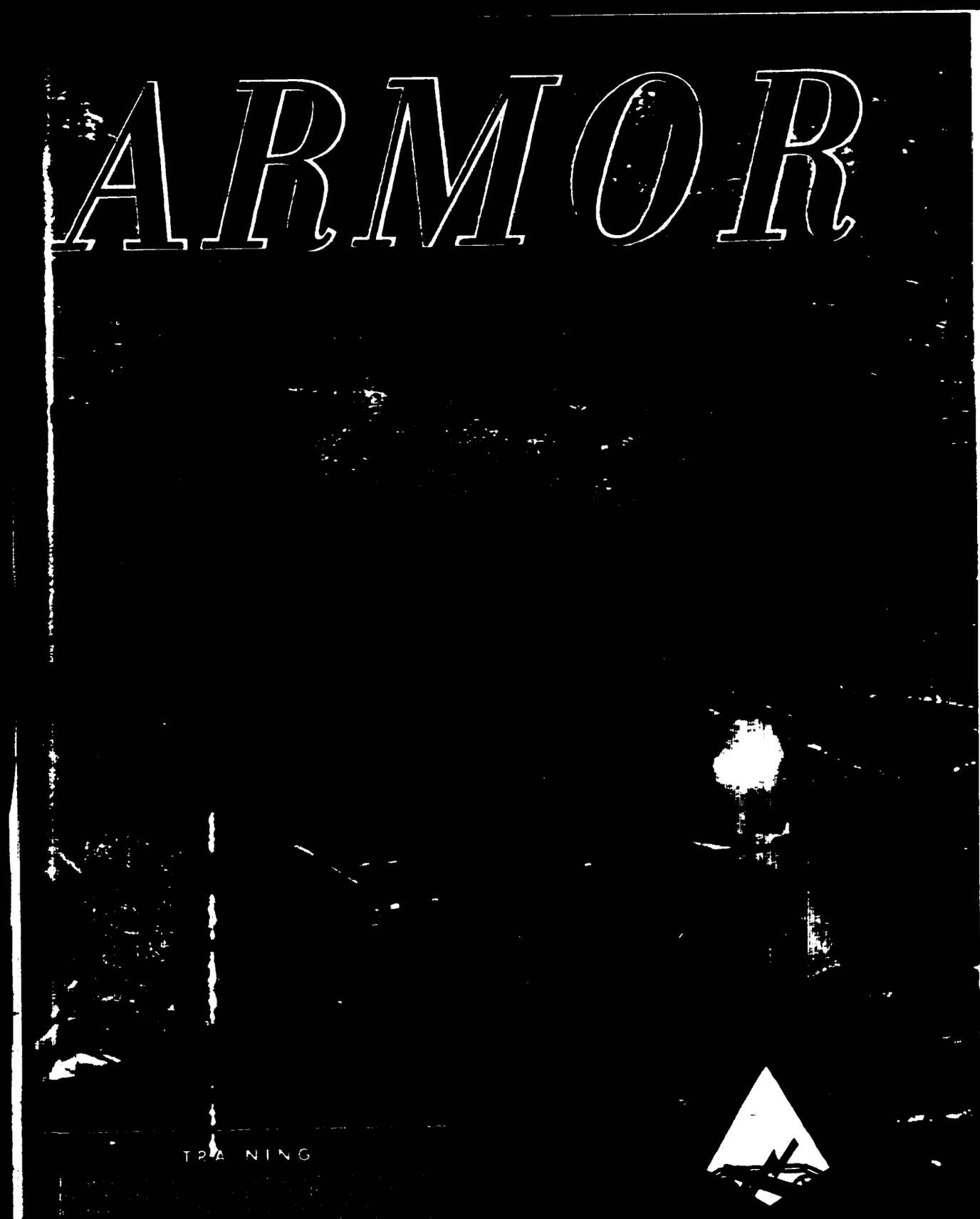
ARMOR



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ARMOR

The Magazine of Mobile Warfare

Continuation of THE CAVALRY JOURNAL

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BEDFORD FORREST

and His Critter Company

by

Andrew N. Lytle

Bedford Forrest, whose philosophy of "first with the most" is the keynote of mobile warfare, was one of the outstanding Confederate leaders in the Civil War. In four years of spectacular leadership he never knew defeat. Small wonder that Sherman once said "I am going to get Forrest if it takes ten thousand-lives and breaks the treasury."

$4.00

LETTERS to the EDITOR

Under Consideration

Dear Sir:

Inclosed is a picture of the outstanding Armor Graduate at Alabama Polytechnic Institute receiving his award.

We at Alabama Polytechnic Institute think that the present awards presented by the US Armor Association to the outstanding Armor Graduate are a step in the right direction. I would like to see more thought given to re-

warding the second year basic and the first year advanced cadets who have done outstanding work in Armor. As you know, the second year cadet begins his branch material work and it is at this time that we really begin to know the cadet and to interest him in a Military Career in Armor.

LEWIS M. STEWART
Major, Armor

Auburn, Alabama

One Reason for Publishing ARMOR

Dear Sir:

As a Tank Sergeant recently returned from Korea, I want to say how interesting ARMOR has become to Non-Coms who like to read instructive articles about our branch. It is not so full of discussion of international policies on a high level that there is little room for lower level combat articles. Instead, ARMOR deals with problems in tactics, training, and maintenance on a platoon level, which are problems in the everyday life of the Non-Com.

Herewith, a Non-Com's congratulation on ARMOR's journal.

HENRY P. BLANTON

New York, N. Y.

● *Thank you! But remember that the material is submitted by you, the reader. What goes in the magazine depends on you. See the RECONNOITERING column in this issue.*—ED.

Local Chapters

Dear Sir:

In the September-October 1952 issue of ARMOR you published a letter where I proposed comment and discussion concerning local chapters of the United States Armor Association.

Since that time a lot of water has gone over the dam.

A local chapter was formed in the Washington area and two meetings were held which, I believe, were highly successful.

At the first meeting in April of this year, we were honored by having speakers present such as General Devers, Lt. General Crittenberger, and Lt. Colonel George Peterson from the Research and Development Section of the Detroit Tank Arsenal.

At our second meeting we were fortunate to have as speakers: Major General R. W. Grow, wartime commander of the 6th Armored Division, and Colonel Harry W. Johnson, head of the Command and Staff Department of The Armored School.

Due to the fact that many Armor officers, or those interested in mobile warfare, assigned in the Washington area, have duties which do not permit them to keep fully abreast of their arm, these meetings have served to bridge the gap in assisting them in furthering professional knowledge in their particular specialty.

The next meeting is planned for September, and many officer changes will have taken place in the Washington area. If any officer being assigned in the Washington area would contact me by telephone at JAckson 7-9400, extension 409, I will be glad to add him to our invitation list for future meetings.

I am likewise interested in inquiring as to the possibility of other chapters being formed. For example: Fort Knox, Fort Hood or Camp Irwin, or at any overseas station, particularly in the vicinity of the Second Armored Division, or in the locale of any of our Armored Cavalry Regiments, either abroad or in the States.

It is realized that a chapter is probably more beneficial to an area such as Washington, where Armor officers get together very seldom, due to their divergent Army assignments, but I am firmly convinced that these local chapters, formed on an informal basis similar to the one in Washington, are extremely worthwhile.

C. R. MCFADDEN
Captain, Armor

Washington, D. C.

In Appreciation

Dear Sir:

As recipient of the "U S Armor Association Award" for New Mexico Military Institute I want to express my thanks for the fine books, the gratis one-year membership, the certificate, and the honor.

I will remember this occasion as one of the high spots in my life and I will endeavor to live up to this honor in the future years.

JAMES W. ELLIOTT

Amarillo, Texas

● *This letter was received by General Crittenberger, our Association President. It was considered of sufficient importance to bring it to the attention of our readers.*—ED.

Armor vs. Mobility

Dear Sir:

I am interested in the field of Armor as a career. At present, I am a Sophomore at the Alhambra High School, Alhambra, California. Can you tell me the vocational possibilities in armor and the preparation involved.

Inclosed is a sketch of an assault gun, featuring compound-oblique armor on both the front and the side. Used in a tank assault gun team I believe it would be effective. However in this design—it puts armor before mobility.

STANLEY REQUA

San Gabriel, California

● *This sketch, coming from one of our young members, is most interesting. If anybody can assist in supplying information, we will be happy to forward it to him.*—ED.

Mistaken Identity

As OLD BILL adorned the cover during the 1920's we believe we have a case of mistaken identity. However, several old issues have been forwarded for Herr Franz's daughter.—ED.

Dear Sir:

From May 3, 1916 till February 5, 1917 I was attached as a messenger to the volunteer Apache Indian Scout Detachment in Mexico, Lt. James A. Shannon was then commanding the 22 Apaches and the Interpreter. I was a member of Troop "G," 11th Cavalry, and reenlisted after the first world war in the 7th Cavalry at Fort Bliss, Texas. I returned to Germany in 1932.

Either in 1923 or 1924 one of your issues carried the scouts on the front page picture. I don't remember the issue of the journal. The number in question was burned up in my home in Berlin during the attack on that city on June 21, 1944.

I am wondering if it is possible to obtain a copy of that issue. I have a crippled girl 17 years old who was badly hurt during the air raid, and who is corresponding now with some Apache children living on the White River reservation and she would like very much to have one of these pictures of the scouts.

CARL A. FRANZ

Neckartailfingen,
Germany.

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Rates: See bottom of contents page.

THE COVER

This training shot photographed at Fort Hood is representative of multifarious scenes taking place around the globe wherever the U.S. Army is stationed—be it a "hot front" or a "cold front," a stateside station, or one to the North or to the South. Regardless of location the necessity for this training cannot be overemphasized. Its importance in preparing an individual to become a combat tanker should not be overlooked. Ask the man who is one.

JEB STUART

by

Capt. J. W. Thomason, Jr.

J. E. B. Stuart is one of the most dramatic figures in American History. As a cavalry leader in the Confederate Army he performed exploits that for skill and daring have never been surpassed in the annals of mobile warfare. His famous "ride around" McClellan's army is important military reading for the contemporary in the field of mobile warfare.

$5.00

While traveling by car to this office recently, a radio announcer made the statement, "And all the chicken does is lay the egg." He then proceeded to go into the various steps from the time of the laying of the egg until it was finally consumed at the breakfast table. It was picked up from the nest by a collector. The next man who handled it dry-cleaned it and put it in a room to cool. Then it was candled, graded and packed, and returned to a cold storage facility. A trucker came by and, for a slight fee, hauled this egg, with many other cases of similar eggs, to a wholesale distributor. Here, samples of the eggs were again graded and candled. Next, the egg was sold to a retail market. Here, the housewife purchased the egg and, several days later, served it to her husband, who actually consumed it for breakfast.

This tale can be likened to that of a person who writes a story, a letter, an essay, or any exposition he desires to sit down and put into words. For all the writer does is write the story—and submit it to an editor for publication. The editor then peruses it, making some editorial marks and, if it is of a military nature, or is written by a member of the armed services, he submits it to the Department of Defense for security review. Here, this material is handled by the various interested staff sections, depending upon the context. After clearance, the editor once again goes over it with a fine tooth comb prior to submitting it to the printing plant where the linotype operator sets it into type. The proofreader and copyholder read it, making corrections of typographical errors, and return it to the linotype operator for resetting. The compositor then inserts the corrected type slugs on the galley of type. The clean proofs are returned to the editor where they are pasted up by a layout man with appropriate pictures; captions, titles, and author's biography are added. It is returned to the printing plant and the corrections and paging-up are made by the compositor, the linotype operator and the proofreader. It is returned to the editor for a second check and then put within the pages of the magazine in its proper sequence. The editor then travels to the printing plant for a final check prior to actual printing.

The article is now printed on large sheets of paper. After the pressman completes his operations, the bindery workers fold the various signatures (printer's term for sections) of the magazine, and the signatures, plus the cover, are collated, trimmed, inserted into envelopes, and sent to the readers throughout the world for their consumption.

Yes, all the chicken did was lay the egg, and all the writer did was write the story. But without either of these originating acts being accomplished we would not have the egg nor would we have the story.

ARMOR is proud of the fact that its material in the past has been of such high caliber, and it is a tribute to all the writers who started with the original idea. For each and every author had a story to tell and, what is more important, he took the time to sit down and write it so that every other Armor officer or person interested in mobile warfare could benefit by his (the author's) experience.

As we have often stated in the past, the purpose of this magazine is to "Disseminate knowledge of the military art and science, with special attention to mobility in ground warfare; to promote the professional improvement of its members; and to preserve and foster the spirit, the tradition and the solidarity of Armor in the Army of the United States."

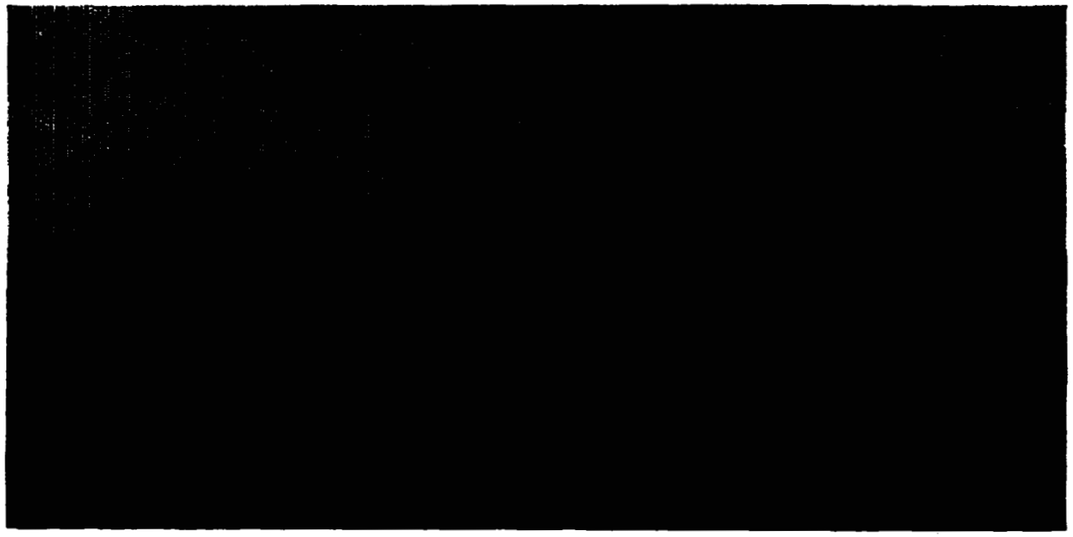
In keeping with this policy, the Editor, of necessity, must reject some manuscripts he receives because they are untimely, or are controversial in the family circle of the military, or because of possible security violations. A few, having no bearing whatsoever in a military publication, are, of course, rejected completely and without reservation.

The more professional people who take the time to originate a story and submit it for potential publication, the better selection we will have, and the better in quality will be *your* magazine.

Keep them rolling in!

The Editor

THE COMING WAR



A CONCEPT

THE ANSWER

ARMOR

by **COLONEL ROTHWELL H. BROWN**

NOBODY in the free nations of the world wants war; least of all the professional soldier who has witnessed at first hand the terrible destruction of war in terms of human lives and property.

However, the professional military man is well aware of the fact that the problems posed by politics and diplomacy and economic factors are frequently beyond the capacity of individual diplomats to solve. The pages of history are bloody with the great succession of wars that have rolled ceaselessly on through the years since the first cave man bashed in the head of a stranger trespassing near his cave entrance. Most professional military men, as much as they abhor war, are inclined to agree with the Bible, "and there shall be wars and rumors of wars and the end is not yet."

There are two conditions which exist in the Soviet Union which make war an imminent danger. One lies in the very nature of the form of government which has been established there. In the first place, the form of government is a complete dictatorship, normally controlled and guided entirely by one person, and always has been controlled and guided by a very small group of absolute dictators in those periods of transition when the one strong man has not been able to seize absolute control. The other facet of the picture lies in the very nature and teachings of Communism itself.

Dictatorship and war, and Communism and war are almost synonymous—or else the pages of history lie.

The presence of either one of these conditions in a country as great in land mass, population and resources as is Russia today could lead eventually to war. Today in Russia both of these conditions are present.

Although every effort must be made to explore all possibilities for peace, the country as a whole, and above all its professional military men, must be constantly alert for war and prepared for an outbreak on a grand scale at any time.

Historical Lessons in Mobility

The horse placed at the disposal of the great strategists of the past an agency for increasing mobility and therefore an agency for waging war over relatively great distances through its capacity for carrying supplies, ammunition and increased caliber of weapons. Gunpowder and its train of weapons eliminated the horse and the gas engine took over through its greater superiority, more lasting endurance, greater flexibility, and increased mobility. The internal combustion engine has increased the scope of war from the mobility of the horse, which was about twenty to fifty miles a day for sustained operations, to a mobility in terms of thousands of miles a day when we consider the airplane and hundreds of miles a day when we consider the tank and other automotive equipment.

If the United States and the other free nations of the world are to continue to exist in freedom, it is essential that they, and their military leaders in particular, have a complete and profound understanding of the full scope that has been made available in the conduct of war through the use of this otherwise peaceful and productive product of man's genius.

World War I and the machine gun indicated beyond any shadow of possible doubt that the horse could no longer provide mobility on the battlefield. There was no great weapon of decision available in the hands of any commander. In order to break the terrible stalemate which existed, two methods were adopted. Initially, both the Germans and the allies attempted to overcome the loss of mobility and the loss of the capability of strategic maneuver by assembling huge quantities of artillery and literally blasting a path through the enemy's defenses. Without a mobile weapon capable of exploitation, even tremendous quantities of artillery could not develop strategic maneuver. The defender was always able to wall off the breach which, due to the nature of artillery, was definitely limited in depth and flexibility.

Faced with a terrible war of attrition, which was slowly bleeding them white, the British finally developed the tank or "armored internal combustion engine." Although this weapon was used too soon, in limited numbers and never up to the full capability inherent in even the very earliest models of tanks, its impact on the Germans' defensive system, through its ability to penetrate further and faster than the breach could be sealed off, eventually led to overcoming the stalemate and to the final destruction of the morale and will of the German Army and the German people to fight.

During the years between World War I and World War II, those military thinkers in all countries who analyzed what had happened in World War I came to the conclusion that the tank once more had restored mobility to the battlefield and had placed in the hands of the tactical commander an offensive weapon with which he could achieve a

COLONEL ROTHWELL H. BROWN served in the China-Burma-India theater during World War II. He is presently Chief of the Combat Arms Advisory Group, Army Field Forces.

decisive and overwhelming victory.

Yet the teachings of these people, their writings and their thoughts were given too little heed in the staffs of military planners throughout the world.

Fuller and Liddell Hart in England wrote very clearly of the true nature of mobility in war and of the decisive characteristics of the armored vehicle in generating mobility. Guderian, in Germany, who read Fuller and Hart, arrived at the same conclusions. In this country, General Adna Chaffee and General Van Voorhis were men of the very greatest vision who saw the necessity of utilizing to the fullest the truly great and outstanding characteristic of armor, its mobility, and its demoralizing effect when used in mass.

The campaigns of World War II are still fresh in everyone's mind and it is perfectly clear that armor, as such, was never used to its full effectiveness throughout the entire war. Guderian's whole concept of war was whittled away by the German general staff, by changing tank models and by production of self-propelled artillery at the personal direction of Hitler. So the great armored army which Guderian saw as the vital weapon of war was never constituted. What Hitler thought was enough "panzers" proved to be far too few for total war. In this country, the death of General Chaffee brought about a more conventional concept in the development of armor and led to its piecemeal utilization throughout the entire war.

Good and capable commanders took over, but since there was no inspired leadership either in Washington or at Fort Knox, armor subsided to a subordinate role. Those who had been inspired by the great vision of General Chaffee, those who had gone up on the heights and had seen what might have been, remained helpless and inarticulate. Today the same lack of understanding and vision paralyzes the development and use of armor—its few outstanding proponents have died, or have almost given up the fight—but the spark, the flame still exists. Given support and direction from above—armor, the integrated fighting team, the weapon of mobility, the weapon of decision, would come to life and become one of the truly great defenders of our country and our way of life. Tanks we have, but armor we do not have. Without armor defeat may lie just around the corner.

The Threat

If an all-out war should come, once again the world will be stunned and hold its breath in panic just as it did when the German mechanized armies first swept through Poland and then a year later swept through France, *in each case completely paralyzing each country in a very few weeks*. There will be one great difference, however, for the Soviets could sweep across Europe with thousands of armored vehicles compared to only hundreds available to Hitler's generals.

There is only one weapon which can possibly hope to cope with the mobility and momentum which could be generated in a mass Soviet armored attack which could be launched at any moment across Europe. This weapon is a superior armored force. Superiority in quantity may not be necessary but we must have superiority in quality and very near equality in quantity. Otherwise, Soviet armor will cast aside everything that opposes it, as a spring freshet, roaring down from the mountains, casts chips, logs and trees upon its banks in its pell-mell rush to the sea.

Unfortunately today we have neither the armored forces in being which will be required to face the might of the U.S.S.R., nor anyone in high position who appears to see the decisive effect that the mobility and momentum of these large masses of Soviet armored forces will have on the course of a possible future war.

In the defensive phase of thinking and planning that has absorbed our attention since World War II, I do not believe that our planners have lost sight of the decisive possibilities of warfare of movement. However, I am positive that they have lost sight of the fact that armor today is the only available weapon which can restore decisive maneuver to the battlefield. Too many of our planners appear to have come to the conclusion that decisive mobility can be restored to the battlefield, first through increasing the mechanization and motorization of the standard infantry division by the inclusion of tanks and additional track and wheeled carriers, and, secondly, by the development of specialized airborne divisions.

