by Clausewitz, ". . . war is nothing but the continuation of state policy with other means . . ." and viewed from a military standpoint, it is not a mechanical process guaranteeing success to its user. It is an analytical evaluation in which the estimator applies professional knowledge and judgment to determine that course of action which offers the greatest probability of success.



The Cradle of US Cold War Strategy

Lieutenant Colonel Robert W. Selton, *United States Army*

THE Greece of the fifth century B.C. is often called the cradle of Western civilization. The Greece of 1946-49 could be considered the cradle of US, and hence Western, strategy for the first 20 years of the cold war.

The United States today is deeply committed to military assistance programs which include the maintenance of US military advisors in numerous foreign countries. Today's military assistance program, the use of US military advisors, and the current concepts of counterinsurgency originated with the US military assistance to Greece during the Anti-Bandit War, 1946-49.

One of the principal characteristics of the cold war era from the US point of view has been the fusion of the so-called military sector of national policy with that of the economic and foreign policy sectors so as to produce an integrated national security policy. The Anti-Bandit War provides an excellent example of the interaction of politico-economic factors and military factors. Appreciation of this interrelationship marks the Truman Doctrine as a major turning point of US foreign policy and marks US military assistance to Greece as the genesis of US military strategy for the cold war.

The United States was formally drawn into the Greek scene when Great Britain announced in February 1947 that, because of British economic difficulties, British aid to Greece would terminate on 31 March 1947. On 3 March the Greek Government requested assistance from the United States in its struggle against communism. On 12 March 1947, President Harry S Truman addressed a joint session of Congress requesting assistance to Greece and, collaterally, to Turkey.

The Aid to Greece and Turkey Bill, Public Law (PL) 75—the so-called

Truman Doctrine—provided for economic assistance and military equipment to Greece. It gave the War Department the authority to detail military personnel as advisors and required that Greece grant free access to US officials for the purpose of observing military assistance. PL 75 not only permitted US military personnel to become involved in the training of the Greek armed forces in Greece, but provided for the instruction and training of Greek military personnel in the United States.

A New Era

The concept of the Truman Doctrine was a radical departure from past American tradition. It ushered in not only a new era of US foreign policy, but the military implementation presaged many departures from past US military policy and was the precursor of a new era of US military strategy.

The Anti-Bandit War was the first armed conflict between what since has come to be known as the "Free World" or the West and the forces of communism. This war can well be considered the formal proclamation of the cold war.

Lieutenant Colonel Robert W. Selton is with the 3d Armored Division in Germany. A 1966 graduate of the United States Army War College, he holds an M.A. in International Relations from American University, Washington, D. C., and is a graduate of the U. S. Army Command and General Staff College. He served as Assistant Military Attaché to Greece, and until August 1965 was with the Military Assistance Division, US European Command, in Paris. His article, "Communist Errors in the Anti-Bandit War" appeared in the September 1965 issue of the MILITARY REVIEW.

From the military point of view, it established four significant trends in US strategy:

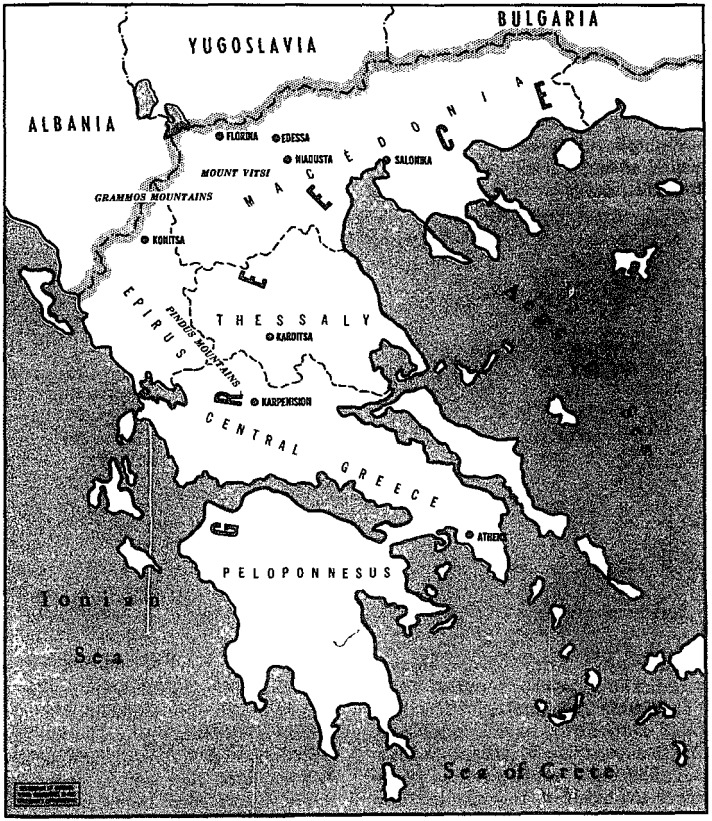
- The provision of large-scale military assistance to a foreign government in "peacetime."
- The use of US military personnel as advisors to indigenous forces in the conduct of active military operations.
- The development of counterguerrilla tactics as a paramount requisite of the cold war.
- The acceptance of US involvement in military hostilities without the commitment of maximum resources.

Military Assistance

In accordance with PL 75, the US Army Group Greece (USAGG) was established as part of the American Mission for Aid to Greece on 14 April 1947 in Washington. The mission of the USAGG was to determine what supplies and equipment were required by the Greek National Army (GNA), the *gendarmerie*, and the Royal Hellenic Air Force (RHAF), and to initiate the procurement of these items from British and United States sources.

It was believed at that time that US military assistance could be made effective simply by furnishing the Greek armed forces with the supplies and equipment they needed for the conduct of successful operations against the guerrillas. No observers were to be stationed with combat units in the field, inasmuch as it was believed their presence there would give critics and opponents of the aid program an opportunity for accusing the United States of conducting military operations.

The advanced elements of the USAGG arrived in Athens on 24 May



1947, and a complement of 40 military personnel and 20 civilians had been reached by 31 July. The USAGG set out to accomplish three initial tasks:

- To submit an accurate list of the most significant equipment shortages of the Greek armed forces.
- To integrate its organization with that of the British and Greek military supply personnel.
- To survey the military logistic facilities of the Greek armed forces which included planning ample storage space and transportation facilities in order to assure the efficient flow of US military supplies when they arrived. It also became necessary to undertake the instruction of Greek personnel in the operation and maintenance of US equipment.

The first US vessel carrying military assistance supplies consisting of vehicles, rations, and general military cargo arrived on 2 August 1947. By the end of the year, procurement initiated for ground and air programs amounted to 74 million dollars, of which 40 million dollars had already been delivered.

War Goes Badly

But the war against the Communists was not going well. Supplies alone did not appear to solve the dilemma. It soon became evident that the problems of supply and training were too closely integrated with those of the strategic, tactical, and political aspects of the GNA for them to be maintained altogether as separate and self-contained undertakings.

In October, studies revealed an urgent necessity for extending the authority of the US military forces in Greece to include the full advisory functions provided for in PL 75. The earlier belief that military aid could be limited to matters relating strictly to supply was no longer valid.

The Communist forces, the Democratic People's Army (*DAS*), enjoyed certain advantages over the GNA. The Greek Communists had three years of modern guerrilla experience, and many of their officers had received valuable supplementary training at the hands of Yugoslav partisan instructors. Mountains cover more than two-thirds of mainland Greece and provided almost optimum conditions for waging guerrilla warfare. The bandits enjoyed logistic support from a privileged sanctuary out of reach of their opponents. Added to these advantages was the seething unrest of the population caused by economic privation and political uncertainty.

The guerrillas maintained a terrorism campaign throughout all of Greece during 1947, attacking isolated villages to obtain supplies and recruits, and fleeing before government forces could arrive. Through terrorism and propaganda, the Communists extracted subservience and concurrence, or at least nonresistance, from the inhabitants of a considerable number of villages.

The study of the year 1947 from the Greek national point of view reveals military weakness and political futility. An army dissolved for four years cannot be rebuilt in a day. The Greek officer corps had been deprived of senior command throughout the later years of World War II and, therefore, needed the competence veterans could provide. Furthermore, the Greek proclivity for politics adversely influenced the efficiency of the army.

The close of 1947 saw the Greek Army dispersed in static dispositions dictated primarily by political considerations. Military operations against the bandits had generally failed. From the economic point of view, US financial assistance had prevented the complete collapse of the nation. But it was apparent that economic recovery was impossible until the military threat to Greece had been removed.

Trial and Error

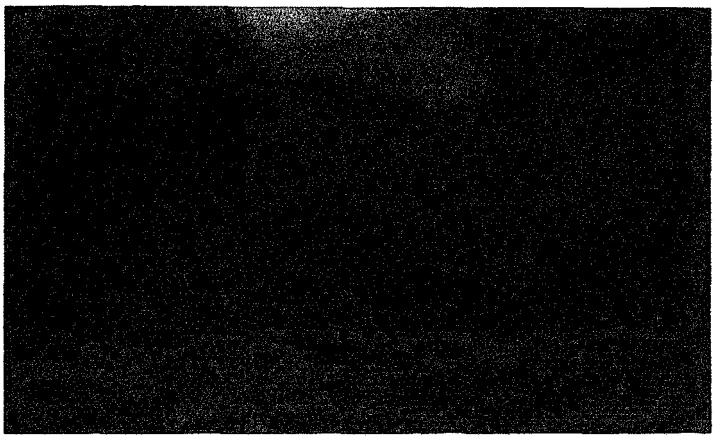
The USAGG had been unsuccessful in favorably influencing the course of the Anti-Bandit War during 1947 through the approach of furnishing solely logistic support. On the last day of 1947, the Joint United States Military Advisory and Planning Group (JUSMAP) was established by a Joint Chiefs of Staff (JCS) directive. Its mission was to assist the Greek armed forces in achieving internal security in Greece at the earliest possi-

ble date by providing stimulating and aggressive assistance in the form of operational and logistic advice. The director of JUSMAP was authorized to maintain direct communication with the JCS on military matters.

Advisory teams were attached to field army, the three corps headquarters, and the seven divisions that comprised the GNA combat forces. The duties of the field teams were to maintain a continuing study of the military situation, to furnish operational and logistic advice to the commander and staff of the unit to which assigned, and to make recommendations to the director concerning changes in the organization and training of the Greek armed forces.

JUSMAP was not, however, prepared to advise on the training and organization of the Greek forces at this time, and the British military mission continued to furnish advice on these matters. On 24 February, Lieutenant General James A. Van Fleet assumed the positions of director of JUSMAP and commanding general of the USAGG.

Prior to the activation of JUSMAP, the GNA had conducted no major offensive operations. The first major task of JUSMAP was to convince the Greek High Command that the initiative had to be wrested from the enemy by large-scale coordinated operations designed to clear the guerrilla systematically from the infested areas of Greece. Progress of the Greek armed forces in these areas was due in large measure to the buildup of military supplies and equipment and to the advice of JUSMAP.



This pillbox was part of the guerrillas' defense in their Grammos Mountain stronghold

Despite the arrival of significant US military assistance, shortages in automatic weapons, mountain artillery, vehicles, and mortars existed as late as June 1948. The situation was further aggravated by the fact that British equipment in the hands of troops was starting to deteriorate.

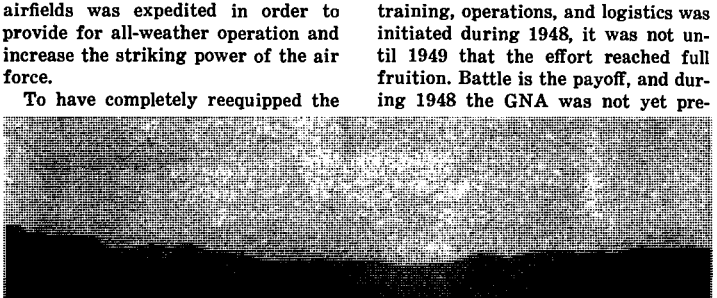
During 1948 the RHAF was pro-

vided additional aircraft, and plans were made for the 1949 delivery of US ground support aircraft. In March, 50 air force cadets were sent to the United States for flight training. A program to reconstruct and improve airfields was expedited in order to provide for all-weather operation and increase the striking power of the air force.

To have completely reequipped the GNA with US materiel would have required considerably more expenditure than was visualized. In early 1948 the decision was made to equip three Greek divisions with US materiel. To a large extent, British equipment would remain in the other units and the independent commando battalions of the raiding forces.

Based on his division advisors' reports of training deficiencies and his personal observation of GNA combat operations, General Van Fleet took over the responsibility for training GNA infantry units. Thus, in July 1948 training officially became a joint United States-British responsibility with the British retaining responsibility for other than infantry training.

Although the major US military assistance in the organization and training, operations, and logistics was initiated during 1948, it was not until 1949 that the effort reached full fruition. Battle is the payoff, and during 1948 the GNA was not yet prepared to give a full account of itself.



Mountains provided optimum conditions for waging guerrilla warfare in northern Greece

However, in accordance with joint Greek-United States planning which had been initiated as a result of the activation of JUSMAP, the Greek armed forces did launch a series of major offensives against the *DAS* in the spring of 1948. The first of the offensives, known as Operation *Dawn*, was more successful as a training exercise than as an effective counter-guerrilla operation. Most of the guerrillas escaped to the north.

On 20 June 1948 an offensive was launched against the rugged Gram-

mos Mountain stronghold of the *DAS*. After severe fighting, the tide of the operation turned in favor of the GNA during early August, and more than 2,500 guerrillas were killed and 1,000 were captured or surrendered. Large quantities of guerrilla supplies were captured or destroyed, and Communist plans to hole up for the winter in Grammos were disrupted.

In the normal tactical sense, Grammos was a Greek national victory. But in guerrilla warfare, terrain has only limited value, and the GNA had failed to seal off the escape routes to Albania. Shortly after the Grammos operation—two days to be exact—the bandits who had entered Albania from Grammos reentered Greece in the vicinity of Mount Vitsi. The GNA was unable to dislodge the Communists from Vitsi, and, as the winter of 1948-49 approached, the initiative passed to the *DAS*.

Assistance Reaches Fruition

On 21 January 1949, General Alexander Papagos, the World War II commander of the GNA, accepted an appointment as commander in chief of the Greek armed forces. He immediately set out to rectify the adverse conditions affecting their combat efficiency. Discipline was enforced, and aggressiveness and mobility were stressed in the tactical units. The will to fight, to close with and destroy the guerrilla, was soon to reappear in the GNA.

From the US point of view, two of the most significant attributes of the new commander were his admission that serious problems did exist within the Greek armed forces and his open-minded approach to the solution of those problems. As a result, JUSMAP became an effective instrumentality for increasing the combat efficiency of the GNA. US military observers in the field were accepted by the Greek officer corps, wholeheartedly for the first time, as professionally competent and impartial reporters.

From mid-1946 to mid-1948, the *DAS* had operated under near optimum guerrilla conditions. They exploited their advantages to the maximum—experienced leadership, favorable terrain, privileged sanctuary, adequate logistic support, a population torn with economic privation and political uncertainty, and national security forces that were poorly trained, equipped, and led. Guerrilla tactics were primarily based on hit-and-run raids, terrorism, and avoiding open combat with regular forces except under advantageous circumstances.

Change in Leadership

However, initial Communist success, the prospects of ultimate victory, and the attrition of prolonged combat led to a break between the leadership of the Greek Communist Party (*KKE*) and the leadership of the *DAS*. The break reflected the split between Marshal Josip Tito and the Communist Information Bureau (Cominform) of June 1948. The party leadership under Nikos Zachariades, loyal to the Cominform, prevailed over the *DAS* leader, pro-Tito General Markos Vafiades, who was relieved of his command and expelled from party membership toward the end of 1948.

The change in leadership of the *DAS* resulted in far-reaching implications. Politically, Zachariades, a Communist International (Comintern)-oriented Communist, allowed the *KKE* to be maneuvered into supporting the Comintern position on an autonomous Macedonia as opposed to the traditional Greek position of sovereignty over Greek Macedonia. This

action cost the *DAS* that sector of popular support which equated communism with a nationalist cause. As a result of the loss of this sector of support, the *DAS* resorted to blind excesses of terror and destruction to secure replacements for combat casualties. This, in turn, further alienated the popular base of support.