From very close observation of the operations of our infantry divisions in Germany and from study and evaluation of the operations of our infantry divisions in Korea, it is clear to me, that the inclusion of three tank companies and one tank battalion in an infantry division has not increased its capacity for decisive maneuver on the battlefield but has only provided the infantry division with an antitank weapon.

The infantry division now possesses so many motor vehicles that its actual mobility has been markedly decreased through its complete dependence upon an adequate road net. It cannot operate effectively cross-country. Furthermore, the infantry division has never, to date, been provided with the type of communications which is essential if the division is to be capable of great flexibility and maneuverability.

Our present day infantry division has, to a large extent, lost the inherent mobility of its foot soldiers to traverse all types of terrain, through their dependence upon the transportation of the foot soldier elements of the division in motor transportation. Glaring examples of this have been apparent in every postwar maneuver held in Germany and have been clearly demonstrated time after time in Korea. Only in the Korean operations of Van Fleet do we find the infantry back on their feet.

Our planners, clearly recognizing the necessity for attaining decisive battlefield maneuverability, and of being able to conduct a war of movement, have become bemused and confused with the capabilities of airborne troops to effect the so-called "vertical envelopment" and thus restore decisive mobility to the battlefield.

Furthermore, the theory that air power alone through strategic and tactical bombing can bring an enemy to defeat has certainly been badly battered if not disproved in Korea. In spite of every effort by our Air Force, Communist forces in Korea have built up constantly their personnel strength and have been able to increase their stockpiles of all munitions of war. If this has been possible, in a small, narrow, constricted peninsula, the capability of air power to inflict mortal damage across the whole land mass controlled by the U.S.S.R. seems highly improbable.

A considerable number of our planners and officers in very high positions who believe in the ultimate success of airborne operations consider that present airborne troops are capable of making deep penetrations, up to almost 1,000 miles, into enemy held territory.

There is, in actuality, no basis in fact upon which such a belief can be held. In the face of Soviet aerial strength it would be practically impossible to deliver airborne troops for any considerable distance into enemy controlled territory. The attrition rate in both material and personnel, if such an operation was tried, would be so ghastly as to preclude any further attempts until such time in the war as we have finally achieved complete air superiority. Such air superiority will not have been achieved until we have destroyed enemy productive capacity and therefore will have won the war.

But, granting for the sake of argument that airborne forces can be air delivered deep into enemy held territory, such forces cannot hope to achieve any major success on the ground in the face of the tremendous number of armored units, from divisions through armies, which are available to the enemy.

Under present and foreseeable weapons systems, no weapons capable of defeating the tremendous number of Soviet tanks which could and would be thrown against any airborne drop, are presently available to go in with airborne troops. The development of completely suitable antitank defensive weapons which can be air-dropped so as to be available at the most critical period in any airborne operation appears to be highly improbable.

The use of airborne troops in what might be termed limited objective drops offers some reasonable hopes for success, provided they can be reinforced immediately with strong armored units. Any analysis of airborne drops in the past, and even limited study of the capabilities of airborne troops in the future, will indicate that the link-up must be executed rapidly and violently. This definitely precludes the use of standard infantry divisions and necessitates the use of strong armored forces.

So far our planners talk in terms of air drops which will be reinforced later by troops advancing over the ground. This theory seems to have the cart before the horse. It appears far more realistic and practical to reinforce armored units which have already seized a critical objective.

Airborne troops are in fact light infantry troops. Except when used and reinforced as conventional infantry their staying power is extremely limited. But their great mobility makes them an ideal force to be integrated with the really mobile ground force—armor.

Effectiveness of Antitank Weapons

For every military weapon which has been developed, there has always been developed a defensive or counter weapon. It has been obvious for years that every country, and every army, has been expending every effort to develop a weapon with which to combat the tank. Such development has varied from the buried mine through the various types of individually fired bazookas, through self-propelled antitank guns and on up to an extremely heavy tank itself. All of these weapons have certain capabilities in destroying individual tanks. All of these weapons have certain capabilities, when properly employed, to slow down an armored attack, but no weapon as yet forseeable for development, is capable of eliminating armor—the integrated fighting team—as the decisive arm on the modern battlefield.

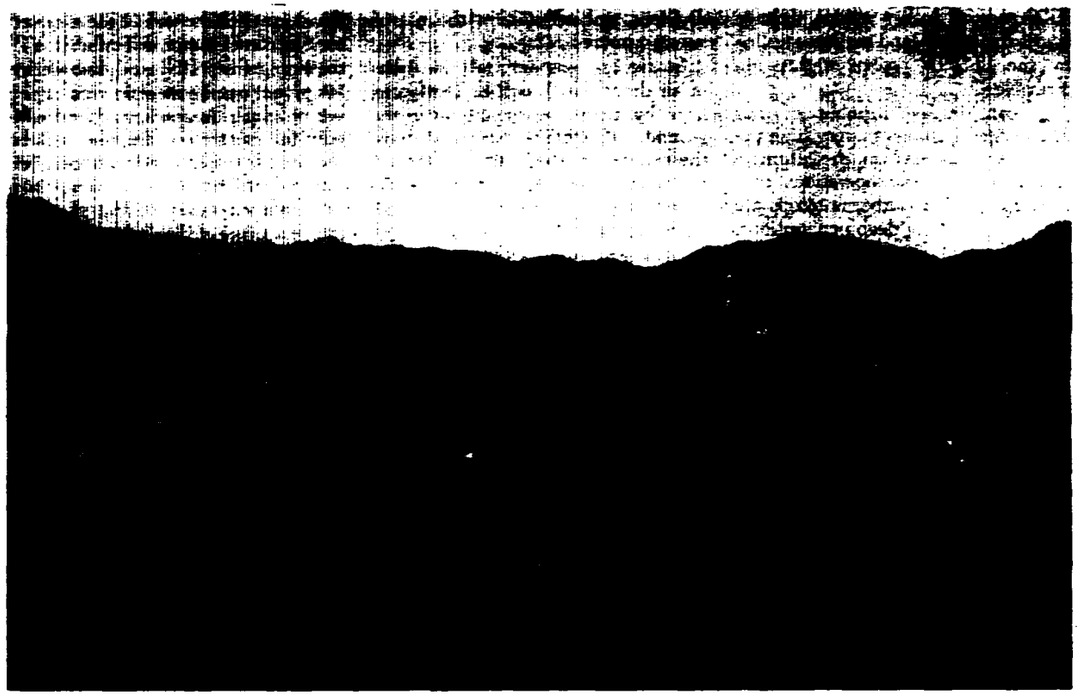
In this country, in our search for a cheap antitank weapon, we went through an entire development cycle in a tank destroyer program which started out with light armored vehicles carrying heavy cannon. Upon the conclusion of this development program, we had gone a full cycle and had found that the tank itself was the best antitank weapon. Today, in the search for an antitank weapon which can provide complete security for infantry elements, we have embarked once again on the light vehicle, big gun development program. Analysis indicates that this program will also end in the conclusion that the tank itself is still the best antitank weapon.

In the face of increased antitank developments, the task of the armored unit becomes more difficult. It will require greater skill and knowledge for proper employment in view of the use of atomic weapons, and undoubtedly far greater coordination will be required between armor, airborne infantry, artillery, air, and engineers than was necessary in the past. Armor, in mass, skillfully used in conjunction with airborne infantry, artillery, air, engineers, and atomic weapons, can and will continue to dominate the modern battlefield.

It is a matter of the very gravest concern that the Soviets appear to understand this principle and have developed their entire concept of modern warfare around the mass armored army.

The value of armor as a major arm appears to have been submerged in the concept of using it largely as a supporting arm. The present infantry division now contains approximately half as many tanks as an armored division without possessing the armored division's flexibility of movement, communications and supply. The mobility of the tank in the infantry division is now no greater than that of the individual foot soldier. Likewise the shock action and range are limited to that of the foot soldier. The mobility of the tank in the armored division, the shock action of the mass armored attack, the ability of armor to maintain momentum and to drive deep and keep on going, has likewise been sacrificed and subordinated to the infantry concept.

The dissipation of our armored strength, or perhaps it might be more clearly stated, the dissipation of our tank productive capacity, by parcelling it out in small units to each and every infantry division has made it impossible for us to support at the same time the major armored forces which are a real basic requirement for the defense of our country, and which should be "in being" upon the outbreak of an actual war. The catastrophe which overcame France less than fifteen years ago is still a vivid memory; yet some of our planners seem to have forgotten that France was defeated even though she possessed far more tanks of a superior design than were available to Hitler. It seems incredible in the face of such an historical example that we should adopt the same policy.



Tanks in the Infantry division provided it with an antitank weapon rather than increased its capacity for maneuver.

Application of Armored Doctrine to Tank Design

Our present day division of tanks into three classes, based on weight to a large extent, rather than function, has, in my opinion, had more influence upon the development of tanks than has any concept of utilizing tanks for the support of infantry or for their major role in armored forces.

Our present doctrine states quite clearly that we need three types of tanks, a light tank for reconnaissance, a medium tank as the main tank of the armored division and the infantry division, and a heavy tank to support medium tanks in both the armored and infantry divisions and at the same time be available as a major antitank weapon.

Since all development work has been limited to tanks within these three characteristics of weight, there has arisen a considerable difference of opinion among those who want tanks to support infantry and among those who want tanks for use in mass armored forces, as to the armor protection and gun caliber which should be carried within each of these three classes of tanks.

As a natural consequence of a desire of all armor people to carry a larger gun and more armor protection, we have now arrived at a point at which our light tank, to all intents and purposes, equals our medium tank of the last war in every characteristic except the one for which it was supposed to be designed, and that is agility and mobility.

Again the medium tank has increased in size and gun power over those we used in World War II, largely because the German 88mm gun was able to effectively penetrate and outshoot our *under gunned* medium tanks. In an effort to produce a better tank gun than the 88mm gun and in an effort to protect our tanks against the 88mm gun, we have developed a medium tank which is to all intents and purposes a heavy tank. In the development of our medium tank, we have not been realistic in assessing the final weight at which our tank would arrive upon completion of the development program.

It is now quite obvious to many of us that in developing our present medium tank we have come up with a tank which is not suitable for its use as the medium tank in the armored division, armored corps, or armored army. On the other hand, I do not believe that our present medium tank meets the requirements for a medium tank in the infantry division. We have developed a compromise medium tank which is not satisfactory for either role. Such a compromise may be necessary (from a production standpoint only) and it may be that we will have to reevaluate the role of the medium tank in the armored division, particularly in exploitation, based upon the actual characteristics and capabilities of the vehicle which we have had developed. I do not believe that we can blame Ordnance for this in any way. I am convinced, that, with exceptions in accessories, Ordnance has tried its best to build what we have asked for, as set out in our military characteristics.

We have also included within our so-called family of tanks a heavy tank. As our medium tank is a product of our respect for the German 88mm gun, our heavy tank is a product of our respect for the Joseph Stalin series of Russian tanks.

Our thoughts on the heavy tank have really not crystallized. Our doctrine states that we require a heavy tank capable of defeating any possible development in enemy tanks, but so far we have been entering the cold waters of this development race gingerly. In our design characteristics for the heavy tank we have proposed to build a tank which is impervious to enemy heavy tank fire and which carries a gun capable of defeating any possible enemy tank. Based on these two characteristics, we have very rightly conceded that agility is of lesser importance.

In analyzing the development of our present series of tanks, it is my conclusion that our tank development program has been far more influenced by our original concept of the family of three tanks, and by our respect for the 88mm gun and the Joseph Stalin tanks than it has been by wise analysis of the functional requirements for a tank.

The time is now overdue when we should make a complete restudy of our tank military characteristics and determine if our present concepts are sound and if we should rewrite our military characteristics based upon functional requirements.

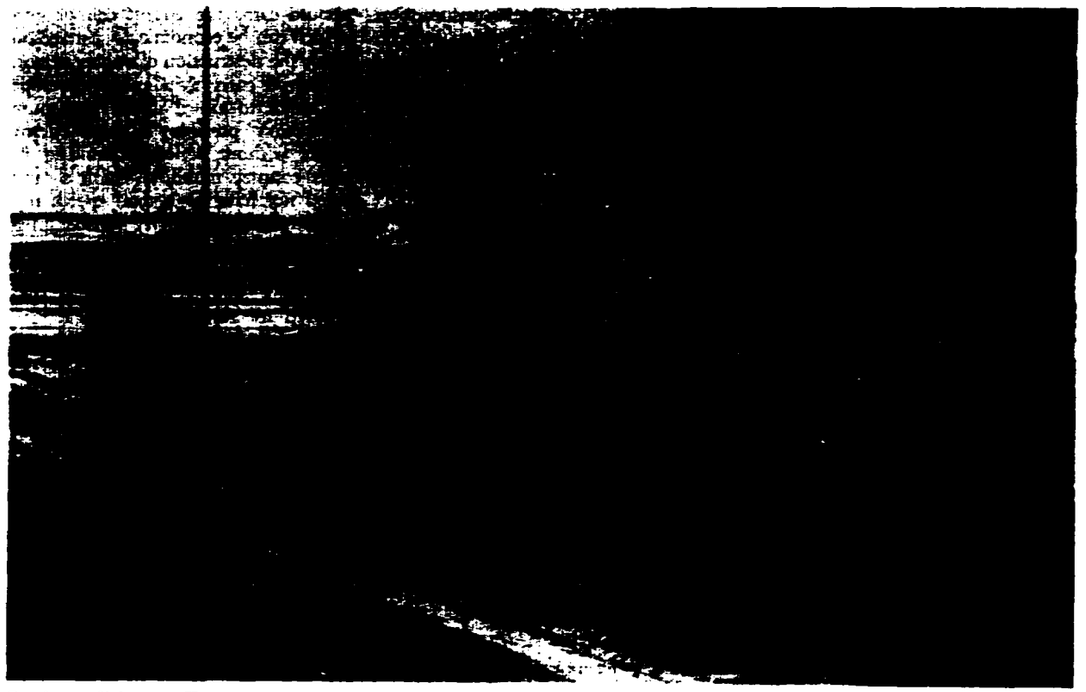
If we really need a light tank for reconnaissance and security missions, there should be a complete and thorough understanding of just what "light" means in this case. What is the real, honest, basic foundation on which to develop the light tank? Have we achieved the proper relationship between the gun, armor protection and agility in our present light tank?

In terms of man-hours of labor, strategic materials and cost, there is so little saving between the present light tank and the present medium tank that its inclusion in our armament is certainly worthy of intense study.

I personally believe that a requirement exists for a light tank but I do not believe that any conceivable requirement exists for the light tank which has been recently designed and produced. We need a light tank with a big gun but with less armor, less weight, far greater agility and mobility, and a far greater radius of operating action. Such a tank would provide reconnaissance and security elements with an armored vehicle capable of limited fighting for information and survival and would represent a very marked and important savings over accomplishing this same mission with a medium tank.

The armor might of the armored division, armored corps and armored army must remain with its medium tanks. I believe that we should examine hardheadedly our medium tank program and determine if the present medium tank actually meets the requirements for our armored forces. I feel quite certain that complete analysis of this problem will indicate that presently we do not have a tank which is suitable.

The present types of medium tanks, which were built as a defense against the 88mm gun, and possibly against the Soviet 100mm gun, have become too heavy, too complicated, too expensive and too limited in mobility to properly perform the vital mission of restoring mobility to warfare, nor are they capable of driving deep into the enemy's vitals and of being able to continue to exploit those deep pene-



Static conditions in Korea as shown have done much to affect our thinking regarding Armor's characteristic—Mobility.

trations which are the vital, outstanding capability of a real armored force.

Somewhere along the line, through analysis and study, we must determine the proper relationship between a few heavy, highly armor protected medium tanks and a very considerable number of less heavily armored medium tanks. In other words, we must re-examine our position and determine if we have arrived at a sound and proper balance between quantity and quality in limited quantity.

The present operating range of our series of medium tanks is a source of very deep concern. Even with jettison type gas tanks, I doubt very much if our present medium tanks, under combat conditions, will have an operating radius of 90 miles. This is too limited. In addition, it will impose an almost insuperable resupply problem on all agencies supporting armored units. I am of the opinion that in order to restore basic mobility to the medium tank we must re-examine our position with respect to its weight.

I am opposed to reducing the caliber of the gun carried on the medium gun tank; I am opposed to reducing the velocity of our armor piercing types of ammunition; I am opposed to reducing the number of rounds of cannon ammunition which can be carried; I am opposed to reducing our range for accurate tank fire below 2,000 yards; I am opposed to reducing the crew below the four now provided in the M48 tank. Furthermore, I am opposed to any attempts to reduce the weight of the tank by minor changes in the silhouette. I am opposed to reducing the size of the turret below that now provided on the M48 tank. I am opposed to eliminating the 360° traverse of the turret for the light and medium tanks.

I am of the opinion that we can expect only minor reductions in fuel consumption in any tanks approximating the weight of our M47 and M48 tanks. More simple, rugged and less expensive power packages can and must be developed, but even optimum development in this line cannot overcome the ratio between weight and fuel consumption. I am convinced that we must restore our long range mobility to the medium tank for the armored division, and that this can only be done by a calculated reduction in the amount of armor protection required, coupled with complete new designs, based on functional requirements.

We need to make a thorough analysis of our armor requirements based upon the capabilities of our tank cannon, our sighting systems, our ability to secure a reasonable percentage of "first round hits," the use of the range finder, our ability to fire accurately at far longer ranges than was possible in the last war, and the destructive quality of our armor defeating ammunition.

We should study the capabilities of Soviet antitank and tank cannon, and determine the point at which only minor additional protection is being secured but where a marked increase in weight is occurring. Nothing is gained by having more armor than is required to protect against the 76mm gun, if at the same time we do not secure protection against an actual Russian gun such as the 88mm or 100mm. If we can fire effectively at ranges from 1,000 to 2,000 yards, do we need to carry armor that will give us protection against hits by Russian cannon at ranges of 300 yards or less?

Somewhere there is a balance between weight or armor protection, and mobility or fuel consumption and logistical supply, which will be the very best balance that can be achieved. I do not believe that we have achieved this point of balance in any of our present types of tanks; we must develop a great mass of data before we can achieve it with certainty.

In view of the above discussion it is quite clear, to me at least, that our present medium tanks do not meet our definite requirements for the medium tank in the armored division, and that they also fail to meet the functional requirements for such a type tank in the infantry division. The more I study the problem, the more I am forced to the conclusion that no *single* tank of the medium class which has been or can be developed will fulfill the functional requirements for a medium tank in these two types of organizations.

It is my considered opinion that at the same time we re-evaluate the design characteristics of a medium tank for the armored division, we should determine once and for all, first is there an actual overriding, overpowering requirement for the inclusion of tanks within the infantry division? I believe that the answer to this will be *yes* and that we must, therefore, secondly determine the military characteristics of the most effective tank possible for inclusion in the infantry division.

In spite of every development in antitank weapons, no single weapon developed solely for its antitank capability is capable of providing effective defense for the infantry. It is quite obvious that the infantry must be provided with an effective antitank weapon, and since the tank has been proven to be the best possible antitank weapon, tanks must be included within the infantry division. The number of tanks to be included should be only those absolutely required in this antitank role. Since this is the case, such a tank can differ materially in its characteristics from the medium tank in the armored division.

The infantry tank, since it will be used in every infantry division, regardless of the type of terrain which that infantry division will be occupying, should have far greater cross-country mobility than the medium tank in the armored division. It should carry the largest caliber gun which can be economically carried on it for the destruction of enemy armor, it should carry a balanced envelope of armor to afford it the maximum protection possible against enemy tanks without seriously limiting its cross-country mobility. Such a tank need not have high road speed, nor need it have a capacity for sustained operation in excess of fifty or sixty miles. Every design characteristic of this tank should be carefully considered for inclusion only if it contributes materially to improve the mobility and gun capability of the tank to support the infantry both defensively and offensively in normal infantry operations.

With respect to the heavy tank, I believe that we should continue to design and produce limited numbers of various types of heavy tanks so that if and when the day arrives when the positive requirement for this type of tank is established, we will have a capability of producing a reasonably suitable heavy tank which has been tested, both for mechanical reliability and for its weapon capability. I believe that the production of any great number of heavy tanks at the present time is most undesirable. Any attempt to standardize a heavy tank in the light of present day knowledge will prevent the complete exploration of this entire program.

The heavy tank presents so many engineering problems from the viewpoint of its power package, its suspension system, its gun control system and its overall reliability, that every conceivable design concept should be thoroughly and exhaustively investigated.

Tactical Employment of Armor

Our present tactical doctrine on the employment of the armored division is limited to supporting the World War II type corps. Our present doctrine fails to take advantage of the really great characteristic of armor in mass, the armored corps and the armored army, which is its ability to provide the commander with a weapon of decision through its capability of operating deep into the enemy's defensive area. The limited objective attack in which armor supports the much slower advance of the entire infantry line fails to take advantage of the great mobility of armor and reduces it to a purely supporting, rather than a decisive, role.

Every attempt to increase the mobility of the infantry division has resulted in a weak and ineffective duplication of the tank elements only of the armored division. The infantry elements, the artillery elements, and particularly the communications elements of the infantry division, have never been raised to the mobility level of corresponding elements within the armored division.