From the logistic point of view, the anti-Tito orientation of the new *DAS* leadership led the Yugoslavs to close the border, cutting off the principal supply line of the *DAS*.

Tactically, the *DAS*, driven by Zachariades, overconfidently elected to stand and fight the GNA in violation of the principles of guerrilla warfare. This proved to be the undoing of the *DAS* on the field of battle.

Initiative Seized

Under the strong leadership of General Papagos and with the advice of General Van Fleet, the GNA was ready to seize the initiative. Plans for a spring and summer offensive were completed. The offensive was once again to be a clearing operation moving south to north. Operation *Rocket* was launched on 1 May 1949 and was designed to clear the bandits out of central Greece.

Although unable to fix and hold the bandits, by June the GNA had the initiative in all areas except the northern border areas. This campaign, ending successfully in September, resulted in a marked increase in civilian morale by permitting thousands of refugees to return to their homes and villages from congested rural refugee centers and enter into productive labor.

The cumulative effect of the GNA pressure and the closing of the Yugoslavian border led to a Communist buildup in the Vitsi-Grammos areas. On 10 August, four GNA divisions attacked the concentration of guerrillas around Vitsi. This battle demonstrated the futility of guerrillas standing to fight well-trained and equipped regular forces. Within three days, the GNA with effective air support had overrun Vitsi. The Vitsi battle was hailed generally by the Greek press and the public as a sweeping victory.

Rapidly exploiting success, the GNA shifted its concentration to Grammos and on the night of 24 August, launched the Grammos assault. Severe casualties and the loss of large quantities of supplies and equipment were inflicted on the guerrillas, and the survivors fled individually into Albania. The *DAS* had been crushed, and the military threat to the security of Greece had been removed.

An Analysis

An analysis of the Anti-Bandit War indicates that Greek national forces prevailed over the bandits because of a combination of the cumulative impact of US military assistance, Communist errors, and Greek national persistence.

The prospect of the arrival of US aid staved off the threatened collapse of the Greek Government during the dark days of 1947. The subsequent US aid sustained the economy and enabled it to mobilize, equip, and supply large forces during 1948. Eventually, the full impact of US military assistance was felt during the offensive of 1949 when the tide was turned against the Communists.

By the end of 1949, Greece, through US military assistance, had been able to emerge from her previous precarious situation. As 1950 approached, the people of Greece were free to proceed to rebuild their war-torn econ-

omy and enjoy in relative peace the way of life for which they had fought against the Fascists, the Nazis, and the Communists over a period of 10 bitter years.

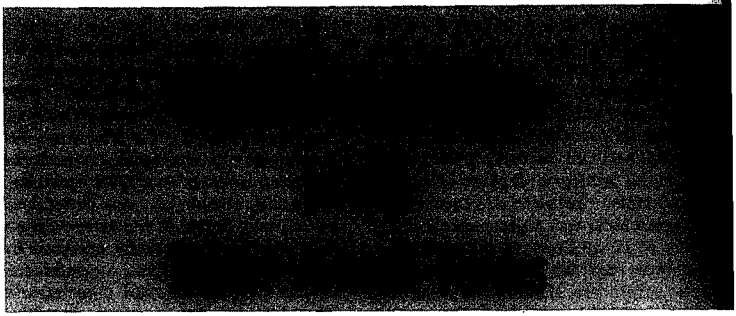
The Truman Doctrine established an operational link between US foreign policy objectives and military strategy in peacetime. Under the aegis of this national security policy concept, the military departments initiated four operational concepts in Greece which were to become the hallmark of US military strategy for the cold war era: the provision of large-scale military assistance; the aggressive use of US military advisors; the development of counterguerrilla tactics; and the acceptance of limited US involvement in military hostilities.

US military assistance to Greece represented the Nation's first peacetime effort at a large-scale military assistance program. After a year of military operations with little or no significant improvement in combat effectiveness, US military personnel assumed an over-all task embracing the logistic, operational, organizational, and training functions. But the cumulative effect of the arrival of US military equipment and the increased cogency of US military advice was in the end decisive.

The Anti-Bandit War entailed US involvement in a shooting war to which US military personnel were committed—three US military advisors were killed during this war. Yet there was no ideological crusade at home for general war. The sanctuary of bandit escape was not threatened by military force. Military operations in Greece were generally accepted by the American public as an extension of cold war diplomacy by other means. To this extent, the Anti-Bandit War was a harbinger of the limited war concept that was to appear in Korea and that was to reappear in the late fifties.

US military assistance to Greece had a twofold payoff. In the short term, it materially contributed to the national survival of Greece and her subsequent economic viability as a member of the free community of nations. In the long term, it served as the cradle for US military strategy for the first 20 years of the cold war.

From *Studies on the Soviet Union* (Fed Republic of Germany)



Nikolai Galay

AT THE end of World War II, the Soviet Army had the youngest group of generals in the world. Joseph Stalin was surrounded by 41 to 48-year-old marshals and senior generals. Today, these same senior officers, from 61 to over 70, are still on active duty, and the USSR finds herself with the oldest body of generals in the world.

The retention of these senior officers, which was due to special political circumstances, has created a bottleneck in promotion to the military's highest posts and has delayed the natural process of replacing older officers with younger ones. Reductions in force of the military establishment in the late fifties made the situation even more abnormal since many Soviet generals who were at the threshold of the highest posts were replaced by younger men.

In May 1960 a Ministry of Defense decree promoted 454 generals. These promotions were made in connection with Nikita S. Khrushchev's new military doctrine, proclaimed in January 1960, which made nuclear rocket forces the chief arm of the Soviet armed forces. The purpose of this doctrine was to offer advancement to younger men who were more in line with present-day requirements. This would accelerate the process of adapting all arms of the Soviet armed forces to the demands of the recent revolution in military technology.

During the next five years, the old marshals and senior generals will retire and will be replaced by men 45 to 55. This will be no ordinary replacement of senior by junior men, but a real takeover by one generation from another at all levels. The takeover is apparent if one examines those events which influenced each generation.

For the marshals and senior generals, the events were primarily the

Civil War of 1918-21—which gave them, as young soldiers or workers of czarist times, a fresh and promising start in life—and World War II—which found them as commanders of fronts or armies or in high positions in the military administration. It was not only their military knowledge that put them in these posts; more important was the political capital they had accumulated during the Revolution and Civil War.

The 45 to 55 year olds took no part in the Civil War, but were brought up on legends about its heroism. They experienced in their early years the period of limited prosperity resulting from the political concessions of the New Economic Policy, the trials of collectivization, and the purges of the 1930's when their senior officers disappeared without apparent reason and without any official explanation.

A considerable number of the older ones were obliged to take an active part in collectivization as members of

This article was digested from the original, published in STUDIES ON THE SOVIET UNION *(Federal Republic of Germany) Vol. V, No. 2, 1965.*

Mr. Galay is the Editor of the Bulletin, *also published by the Institute.*

the "Comsomol light cavalry" or else, as the sons of middle-class parents or the prerevolutionary intelligentsia, to cover up the compromising traces of their social origins. Some accrued their military and political capital by meritorious service in World War II.

The decisive elements in their outlook may be found in the heavy defeats at the beginning of the war; the patriotic upsurge during the second half of the war; and, finally, the awareness of their own achievements, including the victory that had been won by their efforts.

"Cold" Purge

Apart from the effect of such psychologically liberating influences, another feature of their mentality is the need they experienced to adapt themselves politically since they could lay no claim to revolutionary exploits or achievements during the establishment of the Soviet regime. This political timeserving was forced on them during 1948-53 when the cuts in military personnel began and the officer corps was subjected to a "cold" purge. During these years, this generation was subjected to renewed party indoctrination and purges in an attempt to restore the party's former domination over the army.

The oldest representatives of this generation are on the threshold of the upper military hierachy; some have even succeeded in penetrating it. The generation's younger members are now serving in high-level staff posts or command divisions and corps.

The difference in outlook between these generations is no greater than between the younger of the two and the next generation, the 30 to 40-year-old captains, majors, and colonels. With the exception of the older ones who served toward the end of the war, this generation did not take part in the war. The youngest were children at the outbreak, and the oldest were adolescents.

All grew up in a wartime atmosphere of enthusiastic patriotism, artificially inflated to the degree of national political messianism. This generation's first really vivid impressions were derived from this patriotic upsurge and the youthful desire to commit some feat of heroism such as was constantly being described to them.

In this atmosphere, the older ones worked in munitions factories while the younger ones went to school. From 1943 on, many orphans entered special homes or one of the newly created cadet schools. A letter to the editors of *Krasnaya Zvezda* (*Red Star*) by a captain, born in 1934 and later orphaned, gives us an idea of the experiences and the spirit of those members of this generation who remained in the army after enlistment and attained commissioned or noncommissioned rank.

War Orphans

This letter is typical of many representatives of this generation which largely consists of war orphans. Although the writer expresses his gratitude to his country, he gives a distinct impression of reserve, avoiding the usual artificial expressions of joy at "participating in the building of communism." He attempts to trace his former comrades in the orphans' home, remarking that many of them are in the army. Such letters are generally written by lonely people who have no close contact with their environment.

This isolation is due to something more than the situation of a former inmate of an orphans' home who now finds himself surrounded by more priv-

ileged comrades. Rather, it is the isolation that separates the whole of this middle generation of servicemen from their civilian contemporaries who left the army after having completed their two years of compulsory service. After a couple of years of humdrum life in the ranks and after having experienced some of the trials of life as civilians, their childish ideals began to fade, and their former notion of what the army officer stands for lost its nimbus.

Effects of Isolation

These men are no longer in the Comsomol, and only a minority are in the party. Thus, their outlook and their state of mind differ sharply from their contemporaries in the armed services. Isolation is the inevitable result. The effects of this isolation are reinforced by the natural preoccupation with one's own professional interest and the isolation of life in small military settlements—in many cases, remote garrisons. The outlet provided by family ties is an inadequate antidote.

Therefore, the middle stratum of army officers, the stratum which determines the character of an army, is distinguished by two psychological features: a certain feeling of inferiority because they have seen no fighting, and the feeling of being isolated from their civilian contemporaries. This feeling of inferiority is compensated for, to some extent, by the knowledge that they have a high standard of education and professional training—the latter in a sphere highly important in the present age of nuclear warfare in which their seniors have no fighting experience either.

The bulk of the Soviet armed forces is made up of men who were born between 1935 and 1945. For these men the Stalin period belongs to the distant past and has left almost no impression on them. Half of them did not experience the patriotic upsurge of the middle generation. How strong the desire to serve the state as soldiers is among these "war babies" is difficult to say.

The oldest of this generation experienced the unmasking of Stalin in 1956 while they were young soldiers

Nikita S. Khrushchev was removed from power without support or interference from the Soviet armed forces

or students. Their memories of the political and cultural "thaws" of 1954-57 and 1959-61 are interlarded with ideological "frosts." All this could scarcely help to strengthen the outlook of young people who had been subjected to such shocks in their childhood.

One can say that the searchings of the more independently minded of this generation during the early sixties are evidence of a strength of mind sufficient to prompt these young people to look for new leaders and mentors—and not among the leaders of the Communist thought nor necessarily among the representatives of their own nation. This view is borne out by Soviet literature and the Soviet press.

Common features distinguishing this generation from older generations are a youthful outlook and a youthful set of values. All this serves to create an entirely new atmosphere in the armed forces. It compels their immediate superiors, as well as representatives of the older generation,

Marshal Rodion Y. Malinovsky accused his predecessor of neglecting the nuclear development of the Soviet armed forces

to recognize that the outlook of the younger generation has undergone a change and to adapt their methods of training and handling accordingly.

Evidence of this may be seen in the new army regulations introduced in 1960 as part of Khrushchev's reforms for switching the Soviet armed forces from the old unreasoning discipline to a new type of individual self-discipline designed to develop initiative in all ranks.

The "relief of generations" will be more than a relief of an older by a younger shift; it will be a change of eras, each of which has left its stamp on the minds of those representing it. Consequently, when the current group of aged marshals and senior generals disappears from the scene, the gap separating the youngest (20 to 30) and the oldest (45 to 55) groups will be just as great as it is now, for the present middle stratum will be incapable of even partially filling the gap.

Reasons for Gap

There are a number of reasons for this. In the first place, there is the usual problem of the incompatibility of the generations. In an ideocratic state, this is reinforced by the ideological conformism of the army's older generation which belongs to the "upper class" not only of the army, but of the whole of the nation's society.

There is also the military technical revolution whose effect is different on each generation. In view of the rapid progress made in the new era of military technology, young people are ceasing to be impressed by the political dogmas imposed from above.

Finally, there is the rapid evolution of society under the impact of this technical and economic progress. This social evolution exerts a greater effect upon the younger generation.

According to the Soviet view, the military revolution has two aspects: the emergence on a large scale of new weapons—nuclear warheads and carrier missiles—and the process of supplying the armed forces with this new equipment; and the "revolution in outlook" of Soviet servicemen which finds expression in a new attitude to their work and duties.

The younger and middle generations are so impressed by the new weapons that they are becoming deeply skeptical of conventional weapons. Their

interest in technology prompts them to study its newest forms which invest the crews concerned with a special aura in the eyes of their comrades and almost raise them to the status of spacemen. On the other hand, these new weapons contain the threat of a nuclear war in which few will have a chance to survive, and this prompts youths to have a good time while they have the opportunity.

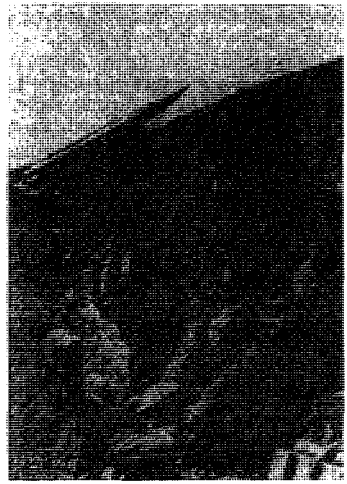
Technical Specialties

Today, a considerable number of officers of the middle generation are attending technical military academies or special courses in the new technical specialties. This will open the possibility for promotion and compensate for their lack of direct war experience. They strive to excel in mastering the new equipment, and a number of them have recently been decorated with the military Orders of the Red Star and the Red Banner and with medals for valor. These awards now equalize their status with the war veterans in the older generation.

The military revolution was met by the majority of the old marshals with distinct reserve. When Marshal Georgi K. Zhukov was removed from his post in 1957, his successor, Marshal Rodion Y. Malinovsky, accused him not only of political lapses, but also of having neglected the nuclear development of the country's armed forces.

Hence, when Khrushchev proclaimed his new doctrine in 1960, the attitude of the older generation to the problems posed by the military revolution served Khrushchev and his military advisors as a criterion for dividing this generation into two categories: those whose ideas were out of date, and those who were still capable of rendering useful service.

Those whose names were not renowned in battle and who did not occupy the very highest positions in the armed forces were removed. Although a considerable number of the senior marshals and generals adopted a critical attitude to the reform, political considerations made it necessary to keep them in the army. With four or five exceptions, however, they were virtually removed from positions of responsibility and decisive authority. New positions were created for them, and so there came into being the group



The complexity of modern military equipment required the abandonment of older forms of discipline based on blind obedience to official dogma

of "general inspectors"—a kind of old marshals' home.

To members of the older generation, the abandonment of the older-type discipline based on blind obedience in favor of individual self-discipline, with its greater flexibility of relations between commander and subor-

dinate, must have seemed risky and even dangerous. Nonetheless, the ever-growing technical modernization of the army demanded a change.

In all the armies of the industrial countries, technical modernization long ago necessitated the adoption of new relationships between commander and subordinate, particularly when the latter was a qualified technician. The complexity of equipment no longer permits a senior officer to be better acquainted with this varied and complicated equipment than his subordinate, a specialist in the field.

Consequently, an order becomes something in the nature of a commission which has to be further elaborated by the subordinate entrusted with it; the latter, therefore, carries a special responsibility, and his relation to his superior officer acquires a new character.

Progressive Reforms

Khrushchev's reforms in the field of discipline may, therefore, be regarded as progressive, placing reliance on the educated and intelligent soldier who shows initiative. By their very nature, however, they created extraordinary difficulties for ill-prepared commanders at all levels, especially since under a totalitarian regime initiative and independence of thought are virtually irreconcilable with official dogma and official plans.

To what extent these difficulties have been overcome is impossible to say. The reformers staked their position on the disciplinary effect of modern equipment, demanding that troops, particularly those serving the new weapons, show unfailing vigilance and preparedness. The constant maintenance of equipment in a state of readiness for action automatically develops in the crews a sense of order, guarantees their technical competence, and insures the proper organization of their work, thus developing the modern type of discipline.

Few of the marshals have been given an active part in promoting the revolution in military techniques. As for the other section of the older generation (45 to 55), and even more the present middle generation (30 to 40) who are completely caught up in modern technical developments, the contemporary military revolution may be said to amount to a technocratization of these groups.

Such a process, especially for the middle generation, usually leads to a weakening of the political base among the entire stratum of the technocrats. This justifies the assumption that, after the politically conditioned marshals and senior generals have disappeared from the scene, the Soviet armed forces will become weakened as a domestic political factor.

Political Influence

By occupying the army with nuclear exercises, Khrushchev diverted it from domestic politics, a fact which manifested itself when he was deposed. Khrushchev's removal was carried out without any support or interference from the armed forces. This provides grounds to expect that, with the technocrats of the present older and middle generations politically neutralized, the influence of the political apparatus on the army will increase. This development is already noticeable in the increased importance in the army of the system of state and party control, and consequently also of the state security system.

Such a situation implies not only advantages, but also a certain danger for the political authorities. An army with its senior and middle strata of

officers politically neutralized cannot of its own accord come to the defense of the government, just as it failed to come to the aid of its former commander in chief, Khrushchev.

Even greater surprises and dangers are implied by this process of dwindling political ambitions among the army's ranks insofar as the younger generation is still engrossed with political problems and consequently less affected by the military revolution than the middle and older generation.

Governing Factors

This is due to a number of factors. In the first place, there is the limited length of service of the younger generation, consisting mainly of privates and noncommissioned officers performing their national service. There is also the high average educational standard which characterizes even the lower ranks and which insures a certain level of judgment. Finally, there is the added effect of the country's social evolution which exercises a stronger influence on the younger than on the older and middle generations.

The younger generation in the armed forces is separated from its elders by a considerable psychological and social gap which did not exist before World War II. There is every reason to suppose that this gap will widen as new contingents are called up for military service.

Bearing in mind all these influences and factors, the following observations may be made regarding the general character—the physiognomy, so to speak—of the Soviet armed forces during the next 10 or 15 years and the practical effects that may be expected from the takeover by one generation from another.

● At the present stage, the following features may be pointed out:

At the highest level, posts are being occupied by people who combine a high educational level with a loyalty to the regime due to the national-Communist elan which they experienced during the war. Their political ambitions are, however, less pronounced than those of their predecessors—the aged marshals and generals.

In the middle strata, as a result of the promotion of technical specialists and professional soldiers to responsible posts, political ambitions and ways of thinking will find themselves cramped by the demands of technology, particularly as these officers are to some extent psychologically isolated from their civilian contemporaries. It may be expected that this stratum will be entirely in the hands of the army's political apparatus and the system of state and party control.

In the lower echelons is a heterogenous, restless, ideal-seeking, somewhat skeptical generation—extremely susceptible to influence from outside, but in an ever-diminishing degree to that of party indoctrination. Of all three generations, this is the one that is politically the most keenly interested and intellectually most demanding. The representatives of this, the youngest generation, show a certain intellectual or spiritual relationship to the skeptical middle generation of civilians, but not to the middle generation of officers.

● As younger men take over at the highest level, the Soviet armed forces will lose some of their importance as a factor in domestic politics. The party is acquiring a stronger influence over the army than it had during the preceding period.

- The psychologically unstable situation in the lower ranks is a chronic phenomenon which places the whole of the complex modern technical apparatus on a politically unsure foundation since the senior and middle generations, which are firmly in the party's hands, have no strong links with the lower ranks.
- In view of this situation, the technocratization of the senior and middle strata may prompt the Soviet leaders to adopt the idea of a small professional army which the Soviet armed forces already have to a certain degree, possessing as they do a higher proportion of officers and noncommissioned officers than any other army in the world. The aim of such a transition to a professional army will be to neutralize the political unreliability in the junior ranks.

AWARD PROGRAM

The Military Review Award Program provides that:

- **Outstanding articles, without limit as to number, are recognized as Military Review Award articles.**
- **All authors of articles published originally in the Military Review are eligible to receive the award.**
- **The criteria by which articles are judged are accuracy, authoritativeness, completeness, originality, readability and reader appeal, soundness, substance, and over-all military value of the article.**
- **Authors of award articles receive a $25 bonus and an engraved certificate in addition to the usual honorarium.**
- **Award articles are announced after publication, in subsequent issues of the Military Review.**

The Division Administration Company

Where Does It Belong?

Lieutenant Colonel Paul T. Smith, *United States Army*

THE proper organizational placement of the administration company within the division has been widely discussed for several years, particularly by administrative planners and operators. The basic question is whether this company should be organic to the division support command (DISCOM), or assigned directly to division headquarters in the same manner as the division headquarters company. Despite current doctrine, several divisions have developed their own unique solutions to this controversial problem.

Divisions have now operated under the Reorganization Objective Army Divisions (ROAD) concept for more than two years. This has provided some experience from which to reexamine current doctrine and to consider some factors which should influence the proper placement of the administration company in the division structure.

In 1942 the division had a separate service company assigned directly under division headquarters on a coequal basis with the division headquarters company. The service company was the carrier unit for the headquarters rear echelon personnel, while the division headquarters performed the same function for forward echelon personnel. In 1944 the division service company was eliminated. Rear echelon personnel were assigned to the division headquarters company, but they were attached to division trains for administrative, mess, and service support.

Today, personnel of the rear echelon of division headquarters are assigned to the administration company which is a subordinate unit of the DISCOM. It is interesting to note that throughout the past 20 years, while rear echelon personnel were shifted from one organization to another, the status of the forward echelon personnel has remained unchanged. They have been, and still are, assigned to the division headquarters company under the direct control of division headquarters.

Under current doctrine, the mis-

sion of the DISCOM is to provide division level supply, field maintenance, medical services, and miscellaneous services for all elements of the division, assigned or attached.

The administration company is to serve as a carrier unit which provides support for certain elements of the special staff. The division headquarters company is to provide administrative, supply, maintenance, mess, and unit level medical support for the division headquarters and headquarters company.

Operational Doctrine

By present operational doctrine, the administration company operates in a manner similar to a division headquarters company. Its commander's relationships with the organic staff sections are similar to the relationship between the division headquarters commandant and other division staff officers. The administration company comprises the rear echelon of division headquarters.

When the division rear echelon is established, the administration company commander functions as headquarters commandant of the division rear echelon, and assumes the duties and responsibilities of a headquarters commandant. During tactical operations, the administration company comprising the rear echelon of division headquarters is normally located separately from the DISCOM.

Lieutenant Colonel Paul T. Smith is assigned to the Office of the Special Assistant to the Chief of Staff for Army Information and Data Systems, Washington, D. C. He has served with the 2d Armored Division, and the 1st Cavalry Division. He holds a Master of Business Administration from the University of Maryland, and is a 1965 graduate of the U. S. Army Command and General Staff College.

There appear to be some inconsistencies in the various doctrinal publications pertaining to the administration company. Some publications state that the DISCOM commander's responsibility for the administration company is limited to tactical, security, and movement aspects. Yet Field Manual 12-11, *Administration Company, Airborne, Armored, Infantry and Mechanized Divisions,* states that the DISCOM commander is also responsible for unit level administration. Field Manual 54-2, *Division Logistics and the Support Command,* states that he is responsible for tactical training.

Tactical Operations

Field Manual 12-11 states that the adjutant general, as the officer in charge of the division rear echelon, is responsible to the DISCOM commander for the tactical operations performed by and at the rear echelon. This would seem to imply that the DISCOM commander should exercise his tactical control of the administration company through the adjutant general. This is supported by the statement that the adjutant general is the immediate supervisor of the administration company commander at all times.

But what about the DISCOM commander's responsibility for unit level administration and tactical training? Should he deal directly with the administration company commander on these matters? If he did so, it would seem to be inconsistent with the doctrine that the adjutant general is the immediate supervisor of the administration company commander at all times.

Because of the seeming inconsistencies in current doctrine, the adjutants general of each of the 16 active divi-

INFANTRY DIVISION ORGANIZATION CHART

sions were so polled in August 1965. Twelve replies were received and there proved to be wide variations in the methods of controlling the administration companies in these divisions, and in exercising personal supervision over the administration company commanders.

Direct Control

In three divisions, the administration company has been detached from the DISCOM and assigned directly under division headquarters along with the division headquarters company. In these three divisions, the adjutant general exercises direct control over the administration company. He prepares the efficiency report on the administration company commander, and the chief of staff endorses it. The adjutants general of these three divisions reported that no difficulties had arisen between the administration company and the division headquarters staff sections.

In the other nine divisions, the administration company is still organic to the DISCOM. In four of these divisions, however, the adjutant general shares control over the administration company with the DISCOM commander. In these four divisions, the adjutant general prepares the efficiency report on the administration company commander, and the DISCOM commander endorses it.

The adjutants general of these four divisions reported that problems frequently arise which require personal time of the DISCOM commander and the adjutant general for resolution. Most of these problems concern conflicting requirements placed on administration company personnel by the DISCOM commander and chiefs of division headquarters staff sections where personnel of the company work. Some of these problems require decisions by the chief of staff because neither the DISCOM commander nor the adjutant general has proper authority to resolve such conflicts.

In the remaining five of the nine divisions where the administration company is organic to the DISCOM, neither the adjutant general nor any other division staff officer has any degree of control over the administration company as a unit except when the division headquarters is actually echeloned. When the headquarters is echeloned, the adjutant general is the officer in charge of the rear echelon and, as such, exercises control over the administration company.

Frequent Conflicts

In two of these five divisions, the DISCOM executive officer prepares the efficiency report on the administration company commander and the DISCOM commander endorses it. In the other three divisions, the report is prepared by the DISCOM commander and endorsed by one of the assistant division commanders. The adjutants general of all five of these divisions reported frequent conflicts between the DISCOM commander and chiefs of division headquarters staff sections concerning personnel of the administration company.

In all 12 divisions, the adjutant general is the officer in charge of the division rear echelon when the division headquarters is echeloned. Doctrine on this point seems to be consistent both in interpretation and application.

However, the lack of consistency in the methods used in active army divisions for controlling the administration company and supervising the company commander would seem to indicate that either the current doc-

trine is not clear, or that it does not meet the needs of the divisions to which it is supposed to pertain.

The mission of the administration company is similar to that of the division headquarters company. The division headquarters company serves as the carrier unit for personnel assigned to the forward echelon staff sections of division headquarters, and provides support to the forward echelon both in the field and in garrison. The administration company performs a similar mission for personnel assigned to the rear echelon staff sections of division headquarters.

Functional Operations

The DISCOM commander's mission does not include responsibility for any of the functional operations of the division staff. He is not responsible for any of the division-wide support operations performed by the staff elements whose personnel are assigned to the administration company, such as personnel management, financial service, and personnel replacement operations. There is no homogeneity between the primary mission of the support command and that of the administration company. There is, however, a marked similarity between the missions and functions of the division headquarters company and the administration company.

Virtually every textbook on the subject of organization cautions against fragmenting supervisory authority for related functions unless such fragmentation is necessitated by the magnitude of the supervisory task. It is difficult to reconcile this basic tenet of management with the fragmentation of division headquarters into two units (headquarters company and the administration company), one organic to division headquarters and the other organic to the DISCOM. It must be obvious that the rear echelon is just as much a part of the headquarters staff as is the forward echelon. The chief of staff is no less responsible for the one than for the other.

It must also be recognized that the present doctrine places the administration company commander in a highly undesirable position. Except in the three divisions where the administration company has been detached from DISCOM and placed under division headquarters, the administration company commander must report to both the division adjutant general and to the DISCOM commander.

Close Coordination

Since the primary purpose of the division is to be prepared for combat, it is essential that the adjutant general have current standing operating procedures for the movement, establishment, operation, and security of the rear echelon at all times. Since the administration company commander serves as the rear echelon headquarters commandant, he must participate in the preparation and updating of these procedures as well as insure the readiness of the administration company to implement field procedures whenever required.

If a close working relationship does not exist between the adjutant general and the administration company commander at all times, the capability of the administration company commander to function effectively as headquarters commandant of the rear echelon will be seriously impaired. The administration company must try to satisfy the requirements of both the DISCOM commander and the adjutant general, and these requirements are not always compatible.

The division chief of staff is the single supervisor of the staff whether it is echeloned during field operations or whether it is operating as a single headquarters in garrison. As such, he must interest himself in any conflicts which arise between the DISCOM commander and special staff officers on the utilization of special staff personnel for duties not related to their primary jobs on the staff. For unity of command, it would seem that the chief of staff should have the same degree of direct control over the personnel of rear echelon staff sections as he has over forward echelon staff sections. Both are part of the total staff which he supervises.

There are times during field operations when it is not practical for the DISCOM commander to exercise tactical control over the administration company. Customarily, the rear echelon is located separately from DISCOM, and may even be in the corps rear area completely outside the DISCOM commander's area of responsibility. When the requirement does exist for the DISCOM commander to exercise tactical control over the administration company, it can easily be handled by making it a matter of division standing operating procedure and does not necessitate assigning the administration company to the DISCOM.

The rationale for giving the DISCOM commander responsibility for the administration company seems insupportable in view of the fact that there appear to be no such requirements for any major subordinate commander to assume similar responsibilities for the division headquarters company.

The entire problem turns on the point of the similarity between the mission and functions of the division headquarters company and the administration company.

At the very least, with the inconsistency of current doctrine, it would seem appropriate to have further study on the location of this company.

INTEGRITY versus PROFESSIONAL LOYALTY

This spring, I was invited to the U. S. Army Command and General Staff College to address the faculty and students on the subject of "Commandership and Generalship."

Following my talk, I was asked to comment on the problem of integrity versus professional loyalty when an officer is confronted with orders with which he has a strong disagreement.

I answered by citing two examples in my experience:

Once while a cadet, I asked a tactical officer a similar question. His answer was to carry out the order loyally, and then you were in a tenable position to recommend changes if warranted. I have followed this with good results.

In another instance, when I was Commanding General of the US Continental Army Command, we were charged with the service testing of an expensive and important piece of Army equipment. This was important enough to assign my deputy, a lieutenant general, to monitor closely. The tests went on for several weeks.

One day my deputy reported to me that the piece of equipment was not proving out satisfactorily. He was fully convinced of his position. I told him how serious and how sensitive such a finding would be. I directed that he call in several officers closely concerned with the tests for a conference with me. This was done and all were unanimous in supporting the position of my deputy. They had data and results to support them.

I directed that they prepare a personal letter, for my signature, to the Chief of Staff of the Army setting forth their findings and conclusions with supporting data and information. After approving and signing it, I had my aide deliver it by hand to the Chief of Staff.

Within 48 hours I had a phone call from the Chief of Staff. He was disturbed. He told me how serious this was, how important the equipment was, and how, not only the United States but, an allied power was interested in it. He wanted us to take a positive approach and proceed with the program.

My reply was that I felt I owed him the loyalty to bring the facts as I believed them to his attention, and having done that, I was prepared to carry out fully his further instructions.

This we did. Two units of this equipment were formed, trained, and deployed. They were finally phased out of the troop basis because of the deficiencies we had discovered previously.

The morals of this true story are:

- The Chief of Staff was in a position to know of considerations and factors of the highest importance which I could not know.
- I had satisfied both my integrity and professional loyalty, as well as my duty to my superior. I was now free to proceed without compromise on my part.
- To take a negative or an "I told you so" attitude would not have been becoming to a member of a team, all members of which were dedicated to doing their best for the Army and our country.