Mobility in the armored division does not stem solely from its tanks but stems from the fact that every single element in the armored division has mobility equal to, if not greater than, that of the tanks. Also, the mobility of the armored division is more than just the mobility of its elements; it is psychological, it is ability to think fast, to communicate, to operate quickly, to disperse rapidly, to converge quickly, to move great distances with a minimum of administrative orders, and above all it is ability to maintain momentum. These concepts do not exist to any considerable degree in the present infantry division which is tied to a wire communications net and which thinks in terms of thousands of yards a day, whereas armor thinks of hundreds of miles per day.

Practically every difficulty under which armor operates today stems from the lack of appreciation of the full capabilities of armor. I doubt that the possibility and feasibility of waging an entire war based on a moving pattern of successive objectives in which armor drives deeper and deeper into the enemy's vitals has ever been realized or if it has been studied at all by our planners. The Germans had the germ of the idea in their campaigns against the Soviet Union. The Soviets appear to have expanded on the German concept. But it is my opinion that no country, and no army, has fully and completely explored the vast realm of tactics and strategy which lies just across the threshold of today's appreciation of the capabilities of armor in combat of the future.

We have developed three really mobile forces: armor, the mobile ground force, airborne, the mobile infantry force, and both strategic and tactical air. Somehow or other these three great mobile forces must be welded into an integrated fighting team.

Mass armored forces can move relentlessly over the ground to seize a vital objective. Once the objective has been reached they can be reinforced immediately by our airborne forces, who can consolidate the position and establish the temporary logistic base which can then be supplied through air transportation, protected by tactical air.

When the armored force moves on to the next objective the entire temporary base can be evacuated by air, and the great land lines of communications which defeated Napoleon and Hitler will cease to exist.

All the tools for victory are at hand, and it only needs the spark of genius of a great commander to develop the coordinated use of all of our great weapons. The destructiveness of our atomic weapons, the great mobility and flexibility of our Air Force and airborne forces and the ground mobility of our armored forces could be welded into a mobile fighting machine superior to anything ever conceived of in the past. With armor sweeping ahead, assisted by the destruction by our atomic weapons, with air power supplying protective cover overhead, and close and distant ground support, and delivering supplies and personnel to the great air bases which can be established through the advance of armor, mobility and flexibility in war could be established on a scale almost beyond comprehension.

American Industry

We are still the greatest productive unit in the world. Although there is much discussion as to the limitations of our productive ability, which make it impossible to support some of our proposed armored plans, I doubt that anyone has any real knowledge of the productive capacity of this country if it becomes necessary to completely utilize our great resources in all-out total struggle for survival. Too many of our planners are thinking in the terms of fighting a war while at the same time life will go on as usual for those not actually in the armed services. The destructive capability of the Soviet Union in a possible war of the future would be so great as to preclude any hope that we can fight them with one hand and eat our normal ration of butter and bonbons with the other.

Furthermore, there must be a hard-headed analysis made of our major military requirements. We never can expect to have unlimited quantities of any and every type of military weapon which might be conceived of as serving some useful even though limited purpose in war. If we are willing to concentrate on the design, development and production of those weapons which will really contribute effectively to winning a war, there is no reason to believe our great productive capacity cannot meet our military requirements.

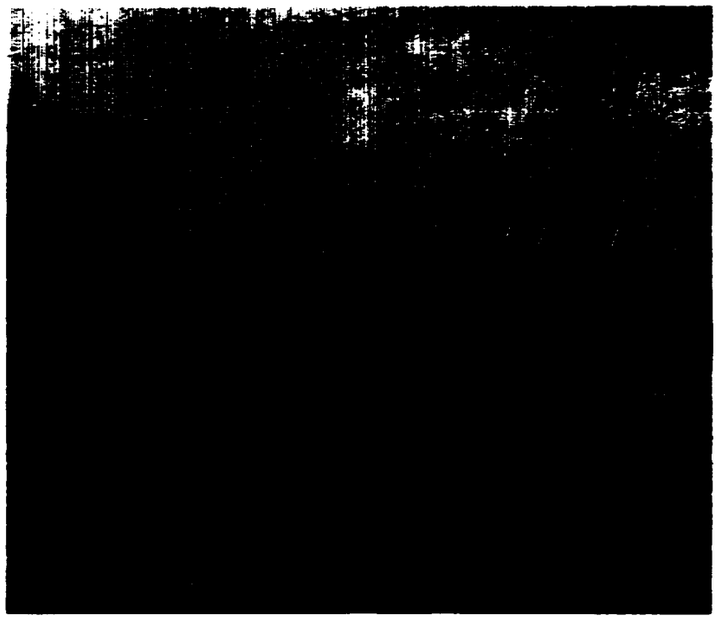
We are a country with the approximate population of one hundred and fifty-eight million people. We are allied with other countries to the extent that the overall population factor is probably somewhere around four hundred to four hundred fifty millions. This is the total population from which we can expect to draw our fighting strength. We are facing an enemy with a capability of drawing upon a population base almost twice the size of ours, and most of

these people are as entirely suitable for military service as are those upon whom we will have to depend.

Yet, in the face of this tremendous disparity in population or manpower resources, we are continuing to build and develop an army based upon the foot soldier. In other words, and in spite of statements to the contrary, we are still trying to develop our military strength based on a body for body basis. With our great manufacturing capacity and our great resources we could not hope to defeat the enemy without using these to the utmost. Since it is obvious that we could never defeat the Soviet Union and China on a body for body basis, it is absolutely essential that we develop a type of army which will permit us to use our industrial products. The weapon of war which offers the greatest return in the use of our productive capacity is armor. With armored forces completely coordinated with our airborne forces, armored artillery, guided missiles, air power, armored engineers, and our atomic weapons, there is some reasonable degree of hope that we can defeat any enemy, but if we continue to base our military structure upon the foot soldier we could very possibly suffer defeat in a future war and sink into complete abject slavery.

Too much of our effort today is being placed on eliminating mechanical deficiencies which exist in production models of tanks, and far too little effort is being made to increase the overall effectiveness of our armored forces through a thorough analysis of functional requirements.

The lull of tank design and development which followed World War II was succeeded by a panic design and production program upon the outbreak of the Korean War. This had led us into very serious difficulties. If we have learned from this that tank design and development and research must be a continuing project and not a project of "feast and famine," we will have gone far in solving our difficulty. If the necessity of maintaining adequate research and development programs in armor can be clearly delineated to the Congress so that money will be appropriated on a continuing basis, we will at once place our development program on a sound basis.



The weight of our medium tank has been affected by our WW II experiences.

Armor vs Atomic Warfare

Of all the capabilities of armor which are overlooked today by our planners, the ability of armor to operate against an enemy equipped with atomic weapons, or in exploiting the use of our own atomic weapons, is the most neglected and least understood.

Enough has been developed from the pattern of atomic research to make it quite clear that armor is the only arm which can exist, with any reasonable degree of safety, on the atomic battlefield, particularly in the face of enemy employment of tactical atomic weapons. The ability of armor to disperse, without loss of control and military effectiveness, is so much greater than that of standard infantry units as to need no elaboration. Likewise, the ability of armor to converge rapidly, efficiently and completely ready to fight is an outstanding characteristic. The protection against heat and radiation which is afforded by the armor of the tank, the personnel carrier and armored artillery has been clearly disclosed.

These three major characteristics will permit armor to operate immediately within an area subjected to hostile atomic attack. This will prevent the exploitation by the enemy of the destruction which has probably been rendered to standard infantry units within such an area. Even though infantry has been relatively protected in its foxholes, the atomic attack will probably have completely destroyed all infantry communications and all transportation normally organic to the infantry division within a large radius of operations. Under such conditions the coordinated defense of such an area by infantry appears highly improbable.

Offensively armor can proceed immediately into an area which we ourselves have subjected to atomic attack and can exploit to the utmost the effects of the atomic weapon. No other element in our armed forces has this capability, yet very rarely do our planners, or those in high position, make any mention of this outstanding capability.

It appears, to a large extent, that we consider the atomic weapon only in its application to conventional operations in which the infantry division and corps will take part. It is essential that an exhaustive and comprehensive study of the relationship between the decisiveness of the atomic weapon and the decisiveness of

armor be thoroughly explored. It appears useless and futile to attempt to exploit the terrific destructive power of the atomic weapon with conventional infantry forces.

It is therefore quite obvious that our current, and as far as I know, our projected doctrine on warfare is still living in the past history of World War II. We have not made any progress beyond the concept of using armor in a supporting and completely subordinate role. The use of armor in mass was never attempted in World War II and there is nothing today in our doctrine which indicates its use in this manner in the future. The dead hand of the past is preventing the development of a modern, current, realistic concept of war based upon the atomic weapon, the real capabilities of armor, and a sound doctrine in which armor, artillery, airborne forces and air through the use of atomic weapons are linked together in an unbeatable combination.

Tactical atomic weapons and armor can be the decisive factor on the battlefield.

Any analysis of the capabilities offered by modern means of warfare, always including the atomic weapon which can be either air or artillery delivered, the guided missile with conventional or atomic warhead, and the capabilities of air power in its normal roles, will show conclusively that the decisive role in battle has passed from the foot soldier of the past to armor. There can be no division between these decisive roles, and any attempt to divide the decisive role equally between the foot soldier and armor will cause the entire effort to fall in the middle. It is therefore quite apparent that our primary doctrine must be based upon plans which revolve around armor in mass as the main body of our protective forces.

Under modern conditions the selection of any objective for either strategic or tactical seizure must be based on the capability of armored components of the field army to reach that objective. Neither conventional infantry nor airborne infantry have within themselves the power to seize and hold any strategic or tactical objective in the face of enemy armored, air and atomic developments.

Unfortunately, the development of sound modern doctrine which will take full advantage of the real capabilities of armor especially when properly co-ordinated with airborne forces, and which will permit the fullest exploitation of our undoubted superiority in atomic weapons, and possibly in guided missiles, is lagging or is nonexistent, due to the failure to recognize the full capabilities of armor. Even at Fort Knox, the teaching of armor is restricted to those limited concepts which have officially received the full stamp of approval.

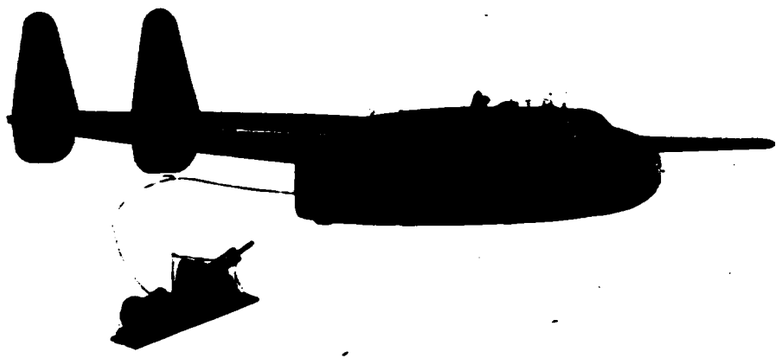
I believe that it is absolutely essential that a study be initiated on the very highest level to determine the effects that our limited population and resources will have on us if war with the Soviet Union, with her far greater resources, ever comes to pass. A factual analysis with decisions based on the facts as developed, is what we are proposing. We must arrive at a sound appreciation of the comparative cost of armored forces, which have some hope of success in combat, as against those organized along conventional lines. I sincerely believe that we can not hope to defeat the full might and power of the U.S.S.R. with our present balance of forces.

A study of our capabilities based upon total and all-out war for survival must be initiated. In the last war, I doubt that we even approached our full productive capacity for war. Since the last war, steel capacity, aluminum capacity, petroleum capacity and electric capacity have all made tremendous increases. In addition, great strides have been made in the utilization of atomic energy as power. Although we may be short in our stockpiles of some highly critical metals, we still have tremendous resources available. By proper maintenance and employment of the Navy we should be able to reduce the flow of strategic materials to potential enemies and assure the receipt of absolutely essential materials for our own use. There is no such thing as almost winning a war—*a war is either won or it is lost*. If we do not want to face the total destruction of not only our country but our civilization, it is high time we determine the maximum effort that can be exerted for the preservation of our way of life, and the proper balance of military forces which will be required.

Armor alone cannot bring victory, but mass armored forces properly organized, employed and supported by air borne forces, artillery, engineers, tactical and strategic air and all the other arms and services can be the hub around which an invincible force can be deployed.

ARMOR

and



AIRBORNE

by CAPTAIN JOHN C. BURNEY, JR.

KNOWING that our enemy in a third World War will be numerically superior in both manpower and equipment, our leaders are striving to equip our armed forces with the most modern and effective weapons. It is our duty to employ these weapons as efficiently as possible. This means that each weapon must be placed where it can be used most effectively. We cannot afford to invest heavily in superior equipment and then fail to take maximum advantage of its capabilities.

CAPT. JOHN C. BURNEY, JR., graduated from USMA in 1946. Following a tour of duty with the Constabulary, and a school assignment, he is presently serving with Army Field Forces Board No. 1, Fort Bragg, N. C.

The 140 medium tanks in the two tank battalions of the airborne division are not placed where maximum use can be made of the tanks' offensive power. Light mobile antitank vehicles should replace these tanks and the tank battalions thus released be placed in armored divisions or assigned to corps, army, or armored cavalry groups as separate tank battalions.

The organization of the airborne division has become obsolete. The division was assigned tank battalions before concentrated efforts were made to develop lightweight full-tracked vehicles and guns. There was no mobile antitank weapon which could accompany airborne troops into an airhead in the assault phase. However, a different situation exists today. Considerable progress has been made toward the development of light, mobile antitank vehicles, one of the earliest of which was the 105mm Recoilless Gun mounted on the Bren Gun Carrier. An effective antitank weapon capable of being delivered by parachute and assault aircraft is within our grasp.

The vehicle envisioned as being the most suitable substitute for the airborne division's tanks would weigh between 15,000 and 18,000 pounds and would have ¼- to ½-inch armor plate. It would be full-tracked and highly mobile with a ground pressure of approximately three pounds per square inch. Main armament would be a 105mm recoilless rifle or a weapon of at least equal effectiveness. Such a vehicle would not only be used as an antitank weapon but would also possess limited offensive capabilities and be employed accordingly.

It is not intended that a light antitank vehicle be standardized for use only by airborne units. The weapon would have Army-wide application, the degree of which would depend upon the performance of the most satisfactory model developed. For example, it could well replace the tanks in the tank company of the infantry regiment. Vehicles of this type have already been developed. Early standardization of a satisfactory replacement for the tanks of the airborne division is possible and warrants immediate modernization of our present organization.

There are sound arguments for and against the reorganization of armor in the airborne division, but a thorough investigation and impartial evaluation of the advantages and disadvantages will prove that the present T/O&E is outmoded and inefficient.

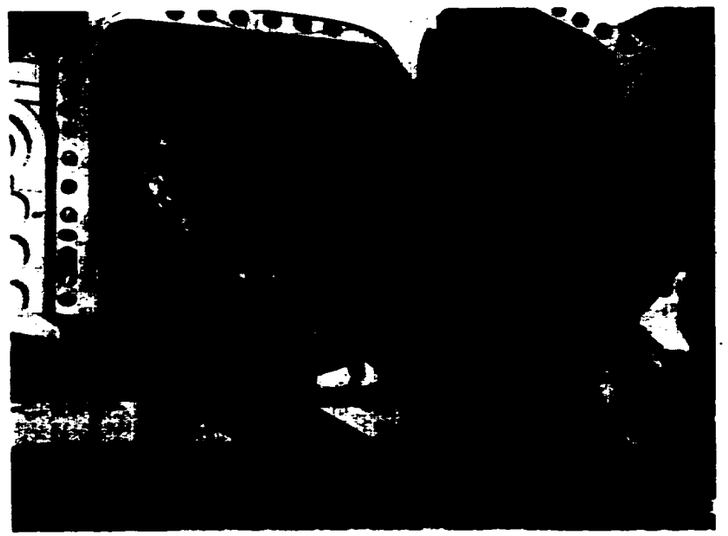
With the equipment now assigned, the airborne division's best antitank defense is not available when it is most needed. The two organic tank battalions in the airborne division provide the primary protection against enemy armor, which constitutes the greatest threat to troops in an airhead. At present, there is no means by which the division's tanks can be delivered in an airborne assault. Thus, at the time when airborne troops have the greatest need for armor, they are denied the use of their organic tank battalions until ground link-up is effected.

Airborne units could, however, have their primary antitank defense at the most critical moment—during reorganization after landing when they are particularly vulnerable to attacks by enemy armor. Loads weighing as much as 18,000 pounds can be dropped by our standard troop carrier aircraft, the C-119. A lightly armored, full-tracked vehicle mounting a 105mm recoilless gun would fall within this weight classification. Now that the development of heavy-drop techniques and lightweight vehicles and weapons have combined to make possible effective antitank protection for airborne troops at all times, the organization of the airborne division must be altered accordingly.

Replacing tanks with a lighter and smaller vehicle would result in additional advantages to airborne units. A full-tracked weapon with armor protection against small arms fire could have a ground pressure of approximately three pounds per square inch as compared to eleven for a medium tank. This means greater flotation and increased trafficability, allowing infantrymen more continuous fire support. The tank maintenance problem, with which the average airborne officer is not trained to cope, would be considerably reduced by the use of recoilless guns and less complex vehicles. Training problems would be simplified for the airborne infantry commander. Eliminating the tremendous gasoline consumption of the M48 would alleviate supply difficulties. Reduction of these problems would allow commanders of airborne units to concentrate more fully on the employment of their units.

The substitution of a lightweight antitank vehicle for the tanks of the airborne division would permit more effective employment of a very potent and very expensive offensive weapon, the medium tank. The 140 medium tanks in the airborne division are equivalent to two-thirds of the medium tank strength of the armored division, where the medium tank is the basic weapon. Releasing these tanks would permit employment in mass, preferably as part of armored divisions.

The brief history of the tank has repeatedly substantiated the fact that armor must be employed in mass to take the maximum advantage of its offensive capabilities. One of the finest examples of this is the German defeat of France in 1940, when the Wehrmacht, with 2200 armored vehicles employed in mass, defeated the French who dispersed too many of their 4000 armored vehicles among their infantry divisions. General Heinz Guderian was the principal German proponent of the grouping of tanks in large formations. It was he who sped from Sedan to the English Channel and, held back by Hitler's orders, watched the British evacuate Dunkirk. It was Guderian who made the 240-mile sweep behind the Maginot line and later encircled thousands of Soviet troops during the Russian campaigns. The Soviets learned rapidly from the Germans, formed tank armies, and soon had the Wehrmacht's panzer formations on the run. In 1934, a French captain, Charles de Gaulle, strongly advocated these tactics in his book *The Army of the Future*, but the only ones who apparently appreciated his work were the Germans. We cannot afford to make the same mistake the French made by dispersing a large percentage



This artillery piece being loaded will provide limited antitank defense.

of our tanks among units in which they cannot make full use of their mobility and shock action.

An equally compelling reason for the removal of tanks from the airborne division lies in the obvious advantage of their employment in the armored division with supporting arms of equal mobility. These tanks would not be tied to the speed of the foot soldier but could be "married up" with armored infantry, who can stay with tanks when an opportunity to exploit success suddenly appears. In addition, armored infantry has

Special parachutes are utilized to assist in the drop of heavy equipment.

protection against small arms fire, further increasing the capabilities of the tank-armored infantry team. Tanks should be supported by armored artillery rather than the towed artillery of the airborne division if continuous support is desired, for only armored artillery can properly support the advance of tanks in fluid, fast moving situations. Tanks should have the support of service units that are trained and equipped to provide for the many needs of armored units, such as the engineer, signal, and quartermaster units of the armored division. Only when employed in a team, each unit of which is fully equipped to support one another, are tanks being utilized to their maximum advantage.

A very important and often vital consideration is the fact that tank battalions relieved from airborne divisions and placed in armored divisions or designated as separate tank battalions could then be employed by commanders of combat commands, armored divisions, and armored cavalry groups whose specialty is armor. These men have been trained in the use of armor, have had experience in tank battalions, and have a greater understanding of tank warfare. Certainly any tank battalion will be far more effective when working under senior commanders who fully appreciate both the capabilities and limitations of armor. Woe to the officer who underestimates the maintenance requirements of his tanks or overestimates the ability of his armor to negotiate difficult terrain. And how many opportunities for success will be lost by those who fail to realize the effectiveness of the tank's firepower and mobility! We must exploit our every advantage in the specialized Army of today and place as many tanks as possible under leaders trained in mobile warfare.

In addition, the concentration of tanks in larger units permits their employment in more appropriate terrain and against more profitable objectives. In any large combat zone, some divisions must operate in poor "tank country." Tanks assigned to these divisions would also be employed in poor terrain. On the other hand, if this armor were massed, it could all be committed in the most suitable terrain, where the tanks could achieve greater success with fewer losses. Some objectives can be taken most efficiently with infantry and others with armor. Armor of the infantry and airborne divisions would often be used against objectives inconsistent with the tank's capabilities. Massed, this same armor could attack the enemy where he is most vulnerable to this weapon. One doesn't use a screwdriver to pound a nail and a hammer to drive a screw. Likewise, we must employ an essential tool of today's Army, the tank, with a thorough understanding of its capabilities and limitations.