General Bruce C. Clarke, Retired

INTELLIGENCE, VIETNAM

Major Donald G. Bennett, *United States Army*

DURING the past five years, the Viet Cong (VC) have acquired a reputation for elusiveness bordering on a mystique. It has been said that old intelligence collection methods were ineffective against this enemy. Despite the psychological advantage which the Viet Cong may have gained by this reputation, the Army Republic of Vietnam (ARVN) has achieved frequent success by following commonly accepted intelligence principles.

Intelligence operations vary with the level of command, and the techniques which I discuss are those used at division level, specifically the 9th Infantry Division of the South Vietnamese Army in 1965.

From the initial stages of the Vietnamese insurgency, the intelligence problem has been one of locating VC bases so that the ARVN can concentrate its available combat force at a place and time to its advantage. Unlike other aspects of military operations, intelligence requirements remain basically the same as those of World War II—enemy, weather, and terrain. Combat intelligence organizations at sector, division, and corps reflect the US organization of a di-

vision G2 section. The question is whether the G2 section organized for a conventional war is effective in meeting the intelligence requirements of an insurgency.

Intelligence Tasks

The task of the Vietnamese intelligence officer has been to determine what part of each province was under such degree of VC control that they were able to hide company and battalion-sized units. After the base area itself was defined, each base's security, internal organization, and escape routes had to be studied before a successful attack of the base could be launched. The Viet Cong seldom decided to stay and risk defeat within their own bases if escape from engagement with ARVN forces was possible.

More recently, VC units, their combat effectiveness increased with infiltrated weapons, have often established temporary bases from which either to ambush or lure ARVN units into an entrapment. Regardless of VC tactics, the ARVN commander depended on his G2 organization to provide him the necessary intelligence.

At sector and division intelligence centers, interrogation reports had accumulated for two to four years. Many of those reports were very brief —information obtained from low-level guerrillas who had defected or had been captured. In many cases, the interrogation was not conducted by skilled interrogators, but by a district chief or the individual who had final custody of the guerrilla. The information was spotty, but contained elements of the guerrilla squad organization, its hiding places, and its weekly schedule.

Graphic Portrayal

Occasionally, a province or district-level VC cadre defected or was captured. By carefully reading the interrogation reports and plotting the information, a graphic portrayal of the VC organization in a given area or province developed. Previously gained knowledge of VC doctrine, such as lower echelon protection of the higher echelon, was applied. This depicted the base areas, locations of communications routes, and the security outposts manned by the guerrillas.

Naturally, the picture was never complete. Therefore, future interrogations were directed toward those voids. A review of daily interrogation progress normally helped formulate new questions for the next day. The reviews were conducted by the Order of Battle officer or the G2. A fresh mind, with access to more information than the interrogators, was essential if the review was to achieve the desired results.

Information obtained from interrogation was checked against existing information and recorded. Daily records contained such data as attacks, harassments, kidnapping, sabotage, propaganda, ambushes, and subversive demonstrations. Each recorded incident was placed in one of these categories and became a history of a given insurgent action including the results.

Maintaining the extensive detailed records and research consumed a tre-

Major Donald G. Bennett is assigned to the 218th Military Intelligence Detachment (Airborne Corps), Fort Bragg, North Carolina. He is a graduate of the 1966 Spring Associate Course at the U. S. Army Command and General Staff College and in 1964-65 was Assistant Division G2 Advisor for the 9th Infantry Division, Army Republic of Vietnam.

mendous number of man-hours, but this was the only satisfactory method of producing accurate current intelligence. Spot reports from outpost and hamlet to district, district to sector, and sector to division made up most of the daily information which went into the VC activity files.

If the captive or defector had been involved in one of the incidents recorded in the files, his information was compared with that already known. When the two coincided, the interrogator felt he could proceed with some assurance of getting accurate information. In actual practice, the proper steps frequently were not taken to determine the accuracy of information obtained by interrogation.

Courtesy of author

Captured documents reflected unusual value to the intelligence effort

Recorded information was only as useful as the ability of the intelligence officer to interpret it. To process the raw data into intelligence, all information of VC activity was plotted on a situation map and the frequency of similar incidents in one area displayed on a graph. The graph allowed an analyst to determine which types of units or cells were responsible for various actions, thereby producing an estimate of guerrilla capabilities in a given area. By combining the situation map and the graph, VC trends, objectives, strengths, timetables, and patterns of activity were developed.

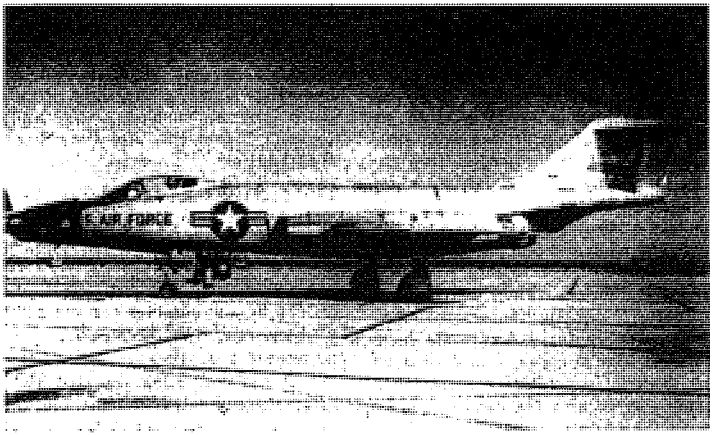
Reliable Collection Agency

Debriefing proved to be an effective method of collecting information about base areas. The search and destroy operation of the Vietnamese war provided an excellent opportunity to obtain information from advisors and key counterpart personnel on their return. An example occurred when an ARVN regiment with an armored carrier troop received the mission of attacking a VC provincial base. This base contained a mobile battalion, the VC provincial commissar, and other elements of the commissariat. The Viet Cong controlled the area administratively, and no agent had effectively penetrated the VC security.

The scheme of maneuver involved a direct penetration of the base. As a result of past operations against the same base, changes in the position of blocking forces were included so that the VC battalion would be forced into a pocket to permit more effective use of artillery and air support. The preparation included a briefing of commanders and advisors by US Air Force and intelligence personnel on recent activity by the target VC unit, locations of antiaircraft weapons observed during the last airstrike, the arrangement of fortifications photographed by an *OV-1 Mohawk* reconnaissance team, and the pilot's report from the

previous day's *Mohawk* visual reconnaissance.

The informal briefing gave key personnel everything available about the enemy force. In addition to an intelligence preparation for the individuals concerned, it served as a springboard for the debriefing which would follow the operation.



The *RF-101* is ideally suited for photoreconnaissance of Viet Cong-controlled areas

Contact was made with the VC provincial battalion in the afternoon of D-day. Information which came from the operational units in contact was brief. Only essential details were reported.

The operation continued with two ARVN battalions and their advisors splitting up into search elements throughout the VC base as much as security and tactical integrity permitted.

Four days after the operation had begun, the units returned, and key personnel were debriefed. Along with the information obtained through observation, there was the bonus of material gathered up in the process of the search—flags, documents, and shell casings; all this in addition to the captured material taken during and shortly after the period of heavy contact on the first day of the operation. The most important information consisted of VC tactics, firepower, organization of terrain, efforts to neutralize the effect of artillery and airstrikes, and administrative organization of the combat hamlets.

To preserve the information obtained from debriefing, detailed overlays and annotated aerial photographs were the most expedient and effective means. For the less tangible information, a narrative report was the only answer, particularly when the information was to be transmitted to higher headquarters.

Captured documents were even more important than debriefing as a source of information. Types of documents which reflected unusual value to the intelligence efforts were VC situation

reports, estimates, plans, intelligence directives, personal notebooks, and records of VC military units. A document's true value often depended upon the manner in which it was exploited.

At the sector and division intelligence section, the Military Security Service frequently was able to obtain leads from personal notebooks. In addition to names and unit designations, notebooks may yield notes made by the owner during meetings, such as the concept of operations when receiving an operations order. One entry in a personal notebook, made by the commander of a VC provincial mobile company, helped clear up the mystery of a new VC unit's place in the organizational structure of VC regional forces. The interrogator achieves a quick psychological advantage when captured documents have enabled him to speak with assurance on concepts, organizations, and other details concerning the enemy.

Source of Supply Reflected

The tactical exploitation of captured materiel generally complements information obtained from documents. The type of weapon identifies the unit using the weapon almost as positively as if a sign had been left behind by the Viet Cong when they withdrew. In one situation, disputed VC operational boundaries were determined by the VC unit's use of old US 57-millimeter recoilless rifle ammunition rather than Chinese Communist ammunition of the same type consistently found in another battle area less than five kilometers away.

Systematic aerial reconnaissance over a VC-controlled area provided excellent results. The US Air Force *RF-101 Voodoo* is ideally suited as a high-performance jet photoreconnaissance plane. The US Army *Mohawk* operating at low level achieved needed surprise. Its photo capability, coupled with an experienced observer-pilot team, approached the optimum in aerial reconnaissance. Equipped with electronic surveillance gear, such as sidelooking airborne radar (SLAR), the *Mohawk* detected VC night movement. Followed up with daylight reconnaissance and, if warranted, an immediate airstrike, the night surveillance program enabled ARVN units to react before the Viet Cong knew they had been discovered.

Light Reconnaissance Aircraft

Full credit should also be given to the *L-19 (O-1F) Bird Dog* light reconnaissance aircraft. With an average flying time of four hours, the *O-1F* pilot and observer can hang like a blimp over a VC area and observe movement that goes on below. One US Air Force pilot reported that, after three months of watching one area, he could even detect the VC soldiers leaving home for their military base in the morning. A point to remember here, however, is that when the pilot was reassigned, the information he had so carefully collected from hours in the air would have been lost forever had it not been recorded in daily journals and on a master situation map.

Probably the most used and least reliable means of collecting information was the secret agent. In theory, the secret agent was basically a line crosser. Realistically, the agent became a substitute for reconnaissance patrols, without the military control of a patrol. Reliability of information varied widely with the agent.

The ideologically motivated agent might deliver information he sincerely

believed to be completely accurate. However, his sources of information within the VC-controlled area, usually his family, were almost always under VC influence. For the agent to claim that he had actually entered the area, collected the information through observation, and successfully returned was usually unbelievable because of VC travel controls. It took time to determine the agent's accuracy by other means so that reliability could be established.

As a result, all agent information usually received a middle-of-the-road evaluation for reliability and accuracy—fairly reliable and possibly true. This evaluation was so uniformly applied that no intelligence officer above the handling agency could determine if the agent was actually reliable.

The intelligence officer in Vietnam has the responsibility of application and continual assessment. While individual collection techniques remain unchanged from their general war application, the sequence or introduction of each technique requires centralized planning and control.

Since there are never enough resources to satisfy every demand, the intelligence officer has to arrange his resource commitments daily. He cannot afford the luxury of a routine surveillance plan. The nature of insurgent warfare virtually preempts complete intelligence success, but it does not excuse the lack of daily program assessment.

Whether in the cities and hamlets of Vietnam, or in the ghettoes of our own cities, the struggle is the same. That struggle is to end the violence against the human mind and body—so that the work of peace may be done and the fruits of freedom may be won.

President Lyndon B. Johnson

Creative Thinking and the Military Profession

Lieutenant Colonel Kenneth M. Hatch,
United States Army

THE term "creative thinking" is one that is seen and heard frequently in discussing the actions and characteristics of the military profession. In psychological literature, "creative thinking" designates a complex of operations of the intellect, as yet only partially understood, and not fully defined in rigorous terms.

Dr. Bernard B. Goldner, of the Harvard Graduate School of Business Administration, says: "Creative thinking is organized, comprehensive, imaginative activity of the brain toward an original outcome." He goes on to emphasize that the "original outcome" must be a tangible, useful result, and that: "Nothing creative really takes place until a question or a problem or a need exists." From this, and other definitions, it can be concluded that creative thinking is really a special case of problem solving. Basic to any Rand Corporation study is the assumption that problem solving is creative thinking to the extent that one or more of the following conditions are satisfied:

- The product of thinking has novelty and value.
- The thinking requires modification or rejection of previously accepted ideas.
- The thinking requires persistence.
- The problem as posed is vague, so that part of the task is to formulate the problem.

It is instructive to examine the intellectual qualities that contribute most to creative thinking. Until recently, it was believed that the ability to generate a quantity and variety of output—ideas and solutions—from given information was most important to creative thinking. Recent tests

have shown that the ability to change known information, or its use, is more important, and that the other factors, although important, are secondary. Among these top factors are:

- The ability to abandon conventional problem-solving methods that have become unworkable, and to use new ones.
- The ability to reorganize elements of a structure in such a way that they will have new functions.
- The ability to give up one visual pattern in order to see another.
- The ability to recognize problems.

These factors signal hard mental work rather than flashes of inspirational genius.

Stimulants and Obstacles

It is obvious that the ability to think creatively is innate, to some extent, in every person. One of the prime factors that serves to stimulate innovation is motivation. The individual must have the thrust to make a conscientious mental effort to be creative. Part of motivation must be an awareness of the importance of new ideas. An expectation of suitable reward further enhances motivation.

Another stimulating factor is a permissive atmosphere. This is one where the individual is free to express his thoughts, and where his ideas are received with trust and respect.

On the other hand, obstacles to creativity are the inverse of the above, characterized by lack of motivation, or passivity, and the presence of a nonpermissive atmosphere. Here, would be found an unawareness of the importance of ideas, an expectation of no reward or of negative reward —such as ridicule or punishment— and a dearth of receptiveness or respect for individual ideas.

Additional strong deterrents are found within the individual. One is the misconception that only the highly gifted are capable of thinking creatively. Another is the belief that mysterious intuition is solely responsible. The greatest block of all is insecurity, or fear of criticism. Some other deeply psychological blocks include habit transfer, group thinking, and perceptual, cultural, and emotional blocks.

Military Thinkers

Every concept employed in the military profession today was made possible by someone's creative thinking. Each change in concept, doctrine, and weaponry which has contributed to the increase in military effectiveness was at one time an infant idea of a military thinker. The contributions by Karl von Clausewitz, Alfred von Schlieffen, Giulio Douhet, and Alfred Thayer Mahan were momentous. While the names of many other thinkers are less well known, their contributions have been important for they filled in the gaps and voids.

Much of the change in today's world has military force behind it. Major advances in medicine, communications, flight and space travel, and in nearly every field of basic sciences are being energized by the need to

---

Lieutenant Colonel Kenneth M. Hatch is in Korea where he commands the 2d Engineer Battalion, 2d Infantry Division. He holds a Master of Science degree in Civil Engineering from the California Institute of Technology, and is a graduate of the U. S. Army Command and General Staff College, the Armed Forces Staff College, and the US Army War College. His article, "The Critical Path Method and Military Planning," appeared in the May 1966 issue of the MILITARY REVIEW.

pull ahead militarily. The challenge to the military profession is to produce and implement creative thinking in order to change that about it which needs to be changed, and to conserve that which needs to be conserved.

The United States has been doing well in the scientific contest. The great need is for imaginative concepts of strategy, tactics, organization, and doctrine.

Strategy and Tactics

In this nuclear age, no subject is more important than strategy. The survival not only of the Western World but the entire world, may depend on an adequate strategy. Some observers proclaim that military professionals have defaulted their responsibilities in the generation of strategy, and that civilian scholars have found it necessary to step in to help fill the void. But even with the major contributions of civilian strategists a large void exists. Strategy has simply lagged behind technological development.

If the military professional does not embark on creative thinking and writing in the field of strategy, he may soon surrender his right, as a military professional, to claim expertise in one of the principal aspects of his profession. Certainly, the capability to perform meaningful studies in the unexplored fields of modern strategy lies dormant in the minds of many of our military professionals. To allow this talent to remain latent, for any reason whatsoever, is to deny this Nation a major source of strength.

Creative thinking is a fundamental requirement for the study of strategy. The military strategist must sort out and formulate the problem he wishes to address. His thinking will have to be of long duration and high intensity. His thoughts are likely to involve the modification or rejection of previously accepted ideas. If his results are based on sound observations and logic, they will have value.