A leading argument against the replacement of the tanks of the airborne division is that the division will fight in a conventional ground combat role a majority of the time and will often need armor in both the offense and defense. This is true, and the division *can* have armor when needed. But rather than give the division 140 organic tanks, let us keep our organization as flexible as possible and attach tanks from separate tank battalions to the airborne division as needed. When tanks are required, the corps commander could determine the number to be attached on the terrain, situation, and the needs of other divisions. Flexibility thus acquired would result in more efficient use of armor. Those who insist that the tanks should remain an organic part of the airborne division still fail to satisfy that division's requirement for antitank protection during airborne operations.

Another consideration is that current doctrine emphasizes the fact that airborne troops, as specialists, should be withdrawn from contact as soon as their place can be taken by non-

airborne troops. Perhaps in the next war airborne units may not be employed so often as conventional infantry as many people expect.

Those who object to the reorganization of the airborne division as proposed herein will then argue that cooperation and coordination between infantry (and artillery) and attached armor would be less effective than that achieved with organic tank battalions. Commanding officers of organic units, through continued training and operations, come to know each other's individual capabilities and limitations and establish SOP's which facilitate close cooperation. This, too, is very true and very desirable; but is it as strong an argument against the removal of the tanks from the airborne division as those set forth advocating the change? The argument is further weakened by the fact that a close understanding between individual tank and infantry units can be achieved by habitual attachment of the same units and a thorough training program emphasizing the tank-infantry team.

Another argument against the substitution of a lightly armored antitank vehicle, probably mounting a recoilless 105mm gun, for the tanks of the airborne division lies in the obvious disadvantage of pitting such vehicles against enemy tanks. It is certainly true that the most potent weapon against an enemy tank is another tank. Light, mobile antitank vehicles with relatively short ranges and poor armor protection are not as capable as tanks at seeking and destroying enemy armor. Also, such a weapon is primarily an antitank vehicle and, as such, does not possess the versatility and offensive capabilities of the tank. However, some effective antitank weapon must be made available for use during airborne assaults. We must substitute the best antitank vehicle which can be delivered by parachute for the medium tank of the airborne division and make the airborne division airborne. As emphasized above, tanks can always be attached as required to increase the offensive power of airborne units.

To keep step with our rapid progress in the development of guns and vehicles, still another change should be effected in the airborne division. The primary antitank weapon of the reconnaissance company, the M20 75mm Rifle (Recoilless) mounted in the ¼-ton truck, should be replaced by the same vehicle designated to replace the tanks. The relative ineffectiveness of the M20 Rifle mounted in the ¼-ton truck has already been proved in combat, in Korea. We have better antitank weapons; one of them should be substituted for the present T O&E weapon.

The M24 Light Tank was eliminated from the airborne division because it could not accompany airborne units in airborne operations. At one

As paratroopers float to earth, a team removes 105mm howitzer from its harness.

time, the 75mm Recoilless Rifle on the ¼-ton truck was the best antitank weapon which could be delivered by parachute. However, times have changed. Better antitank vehicles of the same weight class are available. Great strides have been made in the parachute delivery of heavy items of equipment. We must put teeth in the primary reconnaissance and security unit of the airborne division, give it an effective antitank gun, increase its mobility, give it increased armored protection commensurate with air drop capabilities, and keep pace with developments in guns, vehicles, and heavy drop.

To create the armored corps as urged in recent articles in this magazine by prominent leaders in mobile warfare, it is essential that we economize in our past overgenerous assignment of tanks. There should be no organic armor in units where maximum advantage cannot be taken of the tank's offensive capabilities. The airborne division is the most obvious organization in the above classification, so let us start there. Organize those tanks into armored divisions or separate tank battalions for assignment to corps, armies, and armored cavalry groups and substitute for them a vehicle which airborne troops can use to greater advantage; and airborne units, armored units, and the Army as a whole will greatly benefit. The parachutist in an airborne operation will have the antitank protection he requires, more tanks will operate in mass with supporting arms of equal mobility, and the Army will be making the most effective use of one of its most decisive weapons, the medium tank.

Sum & Substance

A regular feature in ARMOR, where you may express your views in approximately 500 choice words—the effective medium between the letter and the article. This section is open to all on any subject within the bounds of propriety. Name and address must accompany all submissions. Name will be withheld upon request. No pseudonyms.

Within the Airborne Division, there are two medium tank battalions, both of which are under division control. At the present time there is no practical method for airlifting the medium tank. Thus the tank battalions become a part of the "landtail." However the necessity for the immediate breakthrough of these battalions to support the Airborne personnel after a drop cannot be overemphasized. For the various roles that these tankers assume, ARMOR has called on the 44th Tank Battalion, 82d Airborne Division. In addition to their roles during the attack, counterattack or defense, the Battalion Commander and his Company Commanders reiterate, time and again, the ever present problem of supply and resupply. Further, the armor-infantry teamwork is once again proven.—THE EDITOR.

The writer of the following received his commission from North Georgia College in 1933. During World War II he served in the Mediterranean Theater with the 757th Tank Battalion, in support of the French Expeditionary Corps. Subsequent to the war he served a three-year tour with the Joint Brazil-United States Military Mission in Rio de Janeiro, as Chief of the Armored section. He has commanded the 44th Tank Battalion of the 82d Airborne Division since July 1952.

The basic principles of armor employment in an airborne division are the same as those used for armor in a standard infantry division. The problem in the airborne division is not how to use the armor, but how to keep it available for use.

The armor of an airborne division consists of two medium tank battalions, both of which are directly under division control. There are no Regimental Tank Companies, and there are no tanks in the Division Reconnaissance Company. The reasons for these differences from the standard infantry division become apparent when we stop to consider the fact that there is, at the present time, no practical method of airlifting the medium tank. The largest available carrier, the C-124, will lift only one light tank. Therefore, the armor of the airborne division, though organic, is not air transportable.

Primarily for the same reason, when planning an airborne operation, the division is divided into two tactical echelons: "the assault" and "the follow-up." The assault echelon is made up of parachute and air landed elements which seize the airhead. This echelon normally consists

All photos U.S. Army

Lt. Col. A. L. Cochran

of three regimental combat teams, the division reserve and division troops. The follow-up echelon is that portion of the division, less administrative units, which is not initially used in the assault. It joins the assault echelon as soon as possible by land, air or water.

Discounting an amphibious operation, and remembering that the two tank battalions are not air transportable, it becomes obvious that if the units in the airhead are to have armor support, a land link-up must be effected. The follow-up echelon, consisting of the two tank battalions, plus any tactical elements of the division not air transported into the airhead, may be termed the "landtail" of the airborne division.

The present concept of a normal link-up type airborne operation is as follows: The air assault elements of the division are marshalled at several airfields, usually a hundred miles or so behind friendly lines. Concurrently, the landtail goes into an assembly area close behind our front lines, and prepares for the link-up operation. On D-day the assault elements are dropped on the objective deep in the enemy rear and secure the airhead. It is extremely unlikely that the armored landtail will make the link-up drive alone. Normally it will be attached to a larger ground link-up force such as an armored division or a standard infantry division. This will depend on many factors such as friendly forces available, enemy situation, distance to be travelled to the airhead, etc. Let us assume that in a given situation, the airborne division's landtail is designated to spearhead the larger link-up force. The two tank battalions should be reinforced with sufficient infantry, engineers, and artillery to make a balanced force. A solution would be one infantry battalion, one engineer company, and the medium battalion of airborne division artillery. Tactical air support is essential. The senior tank commander should command the task force.

The attack and penetration of the

enemy lines by the link-up must begin simultaneously with, or shortly after, the airborne elements drop on their objective. In order to effect the breakthrough, the closest possible coordination with friendly front line units is essential. The fullest support of their available fire power should be secured to soften up the point selected for penetration.

Once the enemy line has been penetrated, the armored link-up force will enter into what resembles the exploitation phase of an armored operation. The difference is that the primary mission is to join the airborne division in the airhead as quickly as possible, and destruction of the enemy is secondary. For this reason, the task force commander should be assigned an axis of advance which permits him to by-pass enemy resistance encountered.

Upon approaching the airhead area, the need for early recognition and communication with the assault elements in the airhead perimeter is vital. There is nothing more embarrassing than a meeting of two friendly forces, each of which thinks the other is the enemy. This is where careful prior planning and coordination pays off. Let us consider several of the methods available for effecting the joining of the two forces.

A liaison party from the armored task force should jump with the assault elements into the airhead. The mission of this party is to help coordinate the approach and entry of the task force into the airhead area.

Light aircraft should be used to the maximum. One or more such aircraft from the assault elements should be designated to contact the L-19's of the approaching task force.

A system for challenge and reply by the use of pyrotechnics should be previously arranged.

No-fire lines should be established for both the elements in the airhead and the approaching link-up force. Neither side would shoot past their line unless specifically requested by the other.

What happens to the two tank battalions once the link-up has been completed? Within an hour or so after the link-up, one would normally find the following situation: One battalion would split up with a tank company attached to each of the three regimental combat teams. The other tank battalion would be held in division reserve. Thus we find the armor distributed in the same manner as the standard infantry division with its three regimental tank companies and the division tank battalion.

The armor of the airborne division, once the link-up is completed, adheres to the normal principles of employment of tank companies and tank battalions.

LT. COL. ARCHIE L. COCHRAN

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The writer of the following served in the Pacific during World War II. He is a Quartermaster Officer on a two-year troop duty tour with Armor. He has commanded Headquarters and Service Company of the 44th Tank Battalion since January 1953.

Modern warfare, which exploits the characteristics of armor—firepower, shock action and mobility—to the fullest, requires that today's armor leaders possess considerable knowledge of supply.

1st Lt. R. H. Shuford

Logistical support of highly mobile tank battalions organic to an airborne division is a problem of major importance which necessitates detailed planning to effect maximum coordination at all levels. The logistical maxim "THE IMPETUS OF SUPPLY IS FROM THE REAR," is especially true in the tank battalions of the airborne division.

Armor columns, spearheading the penetration to link up with infantry elements expanding the airhead well in advance of front line positions, frequently create a large gap between themselves and their combat and field trains. This situation demands that prior planning concerning supplies focus around the five classes of supply and necessary transportation of the basic loads.

The Headquarters, Headquarters and Service Company of the Tank Battalion with its organic supply platoon furnishes the means for accomplishing the function of supply. Composed of 29—2½ ton trucks, 1—¾ ton truck and 1—¼ ton truck, the supply platoon provides the necessary transportation to effect supply action for forward fighting elements. Normally commanded by a Lieutenant, the supply platoon is divided into three sections: an ammunition section, a POL section and a ration section. This division facilitates control and expedites the handling of the three major classes of supply.

Class I items, rations and water, are supplied to front line tankers, in a fast moving situation, during the early hours of darkness by a link-up of kitchen trucks with tank crews at a pre-arranged location. For the initial phase of the link-up the Small Detachment 5 in 1 Rations are suited especially to provide an adequately balanced diet for a short period of time. A three day reserve of "5 in 1" issued to tank crews in the assembly areas prior to the jump-off will generally take care of emergency situations such as individual tanks cut off due to the tactical situation. The Operational "B," field rations, are brought forward in kitchen trucks to give crewmen at least one hot meal per day when the tactical situation permits.

Water may be issued on a can-for-can exchange basis using the two water cans on the M-47 tank as original cans, or O V M cans may be filled directly from the water trailer which is brought into the forward area with the kitchen trucks.

Class II, items of T O & E allowance, and Class IV, items for which

no prescribed allowance has been determined, present no problem in the tank battalion. Resupply is accomplished by the company by making out requisitions which are forwarded to battalion and from battalion to division for supply action.

Class III items, petroleum, oils and lubricants, are supplied directly to tanks by fuel trucks of the supply platoon located in the combat trains area which move forward and are met by company or platoon guides and directed to the tanks. Refueling of tanks from five gallon cans is time consuming and requires considerable physical effort. There are no automatic fuel dispensing trucks organic to the tank battalion. The entire basic load of gasoline is carried in five gallon cans transported in the trucks of the supply platoon.

Class V, ammunition, is supplied initially in the assembly area and resupply is accomplished by using a transportation order. Refueling and the supply of ammunition are achieved concurrently by supply platoon personnel.

Maximum coordination, reliable communications and detailed planning are the required essentials deemed necessary to achieve prompt supply action within the tank battalion of the airborne division.

1st Lt. Richard H. Shuford

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The writer of the following graduated from The Armored School OCS in February 1946. From 1946 to 1949 he served with the United States Constabulary in Germany. Following a stateside assignment with the 3rd Armored Cavalry Regiment (L) he was transferred to Korea where he served as Platoon Leader and Company Executive Officer with the Reconnaissance Company of the 25th Infantry Division. He has commanded A Company, 44th Tank Battalion since November 1952.

The one phase in particular where armor has proved its worth is the link-up phase of an airborne operation. It is during the link-up that armor literally "comes to the front." While the infantry, artillery, engineers, etc., can be transported to the vicinity of the objective by aircraft and delivered by parachute, there are no means at the present time, of transporting and delivering a medi-

Capt. W. H. Harr

um or heavy tank by aircraft. A definite need for a strong, mobile force exists, however, and this need is filled by the two tank battalions organic to the airborne division. Detailed prior planning, speed of execution, and facility of communication are vital in the link-up phase of an airborne operation.

After careful planning, the Airborne Infantry Regiments with their supporting artillery, engineers, etc., are dropped in the vicinity of the division objective. At a pre-designated time the two tank battalions, which have been assembled close to the front lines, move out and either penetrate the enemy's line of defense or envelop his flanks. In a large operation the tank battalions are close on the heels of an attacking infantry division or a comparable force and break through exploiting any gains.

When the penetration or envelopment is completed, the primary mission of the tank battalions is to join forces with the airborne units. Here speed is important. As a result, much enemy resistance is by-passed. With the main line of resistance behind them, the tank battalions can usually plan on a headlong dash for the airhead and the completion of their mission. It must be remembered, however, that the Airborne Infantry Regiments are behind the enemy's lines and all troops are considered hostile until definitely proved otherwise.

Since the armored elements are racing toward the airhead, it is necessary for the liaison officer who has accompanied the airborne units to establish contact with the tank unit commanders. As the armored units approach, the liaison officer contacts the tank battalions by use of voice radio and directs the units to an assembly area where they will receive further orders.

Once the link-up has been completed the armor will be used as needed, either to ward off any enemy counter-attack or to aid the airborne elements in their drive to the final objective. In either instance, one of the battalions may be directed to attach one company to each of the three Airborne Infantry Regiments, leaving the other battalion to operate as a unit.

From this point on, the airborne division is comparable to the standard infantry division and continues its mission in much the same manner. There is one difference, however. Resupply of the airborne division is continued by air drops until the main supply route can be secured.

Armor, in supporting an airborne operation, as in any type of armor operation, must be fully cognizant of three factors: prior planning, speed, and communication. Without all three of these the operation may not succeed.

Capt. William H. Harr

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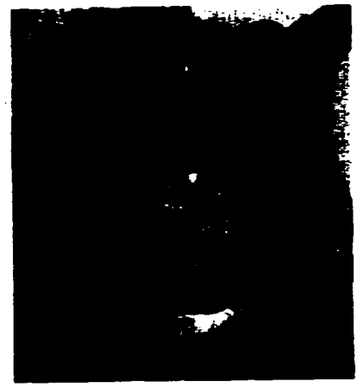
The writer of the following entered the Army in 1942. At the completion of OCS in the same year he was assigned to the 11th Armored Division. Upon being recalled to active duty in 1950 he served in Korea with the 25th "Tropic Lightning" Division. He returned to the United States in 1952 and was assigned to the 44th Tank Battalion of the 82d Airborne Division. He has been the Company Commander of B Company since February 1953.

In many ways the defensive role of armor in the airborne division is much like that of armor in the standard infantry division. However, for the purpose of getting the most out of the possibilities of armor in the highly flexible airborne unit let us begin with a tactical situation.

Baker Company has been attached to a Regimental Combat Team from the airborne division. The link-up of the tanks and the infantry has been made without loss of tanks from the company.

I, as company commander, leave my executive officer in charge of the company. I will report to the regimental commander and find out his plan of defense of the airhead. Normally he would use me as armor advisor to the Regimental Combat Team. I study the intelligence reports, make my estimate of the situation and then make my recommendations to him. This estimate is largely based upon one factor: Is an enemy armor attack forthcoming?

If there is no such attack coming I would split my company and assign a platoon to each of the three battalions and hold one tank platoon in



Capt. E. H. Swan

reserve under regimental control.

If the enemy tank attack is imminent, the entire company would be in reserve as a unit. This reserve would be under regimental control. This is an airborne modification of the reserve plan of the standard mobile reserve.

After the airhead is secure and the coordination is accomplished between the tankers and the infantrymen, we move out to take our objective.

The Regimental Combat Team achieves the objective with little loss and is now in the process of establishing a defense on the newly won position. Here the problem of resupply becomes acute. Being deep in enemy territory the only means of supply, until the supply route has been secured, is by air. Due to the limited capacity of the aircraft it is often difficult to get our basic load of fuel and ammunition.

With resupply completed we would again be under regimental control, depending upon how strongly the commanders suspect an enemy armor counterattack.

Members of a tank crew of the 44th Tank Battalion firing during a night tactical problem on Exercise "Snowstorm."

At the objective we move into a sustained defense because of the preponderance of dismounted elements in the airborne regiment. The mobile defense does not afford the protection of the terrain, individual shelter, and other defensive works as does the sustained defense.

Although the regiment habitually uses the sustained defense, it is possible for the tanks to go into a mobile defense forward of the regiment doing a general outpost mission in front of the main line of resistance.

Like any other armor unit, this company will utilize its mobility and shock action to the limit, depending upon the existing situation. These missions will include furnishing direct fire support to the main line of resistance, adding strength to the counterattack, providing depth to the antitank protection and acting as a covering force.

This cannot be held as a general rule, because no set rule can be made for the employment of armor when used with an airborne division.

Armor in the airborne division is used in defense in practically the same way armor is employed with the standard infantry division. Armor can protect the infantry against the enemy's individual and crew-served weapons, and, of course, the best defense against a tank is a tank.

CAPT. EDWARD H. SWAN

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The writer of the following returned to the United States in November 1952 after serving a year in Korea as company commander in the 89th Tank Battalion of the 25th Infantry Division. Subsequently he assumed command of the 25th Reconnaissance Company of the same division. He is a qualified parachutist, completing jump training in 1945. He has been the Company Commander of C Company, 44th Tank Battalion, since February 1953.

The attack, using the armor attached to the airborne division, is essentially the same as it is in any other type of armor-infantry attack with one exception. That variation is the problem of supply during the attack.

After the initial link-up is made of the airborne and ground units, the headaches of the armor company commander commence. The company commander is confronted daily with the problem of supply for his unit while it is deep within the enemy lines.

All of the supplies during this phase of the operation—ranging from rations to wedge bolts—must be air dropped by the supporting Air Force.

The airborne operation does have more support from the Air Force than the non-airborne unit does. Balancing this added support, there is the lack of support from the heavy weapons organic to the regular Infantry Division.

An airplane can carry only so much weight, so the airborne unit is put in short supply of heavy supporting weapons until the ground trains can be brought to them. To offset this shortage, the company commander must depend on the added aggressiveness and spirit of such an organization.

During the attack on a common objective, which starts after the tanks have penetrated to the infantry positions, the tankers and the infantry must maintain the utmost in coordination.

Capt. H. L. Kaplan

In the attack, the tank may be assigned to a regiment, a battalion or a company. On the other hand, it may be broken down into platoons and the platoons "farmed out" according to the mission. If this is the case, the job of company commander becomes more difficult because of the lack of control he has over his company.

Prior to launching the actual attack, the G4 plans for the various drop zones to be set up for resupply of gas, oil, parts, etc. It is the business of the company commander to know exactly where these drop zones are, and the alternate positions that may be used. At the same time the company commander must know the casualty evacuation plan, because casualties in an operation such as this must, by necessity, be air-lifted out.

Because of the character of this type of attack and the problems of complete supply and maintenance of the tanks, the attack must be a limited objective with time available to resupply and reorganize before launching the next attack.

During the attack, the tank-infantry team must work closely together to afford mutual protection and support. This protection is even more necessary in this type of operation because of being so deep behind the enemy lines.

Communication during the attack is primarily by voice radio. With the new family of radios the close coordination between the tankers and the infantrymen can be effected much better.

Although the basic tank-infantry tactics in the attack are the same in the airborne division as they are in the standard infantry division, there are four problems or points that must be taken into consideration by commanders before they can be sure of a successful attack. They are:

Supply problems—the need of air dropping all supplies.

Complete coordination between the tanks and the infantry.

Both the tankers and the infantry must be more aggressive in order to insure success in the attack.

Commanders must have prior plans made in case of an enemy counterattack or encirclement by the enemy.

CAPT. HAROLD L. KAPLAN

ARMOR AT THE CROSSROADS

by LIEUTENANT COLONEL ROBERT B. RIGG

RIGHT now certain of our specialized military schools have problems in which the student is given a battlefield objective, and then he is asked, "what would you use to destroy this objective—an armored division, or an atomic weapon?" Destruction of the enemy at the objective, or denying the objective to the enemy is the object of this map exercise, but plain dollar cost is often the key to the "school" solution, which is to use the atomic weapon. An armored division costs not only millions of 52 cent dollars, but manpower besides. Atomic shells or bombs are not cheap either—but we have reached the age and era when Armor is considered by some to be a luxury on the battlefield.

Armor is in serious competition with atomic weapons. The equations are drawn, and the dollar sign is plainly regarded as *the key* in some solutions of the future. U.S. Armor is at the very crossroads of its existence. The fallacy of cost comparison in a school problem like this is that once exploded the particular atomic weapon or shell is money completely expended. However, once projected into action, an armored division even with heavy losses is not completely dissipated, and it is generally capable of future action and follow-up. Nevertheless, the atomic specialists stand pat on their dollar comparison cliché—and they are selling it! This is healthy competition for Armor, but the heat of competition shouldn't warp our military objectivity and perspective.

In some minds, our arm has become so "expensive" that a dangerous circumstance is being bred whereby U.S. Armor may decline forever in terms of proper strength and realistic combat perspective.

At The Armored School in 1949, I listened to a dissertation that predicted a possible total of 60 Armored Divisions in the event of total mobilization. I regarded this as wishful thinking on the part of armored enthusiasts, for at that time the *Pentagon Planners* (probably) were thinking more in terms of 3.5 rocket launchers than in tanks. Ever since then I believe there are growing indications that any future armored forces (in mobilization) would be less than our World War II total of 16 armored divisions.

It is most timely to examine the future of our Armor in the light of these factors: the official Washington viewpoint; the Moscow directed masses of tanks; and the atomic influence (friendly and hostile).

Armor needs leadership—in Washington!

General George S. Patton raised hell on the battlefield. It is grimly unfortunate that he couldn't have lived longer, for among many other contributions he might have accomplished the same thing in Washington—on behalf of Armor. Recently, Armor has lacked high-ranking leadership in Washington where significant decisions affecting future combat successes (or defeats) have been fought out. This is not to pick a fight with atoms or infantrymen, but one must acknowledge that Armor men have apparently been almost a voiceless minority in the Capital where decisions affecting the nation's future have been made.

One by one, our highest ranking tank leaders have been retired since 1946. General Alven C. Gillem, General Ernest N. Harmon, General Jacob L. Devers, General Willis D. Crittenberger and others have been retired in these succeeding years. Armor needs leadership in the important acts of the successive Washington scenes in that important playlet of *"How to Win in Any Possible or Potential Future War."*

It is axiomatic that among our real tank leaders, none have ever been idolatrous to the false concept of "preserve for us thy arm of Armor so that we professionals may advance and be promoted." Our generals, beginning with General Chaffee, fought for concepts, budgets, designs and specifications to successfully meet the national goal of success in war, when and where war had to be waged. Today, the voice of our tank leaders should be listened to with considered weight. We may lack organization in higher military circles with which to properly project our ideas born of sincerity and professional knowledge. However, it is incumbent upon today's leaders of Armor to justly point up the need for more tank forces. There may be deaf ears, but Armor's leaders owe it to their nation to express with courage their studied concepts.

The fight for a slice of the dollar budget is rough. We in Armor have been too complacent to date, too content to concede, too inclined to acknowledge our equipment is costly; and to do nothing about argument for more of it when the cold statistics of Korea's hot war acknowledge that, for all the excellence of air and naval supremacy, the mud-soaked and dust-ridden ground forces pay the final and bloody price for the gains in war. Korea's battleground is restricted; tomorrow's can be open and unlimited.

What we need is some plain reckoning in military factors. The capture of objectives and defeat of an enemy cannot be reckoned entirely on a budget slide rule!

Armored officers seek no fight with fellow service members, but we have reached the point wherein we feel our arguments should be listened to

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LIEUTENANT COLONEL ROBERT B. RIGG, presently on duty in Europe with the Seventh Army, commands the First Battalion, Sixth Armored Cavalry Regiment. He is the author of *Red China's Fighting Hordes.*

with considered weight—in the interests of our nation's defense. General Paul M. Robinett has recently presented the nation with some sound logic in this magazine. Armor needs more voice in the Pentagon.

Armor and Atoms: I have seen tanks subjected to atomic bomb blasts in certain tests. For security reasons I must drop the subject there, except to say this: I would like to see some of the classification on those tests reduced to where the men in armored battalions, like my own, can be better instructed and trained in the hazards, risks and safety factors of being in tanks near atom blasts. Ours is the arm most capable (because of its speed and armor protection) of exploiting through radiation-ridden and demoralized areas of atomic blast. Furthermore, armored units with their heavy concentration of threatening fire power, are likely targets for enemy application of atomic weapons. Our enlisted men need to know better the effects of such weapons on tank crews so as to imbue our own crews with proper confidence. For reasons many officers in lower echelons do not understand, information of this sort is not getting down to the man who will be the first to need to know it.

Who is going to defeat Moscow's masses—if?

When you are situated, as some of us are, within an hour's ride from the Iron Curtain in Europe, you give this matter considerable thought and attention especially since your mission is to command a battalion, a regiment, a company, or a tank. The problem of how to defeat Moscow's masses of tanks, infantry and self-propelled guns is one you concentrate on and discuss. We expect to be outnumbered: we would expect to engage and defeat six tanks each to our one, and by better gunnery and new fire control instruments come out on top. Our training is predicated on the matter of taking on superior numbers. However, outnumbered by five is one equation; outnumbered 25 to 1 is another one entirely. From tank crews to infantrymen and artillerymen, there is fine confidence in the Seventh Army in Germany today. But, against the potential of our enemies, the need for more matériel in the form of armored divisions on our side is strikingly obvious. It is not enough to stem an armored enemy horde with bazookas and bare flesh. To defeat it you have to wade rapidly into the mass and cut it up. That is Armor's mission but you need divisions of tanks to do it. The pitting of bare flesh and bare chests (however brave) against communist armor is not in keeping with either American ideas of national strength or U.S. industrial and technological progress. The Soviets went through their "Molotov Cocktail" stage wherein individual men took on German tanks: but note the conspicuous emergence of Soviet tank and SP masses (to meet enemy tanks) in World War II. The Soviets, the greater butchers of their flesh, could have well expanded their hordes of hero tank-hunters but the experienced military leaders matched steel with steel. The United States may be a reservoir of heroes, but we lack the population to expend these men lavishly. Furthermore, Americans deserve to fight with modern weapons and not just relatively primitive, short range, and heroic types. Moscow's masses are not only multiplied humans on foot and horseback—they are multiples of men-manned machines. We who might have to defeat them should at least have the matériel to make us efficient on a *multiplied basis.*

Hostile and Friendly Atoms: Several inches of hard steel give men better protection and self-confidence against atoms and their radiation than does the infantryman's wool shirt. When the living stir, rise, and emerge from the chaos of an atomic blast, they will say their frank prayers and give thanks to some mode of earth-given or man-made protection; and among those in the branches of infantry, artillery and armor it will be the latter who can not only move their limbs but *move fire power*—and with more speed, rapidity, and violence than any of the other much valued arms.

Armor is at the crossroads of its future existence in appropriate power. Our nation in war must balance between success and failure on the proper proportion of the various arms. Armor has not only the weight, but the speed and violence to multiply its weight.

Chief of CMD

Major General James Clyde Fry, Chief of the Career Management Division, Department of the Army, graduated from the United States Military Academy in 1922. He was commissioned a Second Lieutenant in Infantry. During World War II he commanded the 350th Regiment of the 88th Division. While serving with the 350th Infantry, he received the Distinguished Service Cross. Later he was made Assistant Division Commander of the 88th Infantry Division in Italy. Following several Army Field Forces and Department of the Army Assignments, he was appointed Deputy U. S. High Commissioner in Austria. General Fry was transferred to the Far Eastern Command in Korea where he was Commanding General of the 2d Infantry Division until May of this year when he returned to the United States for his present assignment.

The message from the Chief of the Career Management Division was addressed to the Editor of ARMOR, but it is deemed important enough that it should be directed to all Armor officers and is so headed. Comments regarding the future publication of articles from the Chief of the Career Management Division have been expressed editorially on Pages 30 and 31 in this magazine—THE EDITOR.

A Message from the Chief of CMD

To All Armor Officers:

I have recently been given the responsibility as Chief of the Career Management Division and appreciate the opportunity you have offered to use your magazine as a medium for contacting Armor officers Army-wide. I believe this will be helpful to the Armor Branch in implementing assignment policies and of value to all Armor officers by giving them a knowledge of our responsibilities and our procedures.

During the greater part of the last four years, I have served in Europe and in Korea. In these assignments I have frequently heard combat officers remark that the chiefs of the technical and administrative services evidenced greater concern and exercised greater consideration for their officers than did the Career Management Division for the combat officers. Without attempting to explain or refute such testimony and without intended implication of those who have gone before me, I want to assure all officers that this office represents the head of the military fraternity to which they belong. We are intensely interested in the welfare and the progressive, advantageous assignment of each individual officer and within the limits imposed by military requirements our policy is to comply as accurately as possible with the requests of individual officers.

As I have evaluated individual reactions to Department of the Army assignment procedures, it has frequently been evident that a substantial number of officers fail to appreciate the fact that the Career Management Division is the appropriate agency for officers of the combat arms to address requests for consideration and recommendations for improved procedure. The Signal or other technical officer knows that such a letter to his Chief will receive a quick and considerate answer. The combat arms officer will receive equally expeditious consideration from communications to the Chief of his Branch, Career Management Division, or merely to the Chief, Career Management Division. I especially solicit comments and recommendations from general officers and senior field officers who have noted what appeared to be ill-considered and improper assignments.

This is not intended to be a lengthy and detailed explanation of the Department of the Army career program. However, I feel it will be helpful to overall understanding of the broad assignment pattern if I mention the fact that our primary mission during this era of quasi-peace is, as always, to fit officers to the essential jobs necessary to keep the elements that make up the Army in a high state of combat readiness. Our Career Management goal is to rotate officers through different assignments to give them on-the-job practical training. In this latter mission our objective is to develop to the utmost the inherent abilities, aptitudes, skills and accumulated knowledge so that the maximum number of officers may eventually reach their ultimate potential, to their betterment and for the good of our Army and Nation.

When conflicts between our Career Management Program and the combat requirements of the Army occur, Career Management assignments must of necessity be interrupted. As a matter of fact, the basic concept of Career Management was that the program was intended to apply solely to the peacetime development of officers and this fact needs more thorough recognition. In addition, there are a multitude of conflicts that arise concerning the assignment of officers even though we endeavor to resolve all problems by the application of orderly and carefully developed policies designed to give equitable treatment to everyone. There are no mysteries or secrets about such policies and it shall be my aim to eventually publish detailed information concerning methods of selecting officers for overseas assignment, procedures for selecting officers to attend military schools, and in general to answer the questions that are uppermost in officers' minds. I would like to assure all officers that I realize fully that each assignment is of intense importance to the individual selected to perform the special duty requirement. There are good assignments and there are others that offer no particular professional advantages or other attraction. All assignments must be filled, and the individual who has a satisfying assignment this year should realize that he is moving into that category eligible to receive a less desirable assignment on his next change of station.

I hope that in each future issue of your magazine you will permit the Career Management Division to use your periodical to further acquaint officers with our methods of operation, and to supply other information of broad interest.

J. C. FRY
Major General, USA
Chief, Career Management Division

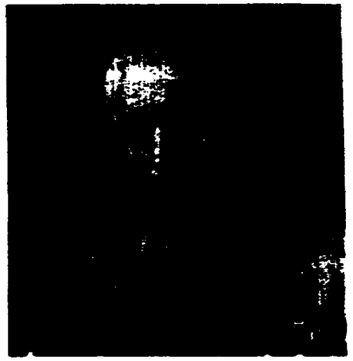
THE TOP COMMAND IN EUROPE

Many changes have occurred since this pictorial spread was published in the May-June, 1952 issue of ARMOR, pointing up the top military command structure in Europe. Numerous requests have been received by this magazine to repeat the pictorial feature. With only one key person still in the same position, compared with a year ago, it is time for another look. We will venture to say that by the time this is read there will be further changes. This capability to rotate key personnel clearly demonstrates the depth in top command leaders available within the United States Army. The mission of the United States Forces in Europe has not changed; nor has the importance of that area diminished. It is still a vitally important station in the cold war and the United State forces still form an important link within NATO—ready for whatever exigency might arise. In addition to showing the top command down to and including division level, we would like to expand even further but space does not permit.—THE EDITOR.

In the next issue we will have another look at the top command in the Far East.

U.S. Army Photos

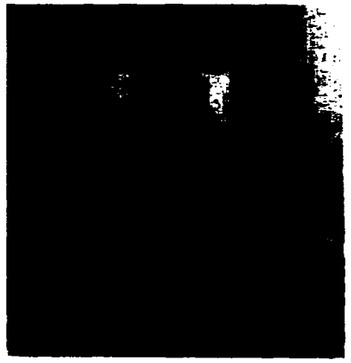
SHAPE COMMANDER



Gen. Alfred M. Gruenther
Supreme Commander, Allied Powers

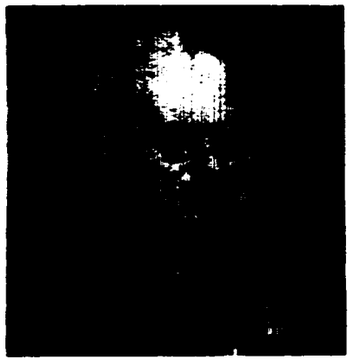
SEPARATE COMMAND COMMANDERS

Lt. Gen. William H. Arnold
CG, U.S. Forces Austria

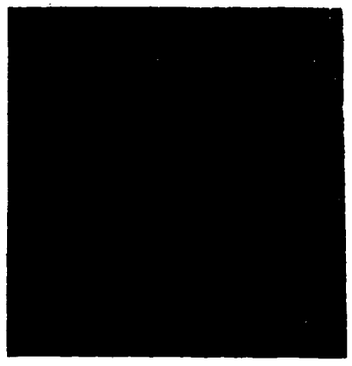


Maj. Gen. Bernice M. McFayden
CG, TRUST, Trieste U.S. Troops

THE DIVISION COMMANDERS



Maj. Gen. C. T. Lanham
CG, 1st Infantry Division

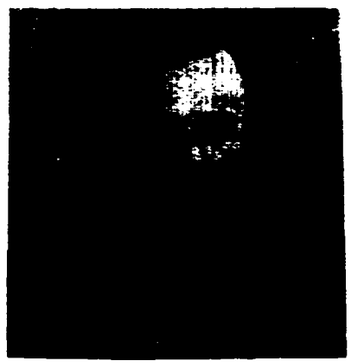


Maj. Gen. L. L. Doan
CG, 2d Armored Division

EUROPEAN COMMAND

Gen. Thomas T. Handy
Deputy Commander in Chief, EUCOM

USAREUR



Lt. Gen. Charles L. Bolte
CG, United States Army, Europe

COM Z USAREUR

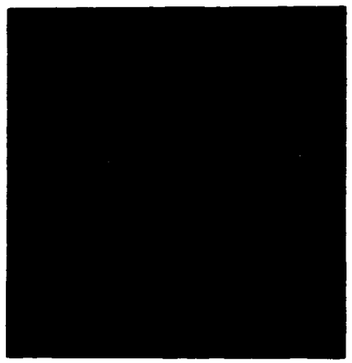
Maj. Gen. Lemuel Mathewson
CG, USAREUR Communications Zone

SEVENTH ARMY

Lt. Gen. William M. Hoge
Commanding General, Seventh Army

THE CORPS COMMANDERS

Maj. Gen. Ira P. Swift
Commanding General V Corps

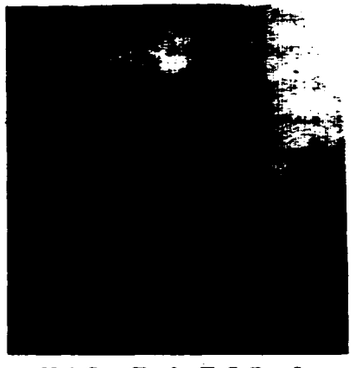


Maj. Gen. James M. Gavin
Commanding General, VII Corps

THE DIVISION COMMANDERS

Maj. Gen. Joseph H. Harper
CG, 4th Infantry Division

Maj. Gen. Cortlandt Van R. Schuyler
CG, 28th Infantry Division



Maj. Gen. Charles K. Gailey, Jr.
CG, 43d Infantry Division

Combat Effectiveness

ARMOR has frequently advocated the full utilization by the Army of all developments in the technological sphere to strengthen the combat effectiveness of our ground forces.

Because of our nation's outstanding position in industry, including design and manufacture, it is on this technological level that the advantages are ours, where we should plan to meet any potential enemy rather than try to match him man for man with mass manpower armies.

It is obvious that we should make the most of our country's national resources and capabilities, particularly in the automotive field, and in the sphere of aviation, electronics, and kindred developments.

We should give our men on the battlefield the most modern weapons and equipment to assure them of the greatest hope for victory and the best chance of survival.

This is, and should be, THE AMERICAN WAY.

For these reasons, ARMOR enthusiastically joins in the accolade accorded the outgoing Chief of Staff, General J. Lawton Collins, for his insistence that an atomic ground weapon be developed for tactical employment. The recently tested 280mm atomic cannon can well be expected to play an important role in any future combat on the ground.

Of added interest, and again for the reasons stated above, are recent forecasts which indicate technological developments as follows:

A new tank-destroyer (called the Ontos)

New antiaircraft vehicle with multi-mounted machine guns

Modified light tank

New 60-foot tank bridge, transported and emplaced by tank

Modified battlefield radar for detection of hostile infiltrations

Another type shell for the 280mm atomic cannon providing increased range

Long range IFF extending the range for identification of hostile aircraft

Noiseless outboard motor for quiet approach in tactical areas

Gun to replace present 155mm gun

Howitzers to replace 105mm and 155mm howitzers

General J. Lawton Collins, Chief of Staff—Leader in the development of a tactical ground atomic weapon

The above forecasts, which were reflected from testimony recently aired in Congress, might be interpreted as indicating the direction of our thinking and planning in Army circles. Once again, ARMOR emphasizes that all Americans, particularly those young men who must bear the brunt of any future fighting, welcome these indications that our Army must be technologically minded, trained and equipped.

An Innovation

Elsewhere on these pages (page 27 to be exact) you will find an open letter to all Armor officers from Major General J. C. Fry, the Chief of the Career Management Division, Department of the Army, wherein he asks that space be allowed him for the regular contribution of articles to ARMOR with respect to various career management activities of concern to all combat arms officers.

It is believed that allowing General Fry such an opportunity would do much to answer the various questions that all officers have concerning their next assignments—possible school opportunities—openings for special assignments—and diverse questions which they might otherwise have.

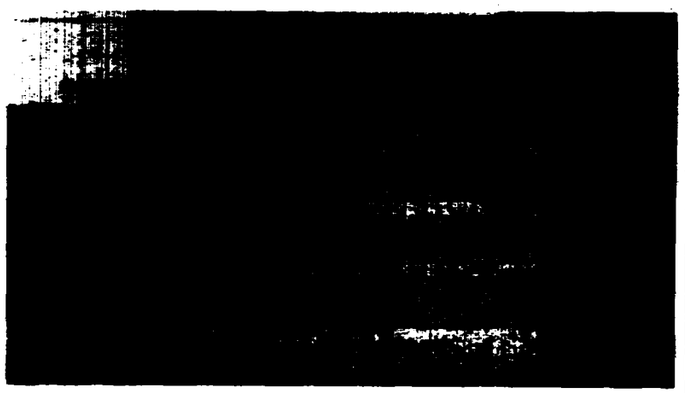
This is not intended to be an elucidation of Department of the Army policy concerning officer assignments. The primary purpose is to have an outlet for information concerning each and every member of one of the combat arms, pertaining to his professional military career.

In the next (September-October) issue of ARMOR, the subject will be: *Military Schooling of the Army Officer.* It is believed that articles of this nature will serve you in the field suitably.

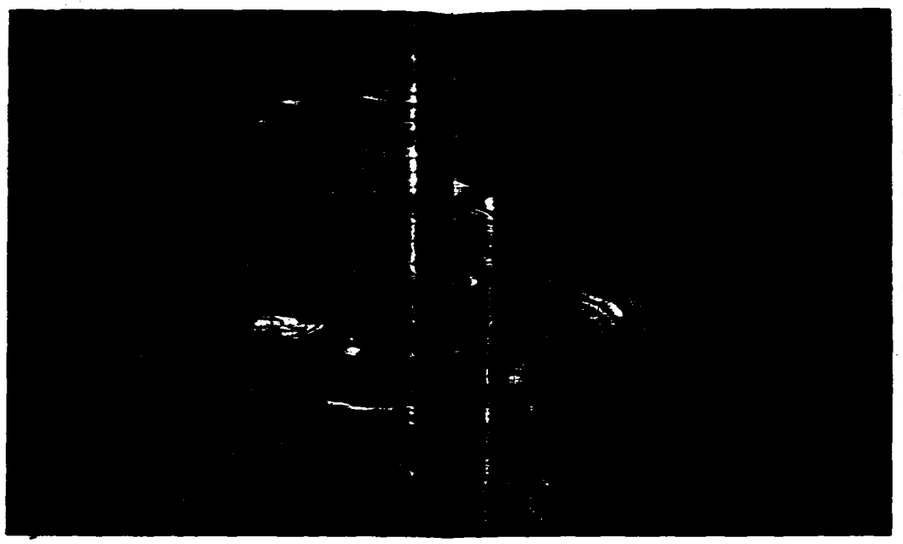
General Fry recommends that if you have any personal problem you get in touch with your Branch Career Management Section in order to obtain the authoritative answer. Likewise, he invites senior officers to write to him directly. In these days of "quasi-peace" many unusual problems do arise from time to time. All officers are assured of a quick and considerate answer.