Tactics makes the same immoderate demand for creative treatment. In this modern age, the difference between tactics and strategy becomes less distinct as the tendency toward centralized control grows. The study of tactics becomes more complex as new weapons and hardware are introduced, and as the battlefield takes on greater dimensions with added communication and transportation capabilities. The broadened spectrum of warfare and the emergence of remote parts of the world as likely conflict areas further complicate matters.

Progress has been slow. Good tactics for defeating insurgents remains to be developed. How will tomorrow's war be fought, and how must the services prepare for it today? Questions such as these are answered only by a constant change in tactics and constant creative thought. The thinking should be done not only by the professionals who are assigned the task, but by every military professional capable of contributing.

Organization and Doctrine

Military organizations and military doctrine cannot remain static. The organization and doctrine that won the last war may be ill-suited to fight the next one. A high order of creative thought is required to devise alternatives to existing concepts. It takes study and new ideas.

Creative thinking is an important part of leadership. Navy-sponsored studies to investigate the relationship between certain intellectual-aptitude factors and military leadership found that creativity correlated highly with

leadership. Another study found that creative thinking by members of a unit was strongly influenced by the leader. General Lyman L. Lemnitzer has said that imagination makes the difference between the merely reliably competent and the outstanding.

Creative thinking is essential to effective military planning. Psychologists have performed studies to isolate the abilities that are important in planning. They include those common to creative thinking. It is possible to resort to "cookbook" methods, touch up old plans, or adapt school solutions, but such procedures are apt to produce mediocre results. To plan is to think ahead and search and go beyond yesterday's thinking.

The United States is a nation of creative people. Ingenuity and resourcefulness are woven into all that we do. As a product of the US society, the military man is likely to enter the service as a creative individual. He will find in military life many forces that foster his creativity, and some which serve to subdue it. What are the most important of these environmental factors?

The New York Times

Civilian leadership has frequently been the agent forcing military creative thought and initiating constructive change

● *Military Bureaucracy.* The military professional is part of an establishment of three million people. In this structure he moves from leadership of a small unit to a higher level managerial role. The qualities which were rewarded by this rise to higher tasks were probably not the qualities required to perform the tasks. An enormous workload will be demanded

of him as a manager. He will be forced to reduce issues to simplest terms, and to rely increasingly on group effort for decision making. As he continues to rise, there will be a tendency for him to become a critic and a judge, and he will find it difficult to tolerate, accept, or encourage creativity.

The layering of headquarters forms a dense barrier to the penetration upward of ideas. Large headquarters lean toward the *status quo*. Staff members, operating much as a committee, can easily kill an idea with overanalysis or compromise.

● *Tradition.* The military profession, as a long-established human institution, has cultivated ritual, ceremony, and attitudes that constitute a marvelous tradition. Tradition can add to the *esprit de corps* and increase the effectiveness and responsibility of those who cherish it. But tradition, as faith, can become a substitute for diligent inquiry, an escape from reality, and a form of professional responsibility without substance. When a particular operation or procedure becomes "tradition," the time has come to see if there isn't a simpler and more efficient way to perform the function.

● *Obedience.* According to Dr. Samuel P. Huntington, the military man glorifies obedience. He also says: "Rigid and inflexible obedience may well stifle ideas and become slave to an unprogressive routine." Obedience to the point of submissiveness is prevalent in the military profession today.

There are advanced thinkers who believe that it is possible to construct within the military system a form of obedience and discipline that is not destructive of creativity. It would be based on the great difference between freedom of action and freedom of thinking. The profession is faced here with a challenging problem.

● *Conservatism.* Resistance to change implies a hesitancy to take risks. It is logical that the military man is conservative in this sense for combat carries with it the responsibilities for human life, and failure could lead to disaster with national implications. But change is a fact of life, and risk taking is now a science capitalizing on the laws of probability. Conservatism is but a negative quality.

● *Conformity.* Military professionals dress uniformly, maintain a specific neatness, and attempt to maintain an athletic-type body. Such external forms of conformity probably do little to limit the working of the brain, but conformity in thinking is sometimes expected as well. Fresh ideas are not always welcome, especially if they imply criticism of the existing order. The creative type, although he may conform in actions, is apt to make many people uncomfortable with his unsettling thoughts. The military profession needs to reassess its attitude toward conformity to see if, in some ways, the premium isn't being placed on the wrong values.

● *Civilian Policymakers.* Civilian leadership has frequently been the agent forcing military creative thought and initiating constructive change. It was Elihu Root who, as an inexperienced Secretary of War, sparked the formation of the general staff system and other War Department reforms in 1903.

The major revision in our military strategy in 1950, 1953, and 1961 were, in each case, founded on the initiative, the basic ideas and concepts, of the political leadership. The "whiz kids," exploiting the scientific method and

its characteristic that "it is not who is right, but what is right," were able to challenge age, experience, and inertia. They introduced a philosophy that there is more than one way of doing something, and brought a challenge to the ingenuity of the military professional. This caused the services to put great emphasis on placing their young and more creative minds in the Pentagon.

● *Purchased Thinking.* The military services stand today as a major promoter of research and development. The lesson of the indispensable contributions that innovations in science and technology can make to military capabilities was well learned in World War II. Since then, primary emphasis has been on hardware research, but operations and human relations studies have not been ignored. Extensive research has been contracted to the universities, to industry, and to nonprofit research organizations. The Armed Forces are buying thought and ideas just as they buy beans and bullets.

● *Service Bias.* Perhaps one of the most subtle, but important, blocks to creative thinking is service bias, which includes a set of preconceived viewpoints typical of members of a service, mixed with an emotional content. Complete objectivity is precluded. Members of one service may be blinded to the merits of ideas developed in another service.

Some writers believe that lack of strategic thinking by the military professional is partly due to interservice conflicts, and that the cause for the increasing influence of civilian groups in the formation of military policy is that they are divorced from service interests. An argument for unifying the services is based on the need to encourage thinking and open debate. The unified commands, joint schools, and civilian leadership have done much to reduce service rivalry.

● *Reassignment Frequency.* Highly conducive to creativity in the military professional is the pattern of frequent reassignment. The professional seldom stays on a job long enough to go stale. As he becomes familiar with one set of circumstances, it becomes necessary for him to pick up and move on to a new challenge. The new challenge is likely to be completely different from the last one. As the newcomer faces problems in his new job, he is given the opportunity to try a fresh approach—his own creative thinking. His creativity will be enhanced because he is not trapped by routine, and he is not imprisoned by overspecialization.

● *Military School System.* Education is not a prerequisite for creative thought, but it can motivate creative thought, and the educated person is better equipped to think creatively. If one is motivated to seek creative solutions to difficult problems, a solid educational background will provide the base from which to piece ideas together. The military school system can promote creative thinking by providing the background knowledge to elevate the level of significance of the problem-solving capability of the individual, and by providing motivation to use his intellect in creative thought.

The need for creative thought is being recognized to varying degrees by the military schools. The US Military Academy is in the process of critical self-examination and now includes creative thinking in its military leadership course. The US Air Force Academy has developed a majors' program to challenge the stu-

dents to independent research and thinking. The US Naval Academy has turned to an electives program that also includes individual research.

A similar movement is found in the service staff colleges. The Leavenworth student is encouraged to think creatively, and to exercise his mental courage. The Air University, which contains the Air Command and General Staff College as well as the Air War College, has adopted as its motto, *Proficimus More Irredenti*, which may be translated as "Progress Unhampered by Tradition." It has woven creative principles throughout its curriculum.

The service school that is most enterprising in the promotion of creative thinking is the US Army Management School (USAMS) of Fort Belvoir, Virginia. The USAMS statement of philosophy includes the sentence:

Development of effective managerial leadership is a lifelong process best conducted in a climate of receptivity to the new and different, which encourages a desire for change and improvement and a willingness to take risks.

The school teaches that one of the seven primary functions of the manager is to innovate. The curriculum and methodology are designed to foster creative thinking.

In all five of the joint or service war colleges, the need for intellectual freedom and for creative thought is recognized. Creativity is welcomed.

The situation with regard to creative thinking in our military schools was well described by former Secretary of the Army Stephen Ailes when he said:

. . . schools where the future is studied, where all alternatives are examined, and where a free exchange of ideas is promoted, are incompatible with the stand-pat ironclad approach so frequently ascribed to the military, but which in fact is not a characteristic of our better officers.

The military profession must progressively change itself, its strategy, its tactics, its organization, and its doctrine. Creative thinking lies at the bottom of all of this progressive change, and it is fundamental to the important military functions of planning and leadership.

The civilian backgrounds of military professionals, the impact of civilian policymakers, the avoidance of extreme specialization, and many other factors are a positive influence on creative thought. Among the important impending influences are those factors antagonistic to creative thought which are ingrained in a bureaucratic structure, and those which are bound in the military heritage.

If the military profession is to obtain more and better creative thought in order to bring about progressive change, it can look to several means. It can, first of all, look to the civilian policymaker for inspiration and guidance. This has been a good source in the past. This source, however, may not continue as civilian personalities change, and complete dependence on them would deny the military services use of their specialized capabilities for input toward progressive change.

Perhaps a better means would be for the military profession to develop the full potential of the creative capacity found within its ranks. The magnitude of this task is great. The ideal program would include, at least, consideration of those elements described as obstacles and stimulants.

It would also involve change brought about by the profession to itself, rather than by an external group, and would thus be more readily acceptable to the profession as a whole.

The motivation of the individual may be the least difficult element to attain. The military professional is already a highly motivated man—competitive, devoted, and hard working. He does need to be impressed with the importance and necessity for new ideas, for thinking in fresh ways, and for contributing his professional thoughts and opinions. He further needs to believe that he will receive recognition for creative contributions.

Recognition may be provided in many ways. The most creative individuals could be detected early in their careers and recognized by placement in challenging positions where their creative talents would be used to the utmost. This would result in greater use of in-house thinking capabilities, and less reliance on purchased thinking. The schools could search out and corral creative military intellectuals, and use them to create military knowledge, as well as to set examples to the oncoming military students. The especially gifted could be recognized with fellowships and study privileges.

The creation of a permissive atmosphere is more difficult. It would involve inculcating all leadership levels with a progressive philosophy of management. Any barriers to the sifting upward of critical ideas would need to be removed. The innovator would be welcome everywhere, and no one would be criticized for harboring views inconsistent with policy. Por-

US Army

The US Army Management School at Fort Belvoir, Virginia, is most enterprising in the promotion of creative thinking

tions of the military ethic as found in obedience, conservatism, and conformity would undergo trade off for values which place emphasis on freedom of thought, progress, and individuality.

The psychological blocks to creativity would likely be the most difficult to eradicate since they lie deep within the individual. Much could be done, however. Education in creative thinking could improve thinking habits, and minimize the perceptual, cultural, and emotional blocks. Emphasis on joint education would do much to decrease service bias. Functioning in a permissive atmosphere would help dispel feelings of fear and insecurity. Discoveries provided by continued behavioral research would help to provide answers to the more confounding psychological problems.

If the need for this program is widely recognized by the leaders in the military profession, and if these leaders will, step by step, encourage those elements essential to the full development of creative thought, change and progress will be accelerated in an orderly manner.

COMMENTS INVITED

The Military Review welcomes your comments on any material published. An opposite viewpoint or a new line of thought will assist us and may lead to publication of your ideas. If you are an authority on a certain subject, why not write an article for our consideration? If you have only an idea, query us; perhaps we can assist you in developing an acceptable article.

Napoleon's Military Strategy

Abbott William Sherower

NAPOLEON Bonaparte gave form and substance to measures and tactics which the tactical and strategic world had long advocated. That form and substance, above all else, gave to his teachers that importance they hold in history.

In Bourcet and Guibert are perceptible the principles of employment of what Napoleon termed "line of operations." Bourcet advocated the principle of dividing the theater of war into offensive and defensive fields. In Du Teil, with whose brother the youthful Corsican was so closely linked, we see the artillery preparation in the attack, the rapid movement of light artillery into position, and the principles of active mobile offense. All of these, together with the use of skirmishers, successive employment of all elements, and simultaneous use of line and column according to the end in view, were known and practiced from the end of the reign of Louis XV.

Napoleon would have been original enough had he only done in the field of action what his teachers had laid down in the field of thought. But the fact is that the principles which had been laid down in the field of thought were not as clearly defined as what Napoleon did in the field of action.

If Napoleon found in Bourcet and Guibert the theoretic basis of his maneuver to change his line of operations during the course of an operation, it appeared only as a vague sketch. His debt to his military heritage was both less and greater than

would appear. He combined everything at hand with everything that he could draw from his own nature.

He neither subscribed wholly to the revolutionary theories of warfare which were available to him nor rejected wholly the old. He was always most careful of his communications and of his base. He had venturesome enterprise and inspired calculation, but he felt that gambling was a mark of desperation to which mediocre generalship turned after failing of moderation or inspiration. To operate in disregard or neglect of a base is to operate without a strategic point of reference which is the premise of freedom of action.

Importance of Supply

If the problem of supply—whether of information, materiel, or provisions—receives relatively little historical treatment, its importance is always recognized by the most successful generals. The Swedes of Gustavus Adolphus recognized in Wallenstein, greatest of their enemies, a "good provisioner." Its importance pervaded the best military thought of the 18th century.

The very center from which the operations of Napoleon proceeded was conditioned by his need to unite provisions and munitions and organize their convoys behind the front of the moment. They were thus in readiness from the billets, the hospitals, and the arsenals to supply a new front for which he was free to plan.

If the traditionalist spirit of the aristocracy has more often than not proved an obstacle to the development of military power, it has also more often than not proved the defender of the development of military art. No army is anxious to give up its tradition. Its anxiety is that it should not have to. The theories of warfare which were open to Napoleon were not in themselves the tottering theories which Marshal Ferdinand Foch thought them. Rather, they were the consequence of the degenerated forms which the Revolution had invoked.

Geometric Precision

Bonaparte was not far from sharing the pride of the 18th century in its military theorists who saw war as ennobled by its limitations. Their emphasis was upon mathematics, geometrical relations and angles of operation, and geography. In the words of David Lloyd George:

The general who knows these things can direct war enterprises with geometrical precision and lead a continual war without ever getting into the necessity of giving battle.

Rather than contradicting, Bonaparte carried over that spirit into the new means of its expression which the forces of the Revolution presented to him. The precision of which Lloyd dreamed expressed itself in the very dynamism of Napoleonic campaigns. In the War of 1809, where the beginning and end of that dynamism was subordinate to the politically strategic necessity of avoiding battle, Napoleon directed his enterprise with geometrical precision. He led a continual war

Abbott William Sherower served in World War II with the Office of War Information and subsequently with the New York State Guard. He was educated in Belgium, Switzerland, France, and the United States where he studied at Columbia University. An officer and director of a number of engineering consulting organizations, he has researched Napoleonic history since 1936. He is the author of "The Making of a Leader" which appeared in the March 1965 issue of the MILITARY REVIEW.

as long as he could, without getting into the necessity of giving battle. His adversary finally compelled him to give battle.

Victory Without Battle

The refinements of 18th-century theorists were no more lost to him than were the advocates of hammer blows. Napoleon's action in warfare was both subtle and blunt, as much a matter of the rapier as of the bludgeon. He thus did not altogether renounce the conventional theory of the military schools which sought to dispense with the need for the destruction of the enemy force.

"My most beautiful campaign is that of the 20th March," Napoleon said at Saint Helena of his return from Elba. "There was not fired a single shot."

The issue for Napoleon was his constant readiness to conquer, if possible and feasible, the very necessity for battle by making clear to the enemy his resolution of the decision of the battle by virtue of his dispositions. Not blood, but readiness to spill it, was the premise of Napoleonic strategy.

His military objective, in principle, was to finish warfare successfully as soon as possible.

As each military generation has its impractically shrewd theorists for whom battle is nothing, so each military generation has its fire-eaters for whom battle is everything. Ardant du Picq points out that in battle the victor often loses more than the vanquished. Battle in its objectives, and in its results, is more a contest of moral than of physical power.

It was the cardinal finding of Du Picq that the proportion of actual physical violence between the personal elements of opposing armies in battle is both small and the least important factor in victory. If actual melee were to take place, mutual extermination, not victory, would result. It is that army which first gives way which then suffers the casualties that for its opponent spell victory. Du Picq observed that actual fighting is done only by small numbers at the fighting front.