To further acquaint officers with the methods of operation of the Career Management Division, and to supply other information of broad interest, is a mission ARMOR is proud to bring to its readers through the Chief of CMD.

Any comments by Armor officers, or other members of the combat arms will be appreciated.



One of numerous signs used to remind the tankers that training is expensive.



The eight stations, each of which presents a different situation to the crew and must be solved.

The test officer stays on rear deck as tank commander drops into the hatch.

TRAINING TANKERS IN KOREA

Training is continuous! To prove this point herewith presented is the X Corps' tank training area which is in operation in Korea. As stated by General I. D. White, X Corps Commander, "the purpose of the training area is to measure your ability to perform your duty as an individual and to work together as a crew."

Various tests are given each tank crew upon arrival in the area.

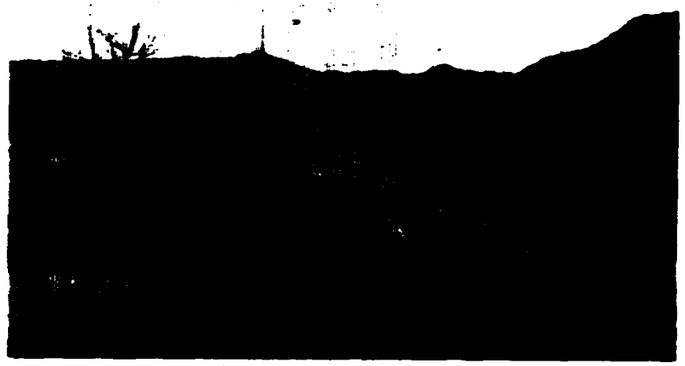
First, march tests are given upon arrival within 20 miles of the training area of a company. These tests include the warning order, march order, time of arrival at IP, alertness of tank commanders, rate of march, procedures at halt, and other matters related to the conduct of tactical marches.

Upon arrival in their bivouac area, the conduct of the personnel and appearance of the area are checked. On the four subsequent days, each platoon participates in various tests and inspections. On the first day, the platoon moves to the Matériel Test Area where individual crew members are given the Materiel Examination and communications and maintenance tests. On the second day, the platoon moves to the miniature range for sub-caliber training which is followed by instruction in the preparation of an individual tank defensive emplacement as presently employed in Korea. On the third day, the platoon travels to the crew test area where it participates in the tank crew proficiency course. This is followed by a period of instruction in artillery forward observation. On the fourth day, maintenance and technical inspections are conducted by ordnance and signal teams.

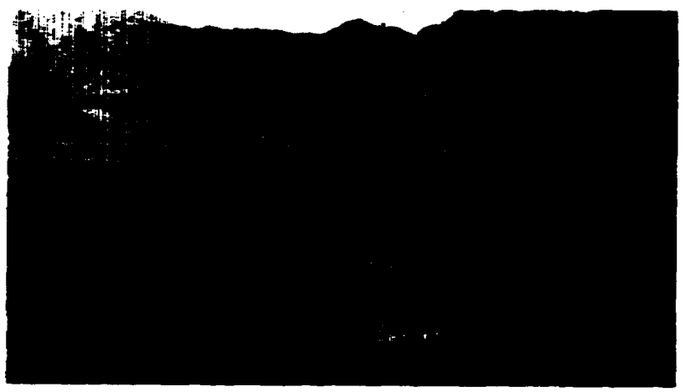
The tank crew proficiency course, which is the most important part of the entire operation, consists of a platoon problem. In this problem the platoon is required to move through a valley and establish a security outpost. The course is divided into eight stations, each of which presents a different situation which must be solved by each tank crew as they move along to their final objective. Upon arrival at the objective, the infantry patrol leader contacts the nearest tank commander, requesting tank fire to annihilate a large group of enemy. To solve this, the tank commander must utilize his attached artillery so as not to disclose his position.

There is no substitute for training!

—Capt. Robert E. Drake

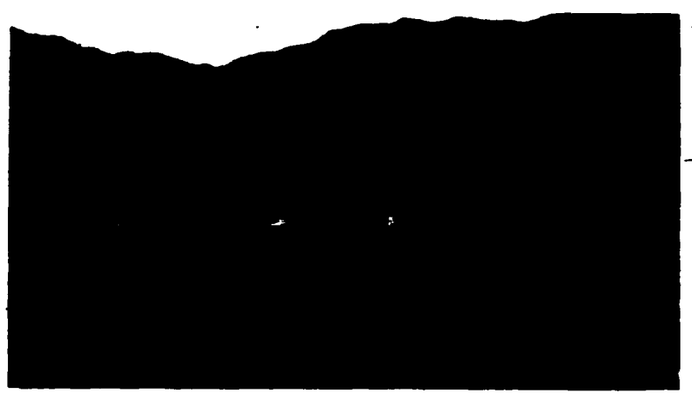


The tank moves to hull defilade and prepares to fire HE at antitank position.



Moving into the hills, tankers cover suspected enemy areas with blanket fire.

The tank moves forward as the Bow Gunner engages an enemy Bazooka team.



Tank commander adjusts artillery fire while gunner prepares his range card.

KASSERINE IN REVERSE

by

COL. MAURICE E. KAISER

This battalion problem is the culmination of the six weeks' training given to the various tank battalions ordered to Camp Irwin, California. The two-day battalion exercise includes an attack, seizure, organization, and defense of an objective deep in enemy territory. In addition to air support, furnished by the Tactical Air Command, all supporting arms are played in to the exercise to lend realism in simulating battle conditions.

COMPANY commanders of the 76th Tank Battalion, 11th Airborne Division, were assembled in a small room adjoining battalion headquarters. The men talked among themselves. The only light came from a glaring bulb in the ceiling. There was a feeling of tenseness in the air. Suddenly, someone shouted: "TEN-SHUN!"

The battalion commander and his staff officers strode into the room. All eyes followed the battalion commander as he walked directly to the situation map on the wall.

"At ease," he said. He then pinned an overlay on the map, turned, glanced briefly about the room and said: "Gentlemen, I have attack orders from division."

He indicated to a wall map with a pointer. "Our objective is AIREDALE. We will initially support the 511th Infantry Regiment in seizing the shoulders of Macdonald Pass." He paused. "We then pass through the 511th, clear the pass after the 511th has secured the shoulders, and move out to seize AIREDALE, some seven miles from the pass in Aggressor's rear. We organize and defend this objective until relieved by Division order. I have been advised that close air support will be available both to support the 511th's effort and our attack on AIREDALE."

To this simple yet concise statement, the battalion commander added: "While I am completing my plan of attack, the S2 will give you the general situation." The battalion commander left the room.

"United States forces have been driving westward after a successful crossing of the Colorado River and are continuing the offensive with the mission of driving Aggressor forces out of friendly territory which they have invaded for the second time," the S2 reported. "Our Army has reached a line as shown on the overlay. Its mission is to continue the drive northwestward capturing and securing the communication center at SEARLES, the chemical plant at TRONA and tungsten mines in the ARGUS Mountains. The area must be cleared in zone to the Sierra Nevada Range," he continued.

"Corps has seized a line extending from the Calico Mountains to the Avawatz Mountains with the 11th Airborne Division securing the Tiefort Mountains—Bicycle Lake Area. The strength of the Aggressor forces has been reduced by the severity of fighting since our forces launched their offensive. The enemy is weak in armor but has utilized what he has to the utmost, shifting it from area to area behind good defensive cover. He is strong in antitank weapons. The terrain favors the enemy in his defense.

"Reports indicate that the Aggressor Second Army has been beefed up by several divisions, all of which have seen service in this particular campaign. However, since earlier fighting was contained west of the mountain area, none of these units are acquainted with the desert country in which we are operating. Indications are that while resistance is stiff, morale is showing signs of deterioration.

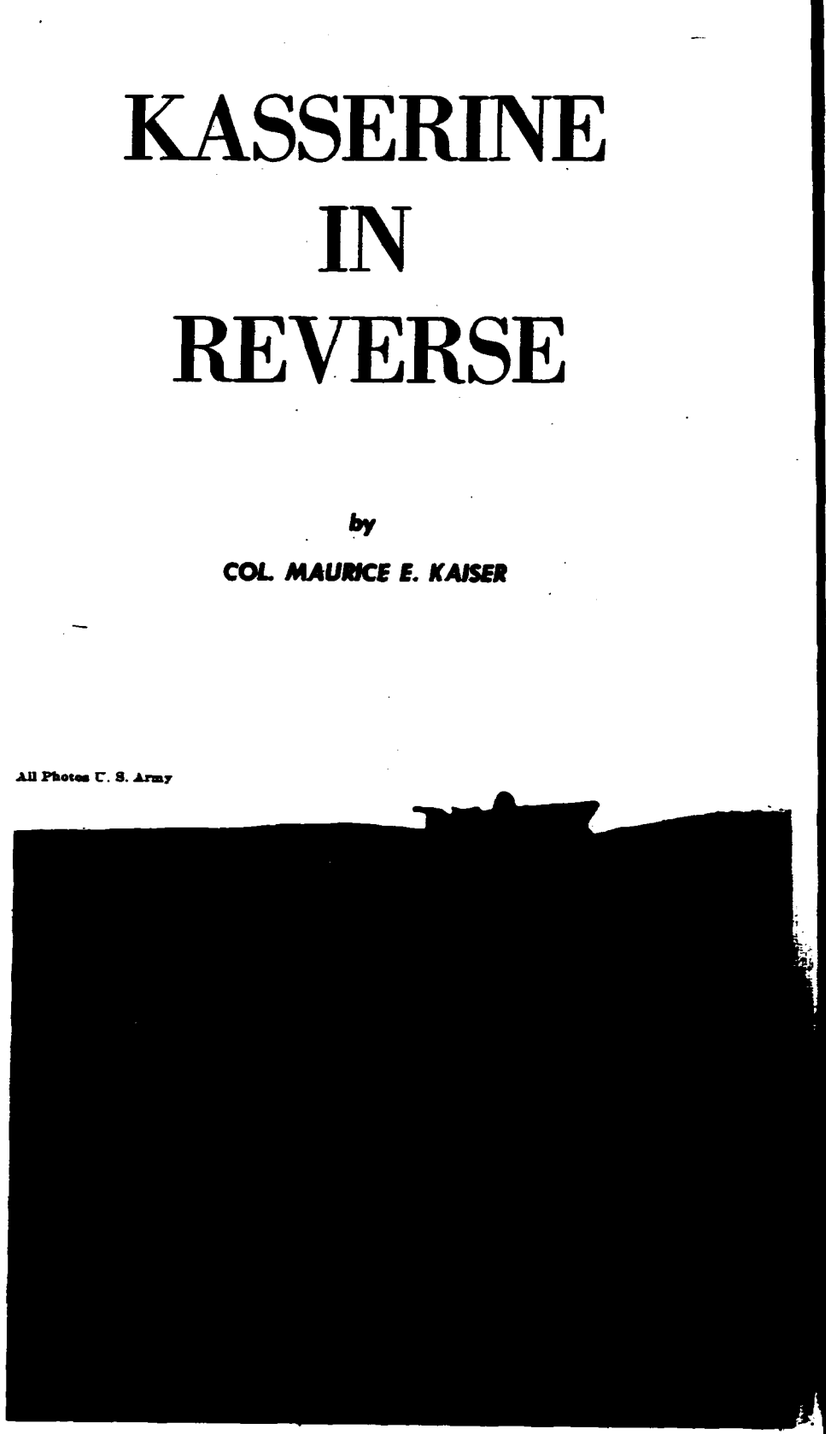
"Divisional units facing our Army that have been identified are the 15th and 87th Rifle Divisions, 11th Mechanized Division, 15th Airborne Division, 10th Cavalry Division and the 5th and 17th Artillery Divisions. Latest reports from Corps Headquarters indicate that elements of the 11th Mechanized are on our division's front.

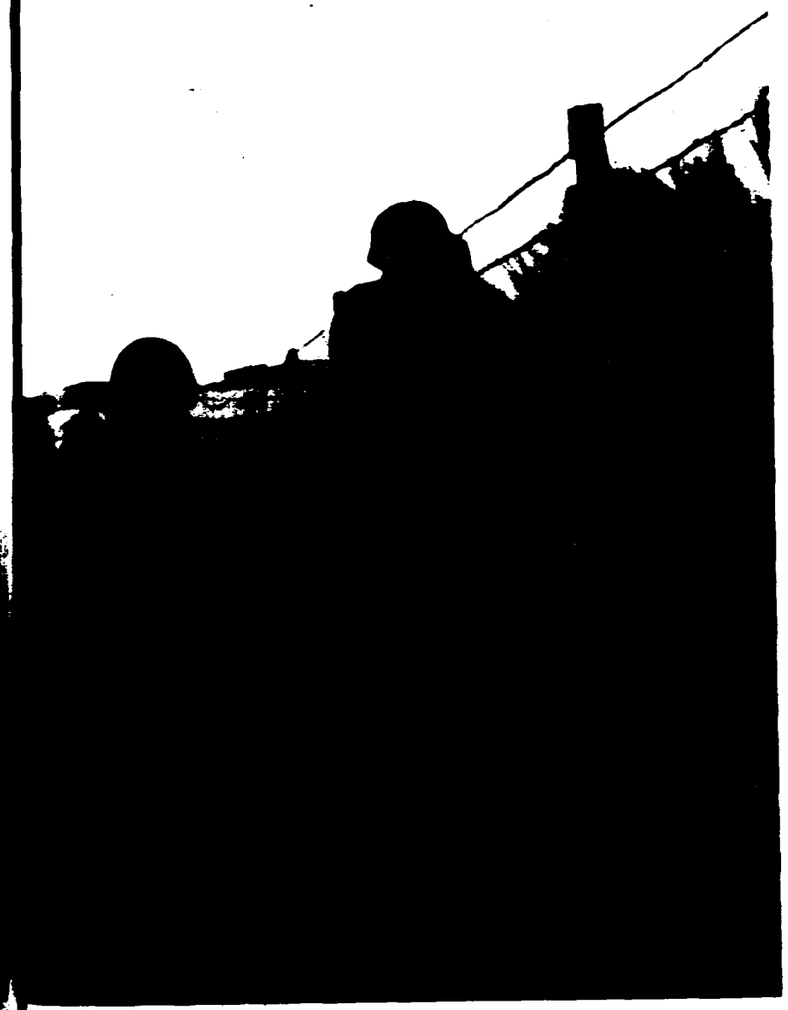
"Enemy positions to the front are reported to have been hastily organized but could contain minefields, road blocks, tactical wire, and demolitions. Our air has located and identified some of these measures as shown on the overlay."

After the S2's briefing, other details of the warning order were issued by various staff officers. At the conclusion of the session, the individual company commanders departed to make their respective ground reconnaissance of the attack area in the zone of the 511th Infantry Regiment.

Meanwhile, the battalion commander had started work on his plan of attack. This was based on a map study and aerial reconnaissance of the area prior to the issuance of the warning order. He also conferred with the commander of his attached infan-

All Photos U. S. Army





COLONEL MAURICE E. KAISER served as G3 and Deputy Chief of Staff of the XIII Corps in Europe during World War II. Subsequently he was assigned to the Far East which included duty with the Marshall Mediation Board and Far Eastern Command Headquarters. He opened the Armored Combat Training Center at Camp Irwin, California, in May, 1951, and has held the posts of Commanding Officer and Deputy Commander since that time.

try battalion, securing recommendations for employment in reinforcing the 76th Tank Battalion. Plans were made with the division artillery liaison officer and the attached engineer platoon commander for their proper support.

Just three hours after tank company commanders had begun their ground reconnaissance of the attack area, up to the 511th's front lines, they reported back to the battalion CO.

Attack orders were issued, thoroughly briefing each company commander on his respective part in the battalion's scheme of maneuver. This included the mission of tanks and infantry, time of attack, time of departure, direction and axis of attack, zones of action, initial formations, the objectives, prepared artillery fire plan, planned air strikes and marking of targets, plan for reorganization on the objectives, control plan, location of the aid station, and other logistical and administrative details.

After receiving the general plan of attack, tank company commanders went back to their company areas for similar briefings among platoon and tank commanders. There they worked out their respective attack plans and then reported back to battalion headquarters. When the entire plan was completed, the battalion commander reported back to division headquarters. Meanwhile his S3, together with the artillery liaison officer, went to the infantry regimental command post where he arranged for passage through the 511th's lines. He also examined the regiment's plans for continuing the attack once the 76th had cleared the pass en route to AIREDALE. The S3 also outlined the battalion fire plan to the regimental commander. Together with the artillery liaison officer, he requested that artillery and other weapons in support of the regiment be prepared to provide reinforcing fires.

When the division commander had approved the 76th Battalion's plan of attack, the stage was set for action. One factor, which must be explained at this point, enters into the picture. The 76th Tank Battalion had no reconnaissance platoon, due to shortage of equipment and personnel. Thus, the battalion trains had to provide their own protection during the planned re-supply operations on AIREDALE after dark.

At exactly 0700 hours on October 27th, the 76th moved out of its administrative assembly area. An administrative march was made in formation YOKE, consisting of the entire battalion in a column of companies. The attached infantry followed in trucks.

As it moved into the tactical assembly area, the battalion (two companies of M47's and one of M46's) went into a perimeter formation so positioned that the leading companies could move out first into attack position. Charlie and Baker companies were to be the attacking units, with Able Company (M46's) in support.

Then the battalion commander made a personal inspection of the tactical area. The Battalion CP was established in a central position as was an OP from which a good field of view of the 511th's zone and Macdonald Pass was obtainable. After all was in readiness, the battalion commander then went directly to the CP of the 511th Infantry Regiment. There he checked on any changes in the attack plan as approved by the division commander after coordination with the 511th's CO. He learned that the 511th's front lines had been pushed back about 200 yards by strong Aggressor action and that the sector to be attacked had to be assaulted immediately.

He rejoined his company commanders and staff, orienting them on the last minute changes in the situation. At the end of the briefing, he issued the order to move out, pointing out on the ground the routes and axis he wished the companies to use, key terrain features and possible enemy strong point. He further directed that the leading companies would cross the designated ID at 0900.

After receiving these orders, company commanders hurriedly returned to their units in the assembly area, assembled platoon leaders and tank commanders and issued their own last minute instructions.

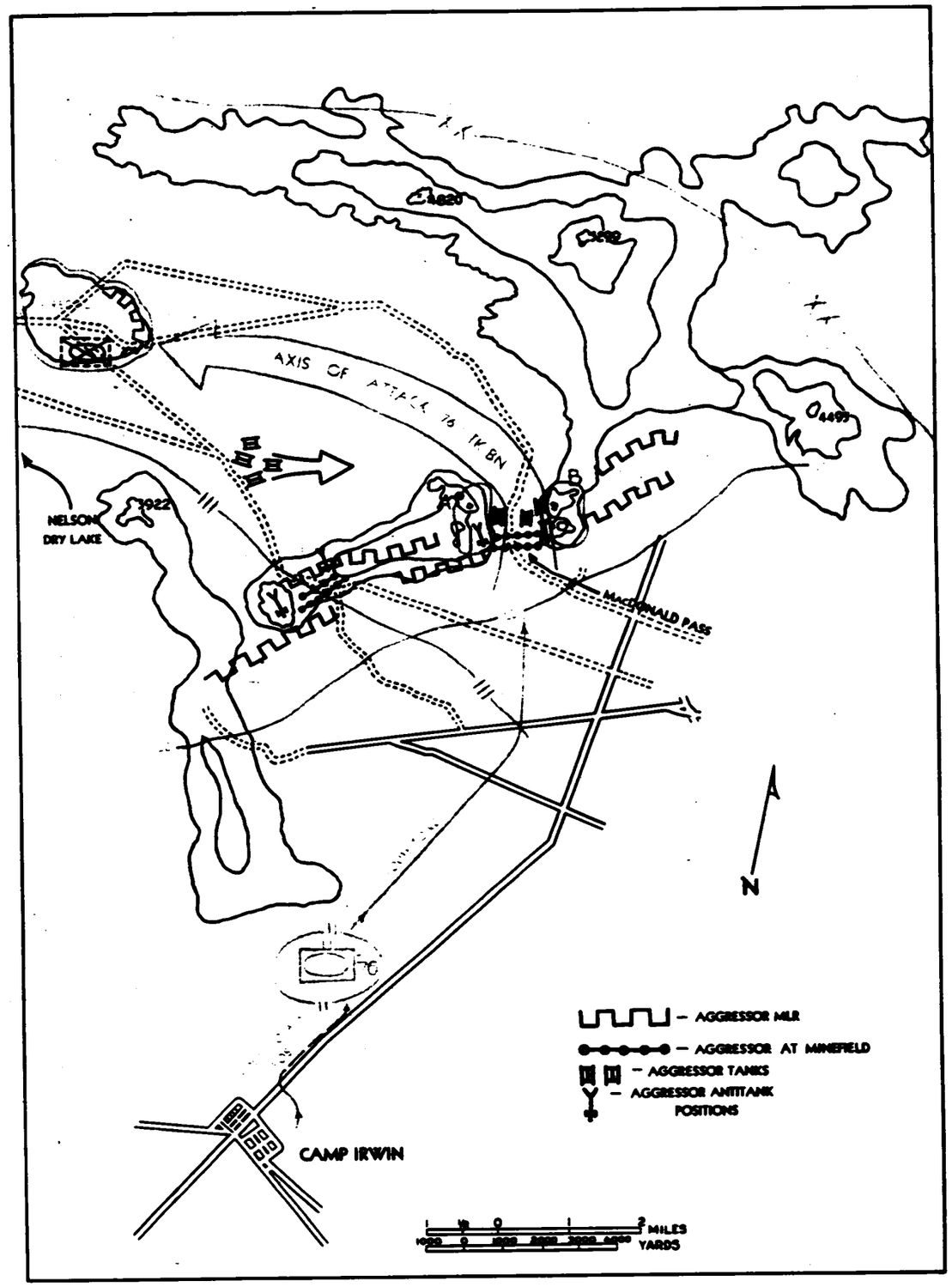
Charlie Company moved out to the left, with two platoons forward, echeloned to the left, and one back. Baker Company took position on line with Charlie, to the right, with the same platoon formations except that leading platoons were echeloned right. Able Company followed about 1500 yards to the rear in company wedge.

The terrain toward Macdonald Pass, though open, was filled with gullies and boulders which afforded a variety of cover for a tactical movement. The pass itself was about 2000 yards wide. A wide, boulder-filled gully extended at a right angle, making the terrain inaccessible to either friendly or enemy tanks. In the middle of the pass were impassable rocks in which it was assumed there were enemy antitank weapons and infantry. To the right and left of these rocks, aerial reconnaissance had revealed enemy tanks and infantry positions. The pass was surrounded by high peaks which might conceal enemy antitank gun positions and certainly infantry.

However, it must be brought out that despite the difficulties of terrain and its defendability, the enemy was nearly 50 per cent understrength in men and vehicles. But they were well-disciplined, battle-tested and had the ability to reorganize quickly after reverses. In the past, it had been found that enemy subordinate unit commanders often attacked even when their positions were about to be overrun.

Just as the battalion jumped off, the 89th Field Artillery Battalion, 11th Airborne Division, began laying down a concentration of 105mm fire on the shoulders of the pass. One platoon of 4.2-inch mortars began to lob shells on the pass, hitting targets in the mouth and on the shoulders. As the advance progressed, the 105's also hit the reverse slopes of the shoulders. These concentrations lasted about five minutes and were shifted so as to smother the area.

As the 76th, with three companies of supporting infantry, moved forward, it encountered enemy infantry several hundred yards from the pass. When the forward elements of the battalion were within 4000 yards of Macdonald Pass, the Tactical Air Control Party informed the battalion commander that the air strike which had been requested earlier by the 511th Infantry, had arrived. Tanks fired white phosphorus to indicate the strike objective in the pass to be hit with napalm and rockets. Artillery smoke shells were used to mark objectives on the shoulders for the strike.



As the air strike came in, the battalion shifted its fires to enemy positions, flanking the strike objective and providing continuing support to the 511th. Charlie Company, with two companies of infantry from the Second Battalion, 188th Airborne Infantry Regiment, took targets on the left front portion. Baker Company, with one infantry company of the same unit, took on targets to the right front. Able Company remained in reserve.

When the battalion had advanced to within 2000 yards of the pass, the two paths in the minefield, Baker Company set up a base of protective fire. Baker then breached its minefield and plunged through to clean up the last of the defensive positions on the right front.

Once in the pass, Charlie Company took under fire four enemy tanks, seven antitank guns, and enemy troops, the last remnants of enemy resistance. One platoon of Charlie Company took up a blocking position, while the other two platoons passed through to the left flank. The latter platoon's advances were covered its ultimate mission—seizure of objective AIREDALE.

The 76th's commander immediately pushed forward in his tank. By radio he ordered Charlie and Baker Company to waste no time getting through the pass and to regroup "on the move." Meanwhile, Able Company began moving up.

Ahead of the leading elements stretched a long valley, sloping away to the west. Dominating the valley, and seven miles away, stood AIREDALE, a rounded knoll, 3000-4000 yards wide, rising 200 feet above the

F-51 planes, carrying napalm bombs, lend a big assist to the attacking armor by knocking out an enemy stronghold.

air strike lifted. Both attacking companies stepped up the tempo of their drive, pushing back and overrunning scattered enemy infantry and engaging tanks and antitank weapons.

On the most likely avenue of approach into the pass, the battalion encountered a defensive minefield. While Charlie Company set up a base of fire, one platoon of tanks and engineers moved up and breached this field, marking a path 200 yards deep in two places.

Meanwhile, Baker Company had run into a similar situation on the right. As Charlie Company with its attached infantry moved through the by terrain features. Baker Company executed almost the same movement on the right. Infantry working with tanks mopped up the existing enemy defensive positions and took prisoners.

As the attack companies pushed through the pass, the 511th's infantry won the shoulders with the assistance of the tanks. The lead elements of the tank battalion moved toward the north side of the pass to regroup. Meanwhile, the battalion liaison officer who had been at the 511th's CP reported to his battalion commander with orders releasing the battalion from further support of the regiment. It was therefore able to continue on valley floor. Even at this distance, the desert air was so clear that enemy tanks could be seen in position on the high ground.

An examination of the intervening terrain revealed, to the naked eye, comparatively smooth, open ground. But through field glasses you could see numerous defiles and gullies traversing the battalion's axis of advance. A deep gully to the right denied the enemy observation of any attacking force in that position.

As the tanks emerged from the pass, Charlie Company again took position to the left, Baker on the right. The attached infantry dropped

back to be picked up by their armored personnel carriers coming up with Able Company. Their orders were to remain on the battalion axis to AIREDALE following the support company until called forward for the attack on AIREDALE itself.

When the leading platoons of Charlie Company were about 1000 yards west of the pass, on the south flank, an L-19 aircraft attached to the battalion from division observed a formation of enemy armor approximately 5000 yards southwest from the pass moving toward Charlie Company. Quickly the pilot reported this to Charlie Company's CO who in turn relayed it to the battalion commander. Charlie was ordered to swing to the southwest and attack this enemy force, if need be with the entire company.

The company then moved toward the enemy in wedge, despite a heavy concentration of enemy artillery and mortar fire, evidently called in by the enemy on AIREDALE. Friendly artillery, which had moved up, was called for, and immediately began counterbattery fires on AIREDALE. This noticeably lessened the enemy's fire and its effect.

Charlie continued to advance and engaged the enemy tanks at 2000 yards, immediately knocking out several of them with first round hits. However, the 76th commander immediately realized that Charlie Company soon would be too busy for the moment to continue the swift forward thrust he desired to capture AIREDALE. He then committed his reserve company on the left of the battalion axis. Charlie Company was directed to move in rear of Able Company, once it had eliminated the enemy with which it was engaged.

Able moved through Macdonald Pass, using the route Charlie had used. It proceeded directly ahead, taking up the rapid advance needed, and on line with Baker Company, which had had to make a wide wheeling movement to the west as it debouched from the pass.

As the attack advanced to within 5000 yards of AIREDALE, the battalion CO ordered Baker to make a wide enveloping sweep to the right. This placed it in the gully, with Able on his left flank and the steep, impassable Granite Mountains on his right. The L-19 pilot constantly reported Baker's progress to the battalion CO since this company was not visible to him.

Able met little or no resistance, only occasional artillery or mortar fire, since our own supporting guns had all but neutralized the enemy's indirect fire. Baker Company, however, was receiving considerable tank and antitank gunfire from well concealed positions on AIREDALE, in addition to encountering scattered tank-killer teams. Baker's steadily hampered advance was slow.

As Able Company closed on AIREDALE, enemy tanks were spotted and engaged at long range. Meanwhile, Charlie Company, having knocked out all enemy forces it had engaged on coming out of Macdonald Pass, had moved up in rear of Able. The battalion commander now ordered Charlie to swing to the left in defilade around Able. With Able as a base of fire in the center, this pincers made a double envelopment of AIREDALE, with Baker on the right.

When the battalion commander observed that the two pincers had reached a point 2000 yards from AIREDALE, he called for an air strike. He described the specific targets on AIREDALE and marked the

An M-39 personnel carrier, carrying infantry troops, follows behind the attacking M-47's to give additional support.

area with HE and smoke to identify it to the incoming fighter-bombers.

As the air strike progressed, the entire battalion continued to work up to AIREDALE. Baker Company had the advantage of being in complete defilade position, not under the enemy's observation.

The air strike ended when the tank battalion was within 1500 yards of AIREDALE. Tanks firing their 90mm's, .50 and .30 caliber machine guns roared forward in a mass assault, while division artillery pounded AIREDALE and its reverse slopes. This withering fire, plus the effect of the air strike, all but eliminated enemy resistance. When the battalion advance was within 700 yards of the objective, the infantry dismounted from personnel carriers and took positions with Able and Charlie Companies. In mass, the battalion assaulted AIREDALE as friendly artillery lifted.

Baker Company advanced to the northwest, cutting off any chance of enemy escape. Able, no longer able to fire, moved rapidly through the objective and organized the far side for defensive measures. Charlie hit the southwest, clearing and organizing that portion and tying in with Able.

After cutting off the enemy's escape, Baker came around the back of the crest, organizing its sector on the right with one platoon, the other two being used for mobile support.

Once AIREDALE was secured, the battalion commander reported by radio to division headquarters. He then made a personal inspection of defensive positions, called in his company commanders to give them additional instructions, and ordered reconnaissance patrols forward to make a limited pursuit. These patrols consisted of a squad of infantry and a section of tanks. Their mission was to locate the enemy, his route of march, possible attack positions, and to capture prisoners.

Individual tanks were instructed to take up normal battalion defensive measures with infantry in front. Both the infantry and tanks were told to select the best fields of fire and check security for the night. When the recon parties had returned, tanks on the northern sector of the objective were instructed to make out their range cards and check fire them for all weapons.

Meanwhile, leaders were dispatched through the MSR, opened by the 511th Infantry along the battalion's axis of advance, to bring up the battalion CP group and supply trains.

During the entire attack, friendly infantry continued to fight forward in the high ground north and south of the battalion's axis. As evening drew near, elements of this force were occupying positions a thousand yards to the rear and to the right and left of AIREDALE.

Shortly after nightfall, as the field trains were moving up, Aggressor stragglers attacked the trains with small arms fire and attempted to infiltrate the battalion area. They were beaten off, however, and the trains came through.

While the battalion was being resupplied in sections, Major Dundas, the battalion CO, issued his orders for defense against counterattack. Plan RED, for a frontal attack, called for Able to hold with Baker moving on Charlie's flank (southwest of perimeter) and take position on Able's left flank to fire on the enemy.

Plan BLUE, for a frontal attack, called for Able to hold and Baker to move two platoons to the right to take up a cross-fire position. Plan WHITE, for a right attack, had Baker hold with Able moving two platoons to the right to take up a cross-fire position. Plan GREEN, for a left attack, had Charlie holding with Able moving two platoons left to Charlie's right flank.

Shortly after these instructions were given, an enemy attack comprised of a platoon of tanks and two platoons of infantry hit from the northwest. Able company repulsed it after a ten-minute fire fight. No further enemy action occurred during the night except die-hard individual Aggressors continuing to infiltrate the battalion area, trying to blow up tanks and kill individual unwary soldiers.

In the morning at first light, the enemy struck again in force. They consisted of two companies of enemy tank-supported infantry. Counterattack plan RED was used. Charlie Company met and engaged the enemy. Baker committed one platoon in a single envelopment on Charlie's left flank. The attack was repulsed as quickly as it began.

This last action marked the end of the battalion problem at the Armored Combat Training Center, Camp Irwin, California.

The foregoing problem constitutes the climax of the 6-8-week battalion training program at the ACTC. It is carried through from beginning to end under conditions as near to combat as the Army can make them. From the time the battalion commander gets his orders from division headquarters, which in this case is actually Headquarters, ACTC, he works independently of all training personnel. His actions, and those of his officers and men, are judged by a team of umpires from the resident 325th Tank Battalion—who know how and when to look for mistakes. At the completion of the problem, a critique is held, and the functioning of the battalion from tank crews upward reviewed.

Battalion commander returns from a survey of the front in an L-19 light plane.

The problem actually begins with an orientation by ACTC personnel which takes the form of a division staff officer briefing the tank battalion commander and staff for a combat mission. During the session, the general and special situations are given, followed by a discussion of the mission, intelligence, administrative procedures, umpire system, and air and artillery support. Then the operation order is issued. From then on, the battalion commander carries the ball—operating on his own SOP's.

Every detail for the mission must be worked out by the battalion commander, just as if he were in combat. In the actual conduct of the problem, ACTC personnel acted as the regimental staff of the 511th Infantry Regiment. Aggressor attacks were simulated. Since 105mm and 4.2-inch mortar ammunition is critical, TNT charges simulated such support. Enemy fire was simulated with "flash simulators" placed in old hulks. This was the only simulation of firing; all other was with service ammo, including the air strikes. Every minute detail of the problem is worked out to create conditions as near to combat as possible. These factors contribute considerably to the training value of the problem and have been given high praise by officers and men who have taken part in its execution.

Whereas the foregoing was the solution to the problem as conducted by the 76th Tank Battalion, it simply illustrates how one particular tank battalion conducted the problem. Situations may vary from time to time and in no manner follow the sequence of events as described in this story.

The Armored Combat Training Center was opened by the Army in the Spring of 1951. The idea behind the training program is to thoroughly train tankmen to perform their primary mission: to fire and maneuver. This is accomplished at crew, platoon, company and battalion level, using the very latest armored equipment, modern combat tactics and techniques, and the experience of combat-wise personnel, including veterans of Korean fighting.

The tank crew observes the results of TAC air support prior to advancing.

The emphasis in training is on the crew and platoon, for it is considered that well trained crews and platoons, coupled with adequate communications, advance planning and aggressive leadership, form the keynote to successful armored action. Training is limited to organic units.

Throughout the entire program, the tank-infantry concept is carried through, utilizing infantry available. The "three companies" of infantry used to support the 76th Tank Battalion in the problem were actually eight officers and 75 enlisted men from the 11th Airborne Division who were at ACTC for infantry-tank training.

The actual organization and establishment of the Armored Combat Training Center was accomplished by the Office, Chief of Army Field Forces, Fort Monroe, Virginia, and the Department of the Army. Training, prescribed by General John R. Hodge, Chief of Army Field Forces, provided tankers with the only opportunity they will get to fire and maneuver the Army's new tanks on an unrestricted firing range and maneuvering area.

Camp Irwin recently was recommended for designation as a permanent installation. This move was an integral phase of General Hodge's armor training requirements and policies. It also fits well into the Army's plans for training all armored units at least once a year at ACTC to keep them in a state of combat readiness.

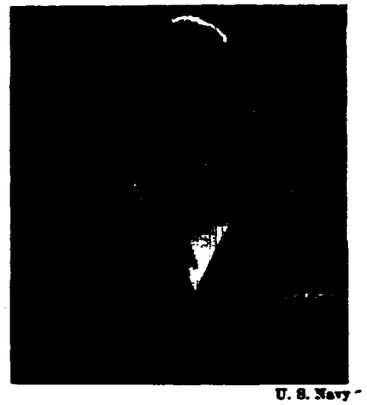
In a speech before an Armored School graduating class last June, General Hodge struck the keynote which defines all armor training. Speaking of the task which confronts the Army, he said: "We must have, in being, the military power to prevent disaster in the event of an aggressive attack, have in hand the immediate capability of quick and strong retaliation and a base upon which to build an overwhelming force, in conjunction with our allies, to take up the offensive and overpower the aggressor. . . . Our regular establishment must be the most efficient fighting force in the world—well trained and countering in technical know-how and proficient use of modern weapons, the manpower superiority of our enemies, present and potential."

The battalion problem and all training at The Armored Combat Training Center, Camp Irwin, California, contributes its part to the successful accomplishment of this all-important mission.

THE NEW JOINT CHIEFS OF STAFF

During the hot summer months while most people are thinking about taking a vacation, four of our top-notch senior commanders are readying themselves for assuming the positions of the Joint Chiefs of Staff. Shown herein are the ones selected by the President to replace the outgoing team composed of Generals Bradley, Collins, Vandenberg, and Admiral Fechteler. Much speculation concerning the reorganization plan has been published. This was put into operation by President Eisenhower in an Executive Order which became effective on 1 July 1953. The complete impact of this plan cannot be determined at this time. ARMOR is endeavoring to obtain the authentic story and will publish it at an early date.

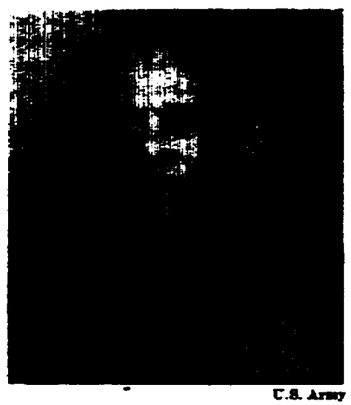
CHAIRMAN



U. S. Navy

Admiral Arthur William Radford, 57-year-old Commander-in-Chief of the Pacific Fleet, will replace General Omar N. Bradley as Chairman of the Joint Chiefs of Staff. A graduate of the Naval Academy, class of 1916, he had four years of sea duty, then was assigned to Pensacola, studied flying, and has been a leading exponent of Naval Air recognition ever since. During World War II, he directed the Navy's Air operations in Washington; later he commanded two fast carrier groups in the Pacific, serving under Admirals Halsey and Spruance. For this latter service he received two Distinguished Service Medals. Admiral Radford was selected upon the personal recommendation of Secretary of Defense Wilson.

ARMY



U.S. Army

General Matthew Bunker Ridgway, 58 years old, Supreme Allied Commander, Europe, will replace General Collins as Army Chief of Staff. Graduating from West Point in 1917, he was commissioned in the Infantry. During World War II he distinguished himself with the 82d Airborne Division: later commanded the XVIII Airborne Corps. Subsequently he commanded the Eighth Army in Korea, then succeeded General MacArthur in Tokyo, and finally replaced General Eisenhower, as SHAPE Commander.

NAVY

U. S. Navy

Admiral Robert Bostwick Carney, 58 years old, Commander in Chief, Allied Forces, Southern Europe, replaces Admiral W. M. Fechteler as Chief of Naval Operations. A classmate of Admiral Radford at the Naval Academy, he was cited as a destroyer officer in World War I. During World War II, he was decorated twice while commanding a cruiser in the Solomons. Later he became Chief of Staff to Admiral Halsey. In 1951 General Eisenhower named him as Southern European Forces Commander at Naples, Italy.

AIR FORCE

U.S. Air Force

General Nathan Farragut Twining, 55 year old, Vice Chief of Staff of the U. S. Air Force, replaces General Hoyt S. Vandenberg as Chief of Staff of the Air Force. He graduated from West Point in 1918 and was commissioned in the Infantry. Transferring to the Air Force in the 1920's, he was Wartime Commander of the 13th and 20th Air Forces in the Pacific and the 15th Air Force in Europe. Subsequently he headed up the Air Matériel and Alaska Commands prior to his assignment as Vice Chief of Staff of the Air Force.

Pros and cons of military history will be debated forever, but the necessity for study by those in the military art can never be disputed. Herein a wartime commander and historian speaks out on its value. This article will preface a forthcoming revision to the "Guide to the Study and Writing of American Military History."

MILITARY HISTORY

by BRIGADIER GENERAL PAUL M. ROBINETT

History in Military Education

THE value of history in military education has always been recognized in the United States Army as in most armies. It has been at the very base of instruction in service schools since their inception. In this, the American Army has followed the advice of such great captains as Frederick the Great and Napoleon who have stressed the value of history in military instruction. One statement bearing upon the question, made by Napoleon, shows clearly the importance he attached to history: ". . . the knowledge of the higher arts of war is not acquired except by experience and the study of history of wars and the battles of great captains."[1] Marshal Wavell, on the other hand, holds that the study of psychology and leadership is of greater importance to a military man than the study of operations, contending that Napoleon's military success can be attributed to his knowledge of psychology rather than to his study of rules and strategy.[2] But Le Bon, who was not a military man, has condemned histories on general principle, observing that "they are fanciful accounts of ill-observed facts accompanied by explanations the result of reflection" and that the writing "of such books is a most absolute waste of time."[3] In spite of Wavell's preference for biographical works and books of fiction and Le Bon's aversion to history, which is not without value as a challenge to historians, it must be concluded that the study of past wars is fundamental to preparation for the next.

Every individual in the military service, from the basic private to the Chief of Staff of the Army, will find a knowledge of military history and especially of American military history valuable in the solution of problems, both in peace and in war. This is true because current military problems cannot be solved without an understanding of the past in which they are rooted or, as carved in stone at the entrance to the National Archives, "What is past is prologue." In other words, we must be rooted in the past to understand the present that we may project ourselves into the future.

Military History in the Development of Esprit de Corps

A knowledge of miliary history can play a vital role in the development of *esprit de corps* in the Army. But as Fortescue, the eminent British military historian, has said, "without knowledge of military history men are really unconscious of the existence of that most wonderful of moral forces . . . and it is not a thing of which anyone can afford to be ignorant."[4] In line with Fortescue's warning the United States Army has called upon military history in many ways.[5] In the Education and Information program, the soldiers are informed of past heroic deeds and accomplishments of individuals and units and are furnished *The Soldier's Guide*, containing historical material. Army posts are generally named for widely known military men: buildings and streets for others or for military organizations. Colors and standards are decorated with streamers carrying the names of battles or campaigns in which the unit has honorably participated. For many years *Retreat* has included the strains of music inspired under the "rockets' red glare." In many units mounts and vehicles have borne the names of distinguished soldiers of the past. These things can be turned to advantage by those who will take the trouble to weld the deeds and records of the past to the task in hand. If successfully accomplished the Army-in-being comes to live and function in the best traditions of the past.