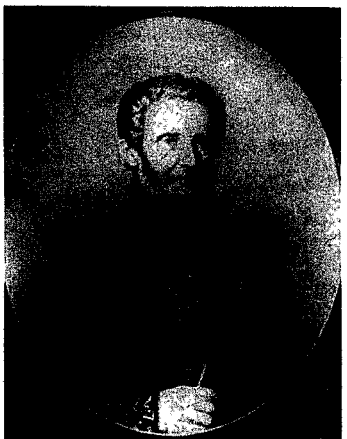
National Archives

For Marshal Ferdinand Foch, a century later, there was no victory without battle, but Napoleon believed strongly in the possibility of victory through maneuver and superior disposition

Napoleon believed strongly in victory as a possibility without battle. In his professionalism as a war leader resided the efficiency to draw from war the highest profits at the lowest costs to his armies.

Just as for Marshal Foch there was no victory without battle, so for Napoleon there was no battle with victory. Not battle, but its premises,

again in terms of dispositions, were the conditions of victory and the presumption for it. Marshal Foch argued warningly for freedom from reliance on advantages of terrain in order to escape ordeal by battle. Napoleon argued for freedom from reliance on



Revue Militaire d'Information

General Henri Jomini recognized Napoleon's ability to use battle and maneuver as one means of attaining political aims

ordeal by battle itself as a mere invariable necessity or essential. His direction reduced the enemy to an atmosphere of "uncertainty through loss of initiative," forcing the defender to counter. Therefore, he is one move behind instead of one move ahead.

Just as for Foch it was childish merely to rely on the advantages of terrain in order to escape ordeal by battle in the presence of superior forces, so for Napoleon it was childish merely to rely on the advantages of terrain in order to undergo ordeal by battle in the presence of superior forces whom his initiative and mobility would divide.

It was his object to force decision as soon as possible for reason of economy—economy of resources, economy of forces—which bade Condé, Turenne, and Frederick the Great to conduct their protracted wars of siege and demonstration and ruse.

Defensive Battle

His was defensive action in offensive war, employing offensive campaign and defensive battle. He left to his assailant in battle only the passing advantage of surprise at the price of inviting him to commit the whole of his force. The condition of the success of his defensive battle was the offensive for which it provided and which was its very premise. The defensive is itself not absolute, but has relation only to the prospect of ultimately attacking.

Karl von Clausewitz points out that:

A defensive without any positive principle is to be regarded as a self-contradiction in strategy as well as in tactics, and, therefore, we always come back to the fact that every defensive, according to its strength, will seek to change to the attack as soon as it has exhausted the advantages of the defensive. However great, therefore, or however small the defense may be, we must also include in it, if possible, the overthrow of the enemy as an object which this attack may have, and which is to be considered as the proper object of the defensive.

Napoleon is the mind for whom everything short of the offensive is myth, so much so that he was scarcely conscious of the offensive as a matter to be at issue. His was the state of mind which in its offensive spirit Clausewitz observed to "have the most

decisive influence on the forces employed in war." The peculiarity of his poise in offensive warfare, in relation to the concentric attack, showed him in the words of Clausewitz on "his masterly campaign of 1796, a man who thoroughly understood the defensive against a concentric attack."

The heart of his concern with the political and military world was his concern with leadership; with arousing and giving direction to the imagination. He was aware that the influence of leadership derived from the masses upon whose acceptance it depends. The heart of this leadership is the gift of personality. The masses recognize themselves in its bearer and they recognize in it their superior.

A study of Napoleon's military education indicates that his training in artillery was not primarily that of a technician, but of a mind concerned rather more with the complementary purpose of his arm to tactics and strategy. Notwithstanding his lifelong pride in the arm in which he was trained, he regarded it always as an accessory to his larger plan.

Napoleon recognized throughout his career the superior over-all numbers and provisioning systems of his enemies. It was in his nature to avoid major engagements in his search for local numerical superiority; to disperse to march, and unite to fight. He selected objectives within his offensive capabilities to warrant victory and cut off enemy supplies, and had the innate determination that war must be a war of movement.

He believed in retention of the initiative, in massing and dispersing, and recognized the relative economies of that type of warfare waged by a civilian resistance movement as his home isle had known in her resistance to the French. This type of warfare would gain its name and distinction as guerrilla from the resistance of Spain to Napoleonic invasion. He realized the need for great leadership in politico-military warfare and the need for interdependent subordinate leadership. Finally, he had the determination to endure great hardship and constantly placed emphasis on economical improvisation.

From *Revue de Défense Nationale* (France)

For a [illegible]inuous Front

Ernest Champeaux

AFTER the defeat of France in 1940, several French generals formulated a new doctrine of war drawn from this painful experience. Its first principle was to reject static warfare and return to the war of movement.

Advances in aviation and the armored arm once again permitted a breakthrough of fronts. Keeping in mind the lessons learned from the Germans and those taught by Napoleon, the generals sought to profit from these advances. This doctrine of broad and audacious maneuver found expression in an unswerving course where tactical missions were no longer defined by successive lines to be taken or defended, but by axes along which the effort to progress or resist was to be extended.

In order to free large and small units from the obsession of alignment with adjoining units, caused from the fear of encirclement, each unit was to be responsible for its flank security and deploy itself in such a way as to be ready at all times to assume a "closed disposition." This was designated according to its dimensions by

supporting point, center of resistance, or maneuver supporting zone.

It is not necessary here to examine the influences which caused this doctrine to be adopted by the French Army. The tragedy of it is that its utopian character was apparent to astute observers considerably before the end of World War II and confirmed by subsequent events.

Closed Dispositions

The first deception stemmed from the closed dispositions. It is true that the Germans, halted in their offensive of 1941 by the Russian winter, made use of them in the form of hedgehogs. They were indebted to these strongholds for allowing them to save a part of their conquests, but, as soon as spring arrived, the Germans found out how uncertain this expedient was in the face of a reinforced enemy. The closed dispositions afforded inadequate surveillance of the approaches. Enemy patrols traversed the approaches day and night and soon were engaged in surprise attacks and sabotage in the rear areas.

Even brief encirclements of the forward dispositions gave rise to anxiety, bringing forth continual calls for reinforcements. The supply movements, whose routes and often their dates could be foreseen, led to sharp fighting. Soon it was necessary to resort to parachuting supplies, a costly method of resupply.

The enemy picked his victims, brought his attack means in closer, and smothered the defenders under concentrated fire. Thus, the German hedgehogs, which presented a threatening appearance on the headquarters' maps, became "caldrons" for the troops within their perimeters.

Assault, annihilation, and capitulation soon followed unless some disengagement operation came first. Disengagement operations were termed successful when they permitted the rescue of a small fraction of the besieged. Such was the story of the German fortresses of Poland and Prussia, imposed by Adolf Hitler against the better judgment of his generals.

Tactical Axes

If the closed dispositions did result in deception, the same cannot be said for the tactical axes. None of the belligerents, when faced with the realities of war, felt any need to make use of them under the conditions outlined in the French doctrine of the postliberation period.

It is very difficult to define, by a single axis, the mission of a task force charged with taking an important terrain feature. The routes of the infantry and attacking tanks are numerous. Their directions do not coincide either with those of the supporting fires of the artillery or with those of the lines of flight of bombing aircraft.

The idea of a single and fixed attack axis was a clear-cut one in 1916 when all the attacker had to do was to advance in a direction perpendicular to his jumping-off base and follow as closely as he could behind a rolling barrage. This no longer applies.

The idea of a defensive axis is less clear cut except where there are mountain roads or roads crossing marshy terrain. How is one to determine the line of penetration where the enemy might concentrate his effort and along

This article was translated and digested from the original, published in the REVUE DE DÉFENSE NATIONALE *(France) December 1965, under the title, "Propos sur l'Art Militaire." Translation by Mr. LaVergne Dale, Leavenworth, Kansas.*

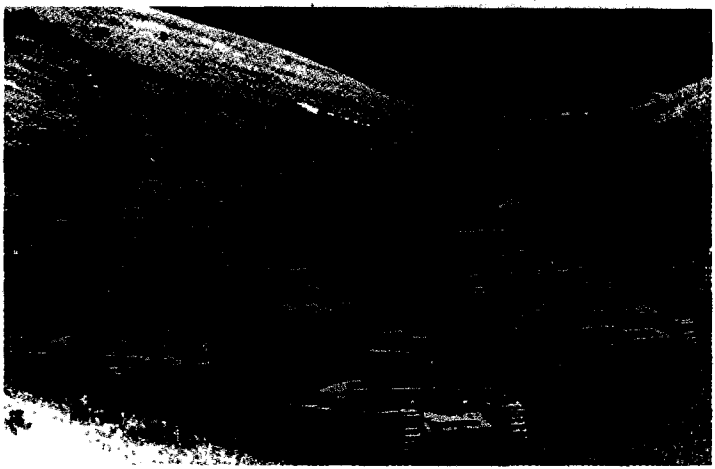
which it would be advantageous to string a line of centers of resistance?

The Germans, who understood the danger of improper terms and of misleading images, were usually careful not to define the attack and defense missions of their task forces in terms of axes. They reserved this word for high strategy or high policy. They spoke of "points of main effort" without attaching too much importance to the aspect of the ideal line which joined them together. They held that, in the defensive, the essential property of a good disposition was that it be adaptable to several hypotheses, not just one.

Unfortunately, the French have not followed these examples. Horror of a line parallel to the front has led them to worship the perpendicular which is another form of rigidity. In peacetime exercises, the French Army persists in giving attack missions to small units in the form of axes which are nearly straight lines. These axes are audaciously extended as far as the enemy.

In the defensive, the French designate as axes the routes convenient for the supply of the deployed units. Centers of resistance are the principal villages served by these routes. One wonders if it would not occur to the enemy to follow some other route, keeping his tanks away from the axes which are so obvious and avoiding the centers of resistance to the extent that they would not directly halt his movement. In 1940, Generals Heinz Guderian and Erwin Rommel demonstrated how this could be done.

The champions of orthodoxy will say that these tactical discussions, however interesting they may be, in no way alter the general meaning of the doctrine, which is a return to the war of movement. What difference



Revue Historique de l'Armée

German tanks mass near Meuse Valley on 13 May 1940

does it make if a few closed dispositions fall prematurely? What difference does it make if certain axes prove to be unfortunate choices if these local failures are compensated for elsewhere by a great offensive success which assures the initiative and means for the triumphs of blitzkrieg?

The Blitzkrieg

One might agree with this if he did not remember that since France's campaign of 1940 there has been no blitzkrieg and that the conditions necessary for its resurrection do not seem to be renewed again. The blitzkrieg of 1940 was characterized by a hasty capitulation suggested by a command which judged itself incapable of continuing the struggle.

Later, it became evident that piercing a rationally defended front had become an increasingly difficult operation, one which supposed an enormous superiority of means. The Americans learned this in Normandy as did the Soviets on the Vistula. In the event of success, pursuit of the retreating enemy quickly ceased to be a grand procession. It was not long before the light tanks at the head of the armored columns gave way to heavy tanks and large-caliber tank destroyers.

Finally, the enemy command, when its thinking was not beclouded by the imperatives of a vicious doctrine, always found the opportunity to reconstitute a front in a position where its means of defense reached it more rapidly and economically than the means of attack reached its adversary. Thus, in the Soviet Union, North Africa, and Italy, the troops in retreat reestablished themselves at rivers, on the borders of forests, and in lines of hills where they gained the time necessary for counteraction or at least for resuming order.

Not one of the successful breakthroughs, except the one which occurred less than 50 miles from Berlin, led to the end of the campaign. World War II, like World War I, was a war of attrition. It is probable that this will be the case in future wars. There is reason to fear that these basic truths are still not taken into account by the doctrinarians who cling to the concept of the irresistible breakthrough and who, because Napoleon said, "never did a river halt an army more than a day," are always ready to install themselves at Rambouillet when they are charged with defending the Seine.

Nuclear Illusions

Yes, but—these unshakable individuals will say—you are overlooking something, the nuclear bomb! Maneuvers of the Napoleonic style, which under the conditions of classic warfare may seem a bit naive, become the last word in the military art when supported by a device which instantly creates deep breaches in the best of defended fronts, provides the most audacious of advances with great flexibility, and leaves the enemy at the mercy of the attacker after having destroyed his capacity for resisting.

Perhaps this was the case as long as the bomb was the monopoly of the Atlantic allies, but since that time the retort has to be considered. The enemy's bomb will fill up the breach; destroy the exposed attacking columns; and, at other points on the battlefield, create threats which will have to be met. Reprisals would follow direct strikes at a rate and amplitude which could end in the destruction of the planet through collective suicide.

There is a good chance that the two

adversaries, with common accord, would not persist in this course. In this case, the one who lacked the prudence to provide himself, practically, with some other alternative than nuclear combat or capitulation would soon find himself in a bad posture.

The Soviets understand this, keeping themselves always ready to mobilize several hundred conventional divisions equipped with a corresponding number of supporting tanks and planes. Some clear-thinking allied generals, who acknowledge that to accept the dilemma of suicide or capitulation is already to have chosen capitulation, are timidly attempting to make their respective public opinions understood.

Massive Mobilization

A return to conventional warfare would mean a massive mobilization for the West. It means compulsory military service, additional taxes, and all kinds of disagreeable things which democracies do not like to discuss, to say nothing of the necessity for maintaining nuclear weapons. Understandably, "experts" with their sophisms, who affirm that it is possible to defend oneself at less cost, will continue to prevail for a time, for nowhere is any political party inclined, as yet, to inscribe in its platform a return to conventional warfare.

It is doubtless in answer to a concern for economy that the formula of subversive warfare, defended by brilliant theoreticians, is advanced.

Neither France nor her allies, they say, are capable of halting an invasion of French territory. Let us pull our forces back, therefore, into the brush-covered zones from which we will carry out various subversive actions against the invaders, ranging from local attacks to poisoning campaigns for ruining their morale. We will put to use the experience acquired at our expense in Indochina and Algeria. Rationally exploiting the recent discoveries of scientific psychology, we shall triumph in a form of war eminently adapted to our genius.

The theoriticians believe that psychological science will bring to us again, at the desired moment, the aid of our allies and will permit us to heighten the morale of the civilian population who will be called on to support the efforts of our soldiers. They will be organized as commandos and will receive their training in time of peace.

It is astonishing that views so fanciful as these have so infrequently aroused objections in the French press. In what concrete form would the proposed subversive actions be presented? Would they include the assassination of the isolated individuals found in the rear and the punishment of collaborators? Would they be compatible with the wearing of the uniform?

Combat Procedures

Also, how would we impose on the conscripts combat procedures which would bring them dangerously close to violating the rules of war? What would the training of the young soldiers consist of outside of accustoming them to living in forests and the identification of edible mushrooms? How do we obtain the general cooperation of a civil population that is perfectly conscious of the danger of reprisals? What is this mysterious psychological science whose virtues failed to manifest themselves at the time of our former difficulties?

In a future war, either nuclear or conventional, none of the belligerents could do without a front. A front is necessary for insuring secrecy of op-

erations. It is also necesary for the security of the rear and permits a considerable reduction of sabotage, surprise attacks, continual alerts, and disastrous mistakes.

Success in cleaning up contaminated zones can be achieved only behind a tight front, as the Americans learned in Korea. Air landings back of a strong front run a great risk of turning into a catastrophe, as the Allies learned at Arnhem. A number of partial fronts around isolated, closed dispositions lead to an expenditure of means much greater than that which would be required in the case of a single front, without offering any of its advantages.

The single front leaves the troops available that have been withdrawn from combat. Far from interfering with maneuver, they facilitate it. That is why fronts were again seen in the Soviet Union, Cyrenaica, Italy, France, Korea, and, more recently, in Algeria. Where fronts were lacking, as in Vietnam, the adventure came to a bad end.

Never will a continuous front be more necessary than in the case of a nuclear war, for never will it be more necessary to bar one's disposition from investigation by the enemy, to keep one's troops close to shelters, and to safeguard the freedom of maneuver of one's reserves. It is true that a continuous front is costly in men and material, but the generals can reduce these costs by their choice of terrain and fortifications.

It is hoped that in France a new generation of strategists, freed at last from the tutelage of the academies, will perfect the doctrine of the single front and hasten, in the Western camp, the return to commonsense which remains the basic secret of the military art.

. . . today in Vietnam, where there is no front or rear, the average ratio of man to square yard is one to 460,000. This ratio is approximately 600 times what it was 100 years ago at the time of the Civil War.

In considering this situation, we know that ground mobility can be improved only marginally, regardless of the effort expended. The environment, moreover, in which many of our current or potential stability operations may occur does not favor—or even precludes—the effective use of ground vehicles. As a result, the Army's approach since 1962 has been characterized by a bold look at how it can improve its tactical mobility.

Lieutenant General Ben Harrell

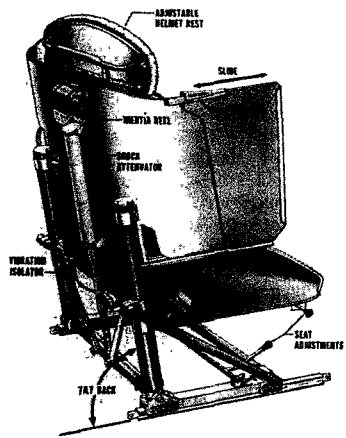
MILITARY NOTES

UNITED STATES

Armored Seat For Helicopter Pilots

A new armored seat for helicopter pilots has been developed by a US manufacturer for the US Army Aviation Materiel Command. The prototype pilot seat was built with dual-property steelplate.

The seat provides greater protection from armor-piercing projectiles.



Textron's Bell Helicopter Company

Built to tilt back, it is equipped with a vibration isolator and includes a crush-core-type crash attenuator. The seat has been tested to meet up to 5,000-pound load requirements.—News release.

Jet-Propelled Boats In Combat

New jet-propelled patrol boats are being used by the Navy in Vietnam. The jet units are preferred over propellers for operation in Vietnam's shallow inland waters.

The boats are propelled by twin marine jets powered by twin 220-horsepower diesel engines, and control is accomplished by steering vanes inside hooded outlets rather than by conventional rudders.

Within the 31-foot fiberglass hull are two machinegun mounts. A forward gun tub houses twin caliber .50

Jacuzzi Bros., Inc.

machineguns, and a caliber .30 weapon is mounted in the aft cockpit.

These jet-propelled boats are the first used in combat by the Navy, and 120 of the craft have been ordered from the builder.—News release.

Experimental Armament For 'CH-47A'

US Army

Three armed *CH-47A Chinook* helicopters with a fixed, dual-weapon installation over the left wheel have undergone field tests at Fort Benning, Georgia (MR, Jan 1966, p 103). The weapon installation has a 20-millimeter automatic gun and a rocket pod for 2.75-inch rockets, 19 to a pod. The *Chinook* can mount similar armament on both sides of the aircraft. A 7.62-millimeter machinegun protrudes from a rear gunport.—US Army release.

Barrier For Emergency Landings

A new device to stop an airplane on the runway during an emergency is being tested by the Air Force. Called the *BAK-11* (Barrier Arresting Component), the device consists of an arresting cable actuated by the aircraft's wheels rolling on the runway.

Electrical impulses, generated by the aircraft's wheels crossing two switches mounted flush across the runway, are sent to a computer. The computer gauges the aircraft's speed and fires an arresting cable upward from a trough in the runway. The cable rises from the trough just ahead of the main wheels and engages the main gear struts.—US Air Force release.

Navy 'XC-142A' VSTOL Tests

The Navy has conducted its first tests of the vertical and short takeoff and landing (VSTOL) *XC-142A* aboard the aircraft carrier USS *Bennington* (MR, Jan 1965, p 105).

The aircraft can operate from airspeeds of 30 knots backwards to about 350 knots in forward flight at an altitude of 25,000 feet.—DOD release.

'Phoenix' Missile

The first guided firing test of the Navy's *Phoenix* air-to-air missile scored a direct hit on a target drone over the Pacific Missile Range off the California coast. The Navy reported all test objectives for the flight were met successfully.

When operational, the *Phoenix* missile will be the primary air-to-air weapon of the *F-111B*, the Navy version of the multiservice jet fighter (MR, Sep 1965, p 102, and May 1966, p 99).—News release.

Forward Area Alerting Radar

A Forward Area Alerting Radar (*FAAR*) to provide early detection of attacking enemy aircraft for the *Chaparral-Vulcan* battlefield air defense system has been ordered by the Army.

The *FAAR* system, which also has potential for use in other Army air defense systems, will consist of a radar, identification equipment, prime power source, and vehicle and communication equipment. The order covers design, development, and fabrication of initial units.—ANF release.

'Mighty Mite'

US Army

Mighty Mite, a device used to force tear gas through even the deepest tunnel, has been adopted by the Army.

Weighing 32 pounds, *Mighty Mite* can easily be carried on a soldier's back. It is powered by a two-cycle gasoline engine.

A six-foot flexible plastic tube is pushed into the tunnel opening which is sealed with a poncho or other cover. Seconds after the blower has been started, several riot grenades are tossed into the tunnel opening. *Mighty Mite* forces the harmless chemical cloud into the tunnel at a rate of 450 cubic feet per minute.—US Army release.

'Claymorette' Mines

Army News Features

In this artist concept, a soldier riding "shotgun" in a 2½-ton truck fires the Army's new *Claymorette* mine at attacking Viet Cong.

Developed to give convoys immediate area coverage when ambushed, the *Claymorette* consists of a number of small *Claymore*-type mines mounted on the reinforced side of a truck. Linked together electrically, each of the small mines contains tiny steel pellets. Once triggered by the "shotgunner" in the cab of the truck, the *Claymorette* spews lethal pellets throughout the target area.

Members of the US Army Limited War Laboratory at Aberdeen Proving Ground—where the mine was developed—are now testing this new weapon in Vietnam.—ANF release.

'UH-1H HueyCobra'

The Army has ordered 110 production line models of the streamlined *UH-1H HueyCobra* helicopter (MR, Nov 1965, p 98) under a 20.4 million-dollar contract.

The *Cobra* was developed to meet the Army's need for a fast and maneuverable helicopter to use as a weapons platform until the Advanced Aerial Fire Support System (*AAFSS*) goes into production (MR, Aug 1965, p 98, and May 1965, p 96).

The helicopter's design is a streamlined 36-inch-wide version of the standard 9-foot-wide airframe. It has an increased range, doubled firepower, and greater crew protection, and is capable of flying at a speed in excess of 170 knots.

Delivery of the *Cobras* is slated between May and December of 1967.—ANF release.

Heavy Lift Helicopter

A tandem rotor, heavy lift helicopter that will transport approximately 30 tons of cargo and personnel is being studied for future development by a US manufacturer.

Studies have produced two basic heavy lift helicopter configurations for continued development.

One model—designated the *Boeing-Vertol 237*—is a crane-personnel carrier for transporting large vehicles and materiel externally and their crews internally. This model has the advantage of making the externally carried equipment immediately operational upon landing.

The second model—the *Boeing-Vertol 227* that resembles, but is much larger than, the *CH-47A Chinook*—will carry larger loads internally. It is particularly suited to longer range and higher speed requirements.—News release.

Weather Radar

Pictured is a long-range weather radar, expected to be operational in southeast Asia this fall, being readied for testing by lowering its fiberglass radome to inclose the antenna.

Three of these radars will form a triangle to provide coverage in a 200,000-square-mile area of the Indochina Peninsula for US Air Force weather

US Air Force

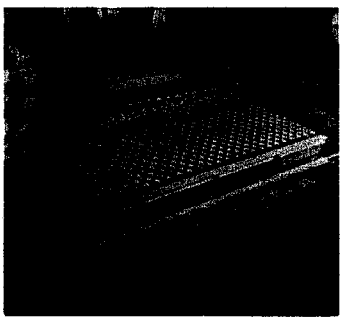
forecasters. This radar pinpoints and tracks storms up to 250 miles away, distinguishes hail and rain, and indicates the intensity of each in any storm development. A large cathode ray tube display on the console reveals weather phenomenon. Two smaller tubes read out range and height and the calibration and adjustment of the set.

Advance knowledge of rainfall and other weather phenomena obtained by this radar and electronic readout equipment will assist military commanders in decision-making situations.—US Air Force release.

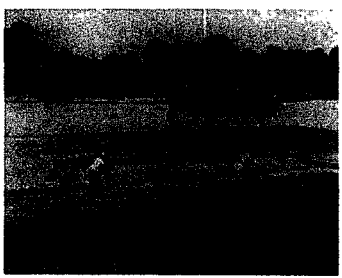
Portable Helipad

A rugged, portable, floating aluminum airfield which will convert marshes and rice paddies into "hardened" operating areas has been developed for the Navy.

During testing, a 13,000-pound *UH-34D* helicopter executed a series of landing and taxi tests on the helipads installed on both water and marshy



Each panel contains about 750 polyurethane-filled cells



Alcoa Photos

Bolted together, panels form a high-strength, rigid landing mat

surfaces, including repeated drops with impacts as high as 26,000 pounds.

Additional tests under actual operating conditions are scheduled in Vietnam.—News release.

NORTH KOREA

More Airpower

During the past year, the Soviets have provided the North Korean Air Force with *MiG-21* aircraft. According to South Korean information, North Korea now has 14 *MiG-21's*, 390 *MiG-17's*, and 15 obsolete *MiG-15's*. However, the total number of *MiG-21* aircraft supplied to North Korea is unknown because many of her pilots are still training in the USSR with their aircraft.

There are two versions of the *MiG-21*, designated by the North Atlantic Treaty Organization as the *Fishpot* and the *Fishbed*.

The *Fishpot* is credited with a maximum speed of about 1,150 knots and the *Fishbed* a maximum speed of 1,320 knots.

The radius of action of both aircraft is believed to be about 300 miles. —News item.

NORTH VIETNAM

Soviet Weapons

The Soviet Union has supplied North Vietnam with 57-millimeter

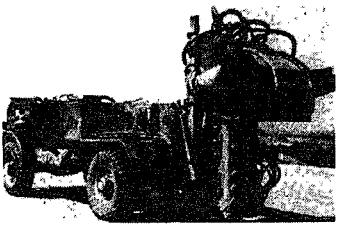
Soldat und Technik

antiaircraft guns. Shown in the picture are North Vietnamese personnel operating one of these weapons.—News item.

GREAT BRITAIN

Trench Digger

The British Army is developing a trench digger capable of digging trenches in medium soil four and a half feet deep and two feet wide at



Truppendienst

the rate of 12 feet a minute. The device, operated hydraulically, is powered by a gasoline engine of about 200 horsepower. Soil is removed by means of a horizontal conveyor belt.—News item.

Nuclear-Powered Submarines

The first entirely British nuclear-powered vessel, the submarine *Valiant*, is scheduled to join the Royal Navy this summer.

It will join the *Dreadnought*, the Royal Navy's first nuclear-powered submarine built in Britain with propulsion machinery of US design.

The *Valiant* has a displacement of 4,000 tons, 500 tons heavier than the *Dreadnought*. Performance data is secret, but it is acknowledged that its submerged speed exceeds 20 knots.

Two other all-British nuclear-powered submarines are scheduled to join the *Valiant* and *Dreadnought* later in the hunter-killer role: the HMS *Warspite*, launched in September 1965, and the HMS *Churchill*, expected to be laid down later this year.—News release.

SWEDEN

Submarine Fleet

The following notes were condensed from an article in the Netherlands' Herkenning, *September 1965. They do not constitute an official US evaluation of Sweden's submarines, nor do they reflect the views of the Department of the Army, Department of Defense, or the U. S. Army Command and General Staff College.—Editor.*

Although Sweden is not a member of any military alliance, she has developed a modern submarine fleet for the protection of her coastline.

Four classes of submarines were in Sweden's Fleet in 1950. The oldest were three submarines of the *Delfinen* class which entered service in 1934-35. All four were scrapped in 1953.

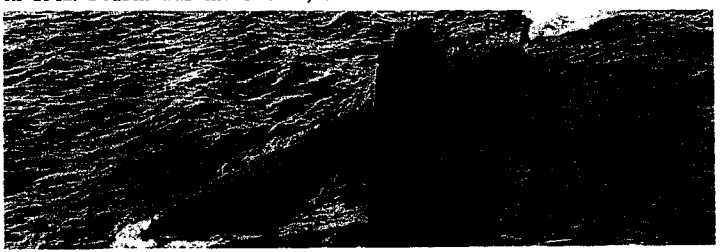
The *Sjölejonet*-type submarines constituted the second class. These were completed between 1936 and 1941 and retired between 1960 and 1964.

Three submarines of the *Najad* type, the third class, entered service in 1942. Fourth was the *U* class, of which nine were constructed during World War II. Three *U*-type submarines were taken out of service between 1961 and 1964. The remaining six were reconstructed between 1960 and 1964. Of Sweden's 1950 submarine fleet, only the three *Najad* and six *U* classes are still in service.

In the meantime, construction programs have provided for modernization of the submarine fleet. Between 1956 and 1960, six submarines of the *Hajen* class entered service. These were followed in the early sixties by six *Draken* class submarines. Five submarines of the *Sjöormen* or *A11* class are now under construction.

The new construction program includes five more submarines of a long-range type. These will be conventional-type submarines, but with the capability to remain submerged for long periods of time.

All Swedish submarines are relatively small with a displacement of less than 800 tons.—News item.



***Draken* class submarine**

- Displacement—770 tons standard; 835 tons surface.
- Dimensions—228 by 17 by 16 feet.
- Torpedo tubes—Four 21-inch (estimate).
- Machinery—Diesel-electric.
- Speed—17 knots surface; 25 knots submerged.
- General—Six submarines with a fast-diving capability constitute this class.

Abborren class submarine

- Displacement—388 tons standard; 430 tons surface; 460 tons submerged.
- Machinery—Diesel-electric.
- Torpedo tubes—Four 21-inch.
- General—Six reconstructed *U*-type submarines constitute this class.

Sjöormen class submarine

- Displacement—700 tons standard; 800 tons surface; 1,050 tons submerged (estimate).
- Machinery—New type.
- Torpedo tubes—Four 21-inch.
- General—Five submarines constitute this class.

Herkenning Photos

The *Uttern*, a submarine of the *Hajen* class, emerging from one of a number of camouflaged nuclear bombproof rock shelters which provide protection for Swedish submarines

- Displacement—720 tons standard; 785 tons surface.
- Dimensions—217 by 17 by 15 feet.
- Torpedo tubes—Four 21-inch in bow and one 20-millimeter antiaircraft gun.
- Machinery—Diesel-electric.
- Speed—16 knots surface; 20 knots submerged (estimate).
- Crew—44.
- General—The six submarines in this class are equipped with snorkels and have a fast-diving capability.

WEST GERMANY

Jeeps For The 'Bundeswehr'

The Federal Republic of Germany is to receive 30,000 new jeeps and France and Italy 10,000 vehicles each from a consortium of West German-French-Italian manufacturers.

The new jeep is said to be amphibious and is credited with a range of about 500 miles under normal road conditions. This distance can be achieved without refueling.—News item.

SOUTH KOREA

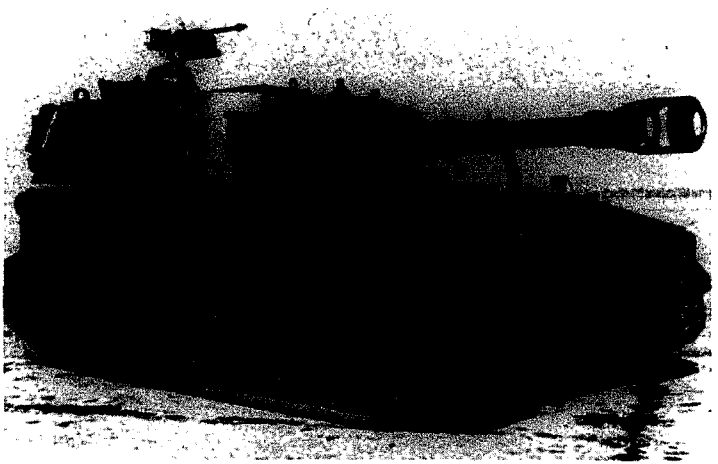
Armed Forces Modernization

The United States has transferred 32 new 155-millimeter howitzers to the Republic of Korea Army, adding to the 28 they received earlier this year.

Under a program to modernize the Korean armed forces, the United States has recently given Korea *O-1 Bird Dog* aircraft, *M48* tanks, five-ton wreckers, and 750-gallon fuel tankers. —DOD release.

THE NETHERLANDS

Joint Howitzer Production



US Army

Negotiations have been completed between the United States and the Netherlands to coproduce the US Army self-propelled, *M109* 155-millimeter howitzer for the Netherlands Defense Ministry.

The agreement provides that the Netherlands will purchase approximately 100 armored vehicles from the United States for approximately 14 million dollars.

The US-designed howitzer and mount are to be manufactured and installed on the vehicles in the Netherlands.—DOD release.

MILITARY BOOKS

THE DEVIL'S BRIGADE. By Robert H. Adleman and Colonel George Walton. 259 Pages. Chilton Books, Philadelphia, Pa., 1966. $4.95.

BY LT COL CARL F. BASWELL, *USA*

Envisioned by Britisher Geoffrey N. Pyke and organized by Major General Robert T. Frederick, US Army, the First Special Service Force, composed of Canadians and Americans, proved to be one of the toughest fighting units in World War II.

This book is a compilation of first-hand recollections and source material from survivors of the unit and from their families about the activities of the force from its activation in 1942 until its final parade in December 1944.

The force broke the back of the German main stand in Rome, accomplishing with a brigade that which had not been possible with a division. In August 1944 the unit climaxed its splendid history with an amphibious assault in the invasion of Southern France.

After beachheads were well established in Northern and Southern France, there was no need for this small assault unit. Therefore, it was inactivated.

The courage and aggressiveness of members of the unit at times verged on the edge of foolhardiness. Utter disregard for their own lives was common.

The book is enjoyable, interesting, and especially valuable to the military leader or historian.

PROBLEMS OF NATIONAL STRATEGY. A Book of Readings. Edited by Henry A. Kissinger. 477 Pages. Frederick A. Praeger, Inc., New York, 1965. $8.50 clothbound. $3.95 paperbound.

BY LT COL WILLIAM I. GORDON, *USA*

Dr. Kissinger has carefully compiled an anthology of readings on basic national security policy which can be of great value to both the serious student of national strategy and the lay reader.

In presenting viewpoints on both sides of key issues, the articles provide a better than fair representation of governmental, scientific, and academic thought on the major defense policy problems confronting the United States today.

The book is divided into five parts, each with an introductory chapter by Dr. Kissinger, which serves to clarify the issues to be discussed. The five areas covered provide a brief outline of US problems: strategic doctrine and US defense policy; alliances in the nuclear age; neutrality and the problem of insurgency; the control of modern weapons; and national security policy and governmental organization.

The authors of the 25 articles are eminently qualified to write in these areas. Included are Kahn, McNamara, Enthoven, Schelling, Buchan, Gallois, Kennedy, Rusk, and Teller.

The book is recommended reading for anyone interested in national strategy problems facing the United States.

LIBERAL EDUCATION IN THE SERVICE ACADEMIES. By Major William E. Simons, United States Air Force. 230 Pages. Teachers College, Bureau of Publications, Columbia University, New York, 1965. $3.50 paperbound.

BY LT COL WALTER J. FAUSTINI, *Brazilian Army*

This essay scrutinizes the problems and challenges faced by the service academies, one of the greatest being the dilemma of a professional versus a liberal education. The author traces the history of the service academies from the origins of West Point to the establishment of the Air Force Academy, and through the postwar new joint horizons and the *Sputnik* impact.

Major Simons does not provide answers to all the issues, dilemmas, and shortcomings he presents, but he points out that their solution rests in the province of the liberal education —"the open mind, the means to progress in an open society."

PHOTOGRAPHER ON AN ARMY MULE. By Maurice Frink With Casey E. Barthelmess. 137 Pages. University of Oklahoma Press, Norman, Okla., 1965. $6.95.

Photographer on an Army Mule provides a sentimental, yet authentic, look at the Frontier Army in the American West during the late 19th century. Included is a written account of a soldier-photographer who served 30 years at various Western forts in cavalry and infantry units.

The book is enriched by 116 photographs of post activities, barracks life, Indians, and field duties. The story is without great drama or excitement but is, nonetheless, a vivid human account of the everyday life of the frontier soldier.

It provides excellent background reading to those interested in Western history between 1873 and 1900.

DECISION AT LEYTE. By Stanley L. Falk. 330 Pages. W. W. Norton & Co., Inc., New York, 1966. $5.95.

BY CAPT ROBERT M. WORCESTER, *USAR*

In an encompassing narrative of land, sea, and air conflict, Mr. Falk has brought together the pivotal clash of forces at Leyte in the Philippines.

Leyte proved to be the beginning of the end for Japan during World War II. The author points out the problem that Japan faced as a result of the split authority between her army and navy.

Mr. Falk provides solid insight into Japanese planning and action by thorough research and a keen understanding of the problems and structure of the Japanese war effort.

ELIZABETHAN MILITARY SCIENCE. The Books and the Practice. By Henry J. Webb. 240 Pages. The University of Wisconsin Press, Madison, Wis., 1965. $7.50.

BY LT COL ROBERT E. MILLER, *USA*

Professor Webb's interest and experience in military subjects are more than academic. He served as a combat historian with the 9th US Army in World War II, and carried his interest in military history with him into academic and civilian life.

The art of printing was a relative infant at the beginning of Queen Elizabeth's reign, and there were only a few English texts on military subjects. By the end of her reign, there were pamphlets and books on virtually all aspects of the military art.

The author surveys the military literature of the time and discusses its effects on army doctrine, tactics, and reorganization. The chapters on military personnel, infantry, cavalry, and field artillery treat several problems that are with us today.

THE CONFEDERATE HORSEMEN. By David Knapp, Jr. 302 Pages. Vantage Press, Inc., New York, 1966. $4.50.

A lifelong interest in Civil War history and scholarly research have resulted in this book on the cavalrymen of the Confederacy. All of the better known cavalry leaders of the Confederate Army and many of the lesser known are included in this work.

THE BOLSHEVIKS. The Intellectual and Political History of the Triumph of Communism in Russia. By Adam B. Ulam. 598 Pages. The Macmillan Co., New York, 1965. $9.95.

BY LT COL MICHAEL M. MRYCZKO, *USA*

"Communism = the interests of the rulers of Soviet Russia" is an equation that the author develops and proves in this book. He takes the reader back nearly 150 years to trace the origins and heritage of the movements in Russia which culminated in the second Revolution of 1917.

Professor Ulam presents sufficient information on the pre-Lenin era in Russia to take the reader quickly, but thoroughly, through the Decembrists' uprisings, and the Populist and Marxist movements to reach the Bolshevist movement following the entry of Lenin on the revolutionary scene in the latter part of the 19th century. The major emphasis is placed on the 1900-1924 period.

This book provides valuable background to assist the reader in understanding communism. It gives a good insight into the maneuvers and manipulations that are the heritage of contemporary Communist leaders and will be of assistance in the evaluation and determination of the goals hidden behind the Communist smokescreens.

VIETNAM HEARINGS. Voices From the Grass Roots. A Transcript of Testimony Given at the Hearing on the War in Vietnam Conducted by the Honorable Robert W. Kastenmeier, Member of Congress, 2d District, Wisconsin. 159 Pages. Doubleday & Co., Inc., Garden City, N. Y., 1966. $1.95 paperbound.

BY LT COL HAROLD B. BIRCH, *USA*

At hearings held in Madison, Wisconsin, in July 1965, Congressman Kastenmeier provided an opportunity for citizens of his district to present their views on Vietnam. This book is a transcript of those hearings, which have been referred to as a "demonstration of democratic vitality" by *The New York Times*.

The hearings have balance and perspective in representing the positions because of the selection of witnesses and by the skillful use of questions by the Congressman. Readers interested in the dimensions of the argument for and against the US presence in Vietnam will find this an interesting collection of those arguments.

POLICIES TOWARD CHINA. Views From Six Continents. Edited by A. M. Halpern. 523 Pages. McGraw-Hill Book Co., New York, 1965. $9.95.

BY COL DOUGLAS KINNARD, *USA*

In this volume, Dr. Halpern contributes an incisive introduction and a thought-provoking concluding chapter. Each of the 16 chapters by authors of diverse nationalities and backgrounds presents a survey of the problems of Chinese policy. The US view is not included, although it is included in *The American People and China*, another volume in this series.

The book provides a deeper comprehension of the "China problem," and a better perspective of our China policy.

DECISIVE BATTLES OF WORLD WAR II: The German View. Edited by H. A. Jacobsen and J. Rohwer. Introduction by Cyril Falls. Translated From the German by Edward Fitzgerald. 509 Pages. G. P. Putnam's Sons, New York, 1965. $10.00.

BY MAJ JACK G. CALLAWAY, *USA*

The battles analyzed in this book are not considered to be decisive from the traditional standpoint, that is, where the fate of a nation or civilization was determined by the outcome of a single battle.

The ideological differences of the combatants in World War II and the technological progress achieved in the early part of the 20th century made it difficult for a single battle to produce an ultimate decision. These battles, however, are regarded as culminating points which altered the course of events and opened the door to new phases of the war.

The battle analysts are noted German historians and the German generals who were in command at the time the battles occurred.

The authors describe the course of the battle; investigate the objectives, concepts, and estimates of the military and political leaders on both sides; and establish the place of a specific battle within the general picture of the war.

Most interesting are the authors' conclusions concerning the various factors which led to a German defeat in a specific battle and the effect of the battle upon the future course of the war.

The book is well documented. It contains sketch maps which are adequate for reader understanding of each study. It also contains a detailed chronology of the significant events in each phase of World War II.

THE UNCERTAIN GIANT, 1921-1941. American Foreign Policy Between the Wars. By Selig Adler. 340 Pages. The Macmillan Co., New York, 1965. $6.95.

BY LT COL GEORGE S. PAPPAS, *USA*

This book focuses on an important, but little understood, period of the past—the two decades between the World Wars. These were critical years in US diplomacy as statesmen who believed in participation in international affairs found themselves without the backing of the American people or elected representatives in the Government.

Dr. Adler vividly presents the various attitudes and involvements during this period. He discusses the isolationism which resulted in the nonmembership of the United States in the League of Nations. The conferences for disarmament, reparations and tariffs, the Kellogg-Briand Pact, and the tribulations of Herbert Hoover are reviewed as part of the diplomatic dilemmas encountered by American statesmen.

Charles A. Lindbergh's Atlantic flight is viewed by the author as one of the factors resulting in a change of public opinion in the United States, for it brought fresh interest in international comity.

The rise of fascism and nazism, the Good Neighbor Policy, the diplomacy during the Roosevelt administration, and the gradual involvement in World War II are all described as striking contrasts to the earlier isolationist policies.

These history-packed years were the last period when Americans would view international incidents without the threat of nuclear breakthrough. As such, they are of great interest to every student of US foreign policy.

THE CHALLENGE OF HUNGER. A Program for More Effective Foreign Aid. By I. W. Moomaw. 222 Pages. Frederick A. Praeger, Inc., New York, 1966. $5.95.

BY MAJ BARTON M. HAYWARD, *USA*

Here is an eloquent case for foreign aid. Dr. Moomaw's provocative title sets the theme for his work: while many of the world's people are hungry, the affluent nations cannot sit idly by and do nothing. Of particular importance, he feels, is the current attitude of the American people.

If foreign economic aid is drastically cut or withdrawn, the United States may face even greater dangers in the future. To combat these dangers would be far more expensive than a well-conceived, organized, and administered foreign aid program now.

THE COMPACT HISTORY OF THE KOREAN WAR. By Harry J. Middleton. 255 Pages. Hawthorn Books, Inc., New York, 1965. $5.95.

BY MAJ ANTHONY P. DE LUCA, *USA*

From the commitment of Task Force *Smith*—the first American unit thrown into combat on the Korean Peninsula—to the signing of the armistice agreement at Panmunjom three years later, the United States was engaged in her first limited war—limited both geographically and in purpose.

This history is basically a look at the high-level conduct of the war, interspersed with personal, emotional passages as extracted from other works about the Korean War, such as General Douglas MacArthur's tribute to the infantry soldier, and his address to a Joint Session of Congress following his relief from command of the UN forces in Korea.

VIET-NAM WITNESS: 1953-66. By Bernard B. Fall. 363 Pages. Frederick A. Praeger, Inc., New York, 1966. $6.95.

Echoing the theme that South Vietnam will "probably rank second only to the mishandling of the whole China problem as one of the single most incredible failures of American foreign policy," Mr. Fall has selected from his writings on southeast Asia those which suggest this theme.

As stated in the introduction, the previously published articles selected for compilation in this book provide a good basis for an over-all appraisal of the Vietnam situation of today. The book covers the final days of the French in Vietnam, the "Second Indochina War," and the current trend toward escalation of that war.

The author discusses the psychological and nationalistic attitudes which influence the action, the impact of religion on Vietnamese politics, the comparative statistics of forces committed and losses suffered in the first and second Indochina wars, and some reasons for past failures and future problems.

U. S. WARSHIPS OF WORLD WAR II. By Paul H. Silverstone. 442 Pages. Doubleday & Co., Inc., Garden City, N. Y. $4.95.

This fact-packed handbook provides a comprehensive rundown on the fighting ships that went to sea for the United States during World War II. Photographs, specifications, armament, complement, builder, launch date, official naval number, and fate are included for battleships and carriers down to lighthouse tenders and tugs.

Nearly 400 photographs selected from official US Navy sources are included.

OTHER BOOKS RECEIVED

AFRICA. By Waldemar A. Nielsen. 167 Pages. Atheneum Publishers, New York, 1966. $1.65 paperbound.

CHINA. By Harry Schwartz. 153 Pages. Atheneum Publishers, New York, 1965. $1.65 paperbound.

LATIN AMERICA. By Tad Szulc. 195 Pages. Atheneum Publishers, New York, 1965. $1.65 paperbound.

THE MIDDLE EAST. By Jay Walz. 184 Pages. Atheneum Publishers, New York, 1965. $1.65 paperbound.

RUSSIA. By Harrison E. Salisbury. 144 Pages. Atheneum Publishers, New York, 1965. $1.65 paperbound.

SOUTHEAST ASIA. By Tillman Durdin. 158 Pages. Atheneum Publishers, New York, 1965. $1.65 paperbound.

THE UNLOVED GERMANS. By Hermann Eich. Translated From the German by Michael Glenny. 255 Pages. Stein & Day, New York, 1965. $6.95.

LET US HAVE PEACE. The Story of Ulysses S. Grant. By Howard N. Meyer. 244 Pages. Collier Books, New York, 1966. $2.95.

AMERICA'S PARADISE LOST. By Willard Price. 240 Pages. The John Day Co., Inc., New York, 1966. $5.95.

ARMED FORCES TESTS. Questions and Answers by Jack Rudman. 376 Pages. College Publishing Corp., Brooklyn, N. Y., 1966. $3.95.

FIGHTING GENERALS. By Curt Anders. 320 Pages. G. P. Putnam's Sons, New York, 1965. $5.95.

HALF-SUN ON THE COLUMBIA. A Biography of Chief Moses. By Robert H. Ruby and John A. Brown. 350 Pages. University of Oklahoma Press, Norman, Okla., 1965. $5.95.

FORTS OF THE WEST. Military Forts and Presidios and Posts Commonly Called Forts West of the Mississippi River to 1898. By Robert W. Frazer. 246 Pages. University of Oklahoma Press, Norman, Okla., 1965. $5.95.

OXFORD ECONOMIC ATLAS OF THE WORLD. Third Edition. Prepared by the Economist Intelligence Unit and the Cartographic Department of the Clarendon Press. 286 Pages. Oxford University Press, New York, 1965. $15.00.

THE SHIPS AND AIRCRAFT OF THE UNITED STATES FLEET. Compiled and Edited by James C. Fahey. 64 Pages. United States Naval Institute, Annapolis, Md., 1965. $3.50.