Military History and Mutual Respect in the Armed Forces

A comprehensive knowledge of military history will facilitate mutual respect and understanding in the armed forces; the broad problems of the higher commanders will be more readily comprehended by subordinates; and the complex human, ma-

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terial, and physical problems of the soldier and of the small-unit commanders better appreciated by superiors.

Military History and Leadership

Military history and the biographies and memoirs of military men of all ranks constitute the best source material for the study of military leadership. Even though there is a paucity of good biographies and memoirs, particularly in the lower echelons, this material is the best available for an understanding of character, of the characteristics of men, of good and bad leadership, and of the influence of eminent personalities upon events. The studies dealing with the fighting men should be read with the realization that bad soldiers tend to leave many documents behind them, while good soldiers leave only the briefest sort of records or merely a name. For this reason even so-called "factual studies" of the fighting men are usually heavily loaded on the seamy side of life. If the study is to be profitable, the student must analyze, evaluate, and judge the qualities of both fighting men and leaders, with due regard to the circumstances and conditions under which they worked. But as Wilkinson has said, "This judgment must never degenerate into mere negative criticism. . . ."[6] It should enable the thoughtful student to determine and to identify in others the desirable traits of soldiers or of leaders in both staff and command positions. This study should enable a military man to become a practical psychologist, but should not lead him to become pedantic or academic. As Clausewitz has pointed out, a commander "need not be a close observer of men, a sharp dissector of human character, but he must know the character, the feelings, the habits, the peculiar faults and inclinations of those whom he is to command."[7]

To be of maximum value in teaching military leadership, history must be factual and frank. Histories written during the lives of the actors or too near their era are generally tinged with partisanship, colored by self-interested flattery, and influenced by the selective treatment of source material. Histories written too long after the time of the participants are frequently fictional or sentimental. Neither type of history is satisfactory for teaching leadership. History cannot, therefore, serve as an entirely satisfactory basis for instruction in leadership until it is written in such a manner that it portrays the participants, their merits and deficiencies, their temperaments, doubts, and ambitions, their Janus faces, their tensions and contrasts, and their physical and mental conditions.[8] When it becomes possible to write of public men as one would write of property, the greatest value to be derived from military history probably will be its influence on the development, training, and selection of honorable, skilled military leaders. Such writing cannot be done in official histories written contemporaneously with events. It is an appropriate field for the independent historian who writes after passions and partisianship have been stilled by time.

Military History in Instruction and Training

Military history is the very foundation of our knowledge of tactics and strategy. It is also the foundation on which the theoretical and practical training of troops and the development of training directives is based. It gives life to the bare bones of facts and regulations. An instructor who is not grounded in military history appropriate to the level of his instruction is dry and pedantic and will accomplish no great results. On the other hand, one who not only knows the principles but who also can illustrate them by historical examples, giving facts concerning troops, commanders, weapons, supply, communications, terrain, and weather, can give life to his instruction and make it useful. This is just as true in troop training as in formal instruction in military schools. Above all else, however, military history gives an interesting and deep insight into the minds and hearts of military men, into tactical and strategical methods, procedures, and principles, and into the relation between war, politics, economy, philosophy, geography, and the mentality of nations and races.[9]

If military history is to serve as a basis of instruction and training it must be factual and objective. Propagandistic history or censored history is extremely dangerous and should not be used as the basis of instruction in military schools or in training. Such history is not history at all. It can provide no sound lessons or basis of intellectual and professional training. It leads to false conclusions. And it fosters one of the worst evils in professional military thinking—self-deception.

If military history is to be of greatest value in instruction and training it must be more than a logical, factual record or account of events. After the facts have been synthesized into an effective record there is a final step in the project—the analysis of the facts and the formulation of conclusions based on that analysis. This last step can be taken only by one who is both well-grounded in historiography and professionally qualified to deal with the military organization and the operations recorded. In dealing with these subjects at the higher levels the analyst must have a knowledge of national policy, of the higher organization for war, of military geography, of strategy and grand tactics, of logistics and techniques of the combined arms, and of weapons. At the lower levels of military organization and operations the analyst must have a knowledge of troop psychology, of weapons, of terrain, of weather and climate, and of tactics, logistics, and techniques of the combined arms.

Military History and Changes in Tactics and Techniques

One of the most important lessons a military student can learn from history is the necessity of quickly recognizing the changes in tactics and techniques which are indicated during the course of a war, and especially during the meeting engagement. It is at these times that secret weapons and differences in tactics and techniques show up most clearly and require immediate adjustment to conditions on the battlefield. History teaches that commanders must react quickly to the new conditions and at the same time transmit information to higher commanders concerning the circumstances and occurrences on the battlefield which indicate a need for changes in equipment, tactics, and techniques.

The study of the initial phases of military operations deserves special attention. These are periods that mark the introduction of new weapons, new tactics, or inexperienced troops; that involve a sudden shift in type of terrain, in defensive arrangements, in weather, or in seasonal conditions. It is during these periods that faulty organization, inadequate or impractical training, inefficient weapons, failure of leadership and communications, inadequate logistical support, faulty coordination of the various arms, unforeseen effect of weather and terrain, rumors, and many other factors, some almost intangible, create a state of confusion which should challenge every military student. Knowledge gained through a study of the initial phases of past operations will pay untold dividends to those who may be involved later in similar situations.

Learning from Experience and the Experience of Others

A military student should not allow personal experience on the battlefield to limit his point of view but should add to it the experiences of others.[10] Conclusions and principles, based on a single, personal experience or an inadequate preparation in military history, are very dangerous. Ardant du Picq, a profound student of combat, has expressed the matter in another way. In a questionnaire submitted to contemporaries he said, "Whoever has seen, turns to a method based on his knowledge, his personal experience as a soldier. But experience is long and life is short. The experiences of each cannot therefore be completed except by those of others."[11] In short, a careful study of objective military history with an open mind and with the determination of learning from the experiences of others will be of great benefit to any military student.

The principles of strategy have been evolved from an analytical study of many wars. They are, therefore, based on a great many experiences of the past and are immutable. "Consequently, the Army extends its analytical interest to the dust-buried accounts of wars long past as well as to those still reeking with the scent of battle"[12] with the object of the search dictating the field for its pursuit.

In the field of tactics and techniques, doctrine based on personal experience or the experience of others is apt to lead to error, for, as General MacArthur has said, "In every age these [tactics] are decisively influenced by the characteristics of weapons currently available and by the means at hand for maneuvering, supplying, and controlling combat forces."[13] Leadership, organization, communications, training, morale, terrain, weather and climate conditions, and the enemy will also differ as well as many other things. Peacetime tactical doctrine, therefore, can be determined only by a process of reasoning, by studying experiences of others in the most recent wars, and by experimentation. When doctrine has been subjected to test in actual battle it should be quickly readjusted to conform to reality and kept in step with conditions during the entire course of operations.

Military History and Learning from the Vanquished

Upon the conclusion of a war the victors decide how they should organize and equip for the future. They base their conclusions on their own experience, which, no matter how great, is limited. It might be said that the victors reorganize on the basis of considerable self-esteem, attributing their success to better organization, equipment, training and leadership, while the vanquished reorganize on the basis of considerable humility, analyzing events and determining and eliminating weaknesses, with the intention of defeating the recent enemy. Military progress is therefore slow among the victors because conceit and complacency too often have the upper hand. The vanquished, however, looking further ahead, build new organization and new equipment. This lesson should be carefully heeded by the United States: having won all the wars in which it has engaged it is in a certain degree of danger because history reveals that military victory has frequently contained the seeds of weakness, deficiencies in coordination, training, discipline and leadership, inefficiencies in organization and logistical arrangements, inadequacies of intelligence, and shortcomings of equipment and supply.

The most convincing lessons can be learned from defeats. But it is infinitely best to learn from the defeats of others. It is, therefore, advantageous to study and analyze the records of the vanquished. The student of military history should give careful consideration to the writings of the leaders of defeated nations who have been allowed to express themselves unhampered by censorship. Frequently, much more can be learned from them than from the leaders of victorious nations, who are apt to pass over the unfavorable matters and leave the impression that few mistakes were made. The veil of censorship usually continues in victorious nations where the proprieties are at least insisted upon and military regulations and discipline are at hand to enforce them.

Military History in Preparation for the Higher Direction of Military Affairs

The American Revolution was but the prelude to the era of peoples' wars, the wild and desperate struggles that have grown in intensity and destructiveness down to the present time. As Marshal Foch has said: ". . . they were to set themselves the goal, not a dynastic interest, not of the conquest or possession of a province, but the defense or the propagation of philosophical ideas in the first place, next of principles of independence, of unity, of immaterial advantages of various kinds. Lastly they staked upon the issue the interests and fortune of every individual private. Hence the rising of passions, that is, elements of force, hitherto in the main unused."[14]

In the United States, the direction of the armed forces is vested in the civilian Chief of State or President, and the policy matters in the Congress. The Executive and the Congress are elected to office and have rarely been trained or soundly experienced in military affairs. The President must of necessity coordinate the vast executive agencies of the government in both peace and war. He must understand the various agencies, the contributions they can make to the national security, as well as their requirements. He must also be capable of convincing the policy-making body or Congress of the necessity for these requirements. At the same time he must be capable of decentralizing the execution of tasks to subordinates.

As General Maurice has pointed out, much of the difficulty in the relations between statesman and soldier has arisen in the past because of a misconception of what is meant by the conduct of war.[15] Too many mili-

tary men have thought of it as the direction of the armed forces in actual operations. Today, however, it implies the direction of the entire power and resources of the nation in pursuit of national objectives and their coordination with those of allies. This is certainly beyond the responsibility of the highest ranking military commanders even though they are intimately concerned in them because of their bearing upon the preparation and organization of the nation for war. On the civilian side the statesmen are generally even less prepared for their role in a national emergency because the civilian educational system has long ignored the study of war but has left it almost completely to the initiative of those who aspire to high government positions.

The soundest preparation for an understanding of the delicate relationship of statesman and soldier and of their mutual problems in the conduct of military affairs in peace and war can be made by studying history—particularly American history of the periods preceding, during, and following national emergencies. Unfortunately, future statesmen are rarely sure of their place in sufficient time to make the necessary preparation, and the problems of war are rarely taught in civilian colleges or universities even though the methods of dealing with war should be understood by all intelligent men and women of America. Personnel of the armed forces are in much better position to foresee their future roles in war than these unknown ones who will some day be their superiors. They should, therefore, conscientiously prepare themselves for the supporting roles of advisers to the paramount civilian authorities and of instructors to the American people. Both roles will require great moral courage if the public interests are to be best served. An improperly prepared individual or a base flatterer may rise to the position of chief adviser on the basis of personality and lead his superiors and the country to ruin. The bloody pages of history are replete with examples of this kind.

Today, every element of national strength—ideological, spiritual, psychological, political, financial, economic, technological, and military—are involved in war and in the preparation for war. Even worse, imperialistic communism has made conflict a continuing and continuous activity among the people in every land in the world. The very name *war* has become too restrictive. *Universal conflict* better describes the relations of man to man, of people to people, and of state to state in the shrunken world of the twentieth century.

Now, less than ever before, can responsible military leaders ignore the broad fields of knowledge involved in this modern concept of *universal conflict*. Accordingly, military leaders who are responsible for advice on strategy must be versed in the broader aspects of all of these matters and must bring to their task a balanced judgment capable of giving to each the correct value it deserves in solving the great problems that arise in this rapidly changing world.

Above everything else, however, American military leaders must have a knowledge of their own land and its people and of its military history. Without this fundamental knowledge decisions will sooner or later transcend the practical and realistic. This could only result in a national catastrophe.

Military History in the Education of the American People

The military student can render an important service to the United States by making clear to the people and their representatives in Congress the bases, causes, and characteristics of war, the principles underlying the conduct of alliances, the coordination of domestic, foreign, and military policy, and the conditions governing the conduct of operations and the men who fight them. In doing so, as Burchardt has pointed out, the history of our country, threatened with the same pitfalls that have engulfed other nations in the past, should be considered in parallel with that of others and in relation to world history and its laws—a part of a greater whole.[16] This will require not only an understanding of the histories of existing nations but of those, once powerful, but now gone forever. The importance of the subject and the profound lack of understanding of war by the people and their representatives, not entirely attributable to indifference, should spur the patriotic military man to undertake the unpopular and unprofitable role of instructor to the masses and to their political leaders.

The role of instructor to the people is, however, a difficult and thankless one. Many of the thinkers who attempted it have lacked objectivity and in their zeal have adopted propagandistic techniques. But even the best have been accused of warmongering by their opponents when in fact the latter were planting the seeds of war.

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[1]Napoleon, *Mémoires écrits à Sainte-Hélène*, ed. Gaspard Gourgaud (London, 1823). II, p. 51.

[2]Field Marshal Earl Wavell, *The Good Soldier* (London, 1948), pp. 20-21.

[3]Le Bon, *The Crowd* (London, 1921), p. 54.

[4]J. W. Fortescue, *A Military History* (Cambridge, 1914), p. 39.

[5]DA Cir 100, "Military History Indoctrination Plan," 1952.

[6]Spencer Wilkinson, *The Brain of the Army* (Westminster, 1895), pp. 164-67.

[7]General Karl von Clausewitz, *On War*, trans. Col. J. J. Graham (London, 1940), I, p. 116.

[8]MS B-295 (Blumentritt), pp. 7-9. Applied Studies Br. OCMH. This study on the writing of military history was formerly written in 1946 by General der Infanterie Guenther Blumentritt, formerly chief of staff of the German Commander in Chief, West.

[9]*Ibid.*

[10]Friedrich von Bernhardi, *On War of To-Day* (London, 1912), pp. 44-46.

[11]Ardant du Picq, *Battle Studies*, trans. Col. John N. Greely (Harrisburg, 1947), p. 8.

[12]General Douglas MacArthur, *Annual Report of the Chief of Staff for the Fiscal Year ending June 30, 1935*, p. 72.

[13]*Ibid.*

[14]Ferdinand Foch, *The Principles of War*, trans. Hilaire Belloc (New York, 1920), p. 30.

[15]Maj. Gen. Frederick Maurice, *Governments and War* (London, 1926), pp. 112-28.

[16]Jacob Burchardt, *Force and Freedom* (New York, 1943), pp. 89-90.

65 Years Ago

Well informed Russian officers maintain that an army possessing a large number of mounted men capable of being used as infantry has great advantages over that army that does not have them; and that any cavalry without them is unsuited for the requirements of modern warfare. While in no way neglecting the training of their cavalry, as such, they go farther, and, using the horse as a means of rapid locomotion only, deliver the trooper at the required place in the shortest time, there to cope with infantry on its own ground, with its own weapons, and in a kind of combat learned from it. After the combat the horse again comes into use to bear the trooper, if victorious, in pursuit; if defeated, to a place of safety.

The aim of the Russians is to make the cavalry feel its own independence and its ability to take care of itself under any and all circumstances. With this view they are taught to throw up temporary earthworks and to charge with the bayonet. But little value is placed on the revolver; on foot the trooper's weapon is the rifle: on horseback, the saber.

To show that all this fighting on foot and general service as infantry has not caused a deterioration in the cavalryman, I will mention one fact only, viz: that, in their drills, sections and squadrons practice in charging against one another, passing through one another's ranks. If they are not good cavalrymen this manoeuvre will show it; for the good seat, quick eye, and thorough command of the horse—all requisites of good cavalry—are necessary to a completion without accident of this movement.

The Russian Regular Cavalry
1st Lt. E. A. Ellis

50 Years Ago

As one would suspect, the cavalry is the favorite arm of the Kaiser, who is a soldier born and bred, looks and plays his part, and it was a sight of a lifetime to see him leading his cavalry corps. The first general charge was made in successive lines of brigades, after the horse batteries with the cavalry had shaken the right wing of the enemy. The first rush of about one and one half miles was over a grassy, rolling country; then came some floundering in cultivated fields and several spills into the ditch of a formidable railway embankment. Their double rank formation made the few messes worse. But the squadron leading was fine, and the successive lines of hussars, cuirassiers, dragoons and uhlans swept over these rough stretches and swooped down on the infantry, which had rallied by small units. The fine leading showed again as the squadron scattered through, coming together again like flocks of birds. The guns came next, and after a whole division of infantry and 128 guns in position had been ridden over, the Kaiser sounded halt and assembly.

Notes on the German Maneuvers
Lt. Frank R. McCoy

25 Years Ago

The question of organization of motorized army units (Divisions or Brigades) occupies constantly the military circles of all governments.

There is no doubt that the technics will succeed within measurable space of time in creating motorized units which will be sufficiently mobile to be suitable for combat, and can, therefore, be well used for special purposes. It is unquestionable also that there will be only a small number of such units. Motorization of the whole army, even in countries with high industry, best system of roads, abundant supply of fuel and oil and money, is an utopia for many years, probably forever.

Motorized and Cavalry Divisions
Colonel Mauriz Wiktorin
Austrian Army

10 Years Ago

In 1934, a remarkable treatise on mechanized warfare was published in Germany by a former Austrian Artillery General, Ritter von Eimannsberger, under the title of, "The Tank War." It made a great impression on both German and Russian military circles and, to a certain extent, considerably influenced the development of mechanized doctrine. Eimannsberger's influence, however, was more organizational than tactical. His tables of organization for panzer division no doubt played a considerable role in the final makeup of these divisions which emerged on Poland in 1939. With a few deviations, their elements bore a striking resemblance to Eimannsberger's blueprints.

He also laid the groundwork for the modern antitank defense, although, naturally, at that time the concept of antitank defense was purely along artillery lines. The possibility of fighting tanks with close combat weapons was not even considered. The Spanish Civil War brought the first pioneer efforts in this field.

On the other hand, the tactical views presented by Eimannsberger were unanimously rejected by the German tank experts. He failed completely to grasp the most important principle underlying the blitzkrieg tactics, which is a battle, or rather, a series of battles, on a narrow front, each one devised so that the full weight of the armor could be concentrated against a weak spot in the enemy's defense and just as quickly changed to another spot if the resistance at the original point of thrust proved to be unexpectedly strong. Fluidity and flexibility in a tactical sense, combined with the idea of encircling the enemy by means of two or more converging attacks, can be called the essence of the blitzkrieg.

Tanks in Night Combat
Nicholas Corotneff

SOMEWHERE BETWEEN YESTERDAY AND TOMORROW

by MAJOR LAMAR McFADDEN PROSSER

Dissipation of strength, be it Infantry by piecemeal attack or Armor by parcelling it out in Battalion and Company packages, is a danger to our Defense effort. A re-examination of our past, a look at the present, and a glimpse into the future may serve us well.

OVER every battle there hovers an atmosphere of uncertainty. The multitudinous complex factors of time, weather and terrain about which we can never be sure; the inevitable conflicting reports; the time lag between the action itself and the reports to the commander; all these combine to obscure the true facts. This obscurity has often been called the *Fog of War*.

But there is also obscurity in much that we do in the intervals of peace. Exaggerated newspaper reports contribute to this uncertainty; highly colored and opinionated claims prompted by branch patriotism sometimes cloud the issues; strict and vitally necessary security restrictions have the unfortunate effect of withholding the light of truth; and so, the *Fog of Peace* swirls about us and we grope towards the future in a twilight of apprehensive speculation.

Struggling to keep in contact, we guide on the opinions of the man ahead, as the soldier on patrol guides on the white tape marking the helmet in front. Now and then some blinding flare of misinterpreted half-truths bursts before us to confuse us with grotesque shadows, but at intervals a flicker of brilliant reason stabs through the murky darkness and silhouettes for a moment the dim shape of the future. And where are we now? —somewhere between yesterday and tomorrow.

The path ahead for the ground forces has been marked out by many able leaders, all of whom agree that the trend of our developments and the strategic situation of the Free World point toward the need for developing greater mobility in the ground forces. That we may lack the degree of mobility required was strongly suggested by our former NATO Commander, General Matthew B. Ridgway. In a statement to the press in Paris, 29 September 1952, General Ridgway said, "If we are jumped tomorrow or next week, or in the coming months, we will have to fight a defensive, delaying action and use to the maximum the mobility we have on sea and in the air. We do not have a mobile land reserve. We will fight with what we have on the ground. We do not have an adequate covering force—adequate mobile reserves to back them up, nor adequate logistical support for either one. If we are assailed tomorrow we are going to have a very bad time and take some severe and punishing blows." This is a sobering thought and it has not received the consideration it deserves. Less than a decade after winning a great war with an army conceded to be the most mobile military force of all time we are warned that we now lack this essential characteristic in our defense forces. Why?

We must all concede that we are not now as strong in numbers of fighting units as we were at the end of the war. We might even go so far as to admit that the expense of maintaining mechanized forces in peacetime has forced the army to accept a smaller number of completely mobile divisions than is desirable. But the real cause of our present difficulty is the fact that postwar developments have so accelerated the pace of war and so greatly altered our traditional concepts that we have not yet caught up organizationally. The power of contemporary weapons calls for greater dispersion on the ground, and this wider separation of units and individuals in turn demands increased mobility of the component parts of the fighting force.

Just so far, the road ahead is well defined. But as we consider means of achieving this additional mobility, the path disappears again into the *Fog of Peace*. We must sift and analyze, weigh and compare many divergent views.

The advocates of airborne warfare, for instance, tell us that the "aerial operations of possible future wars will be like nothing previously experienced." Whole armies are to be transported and maintained by air. There will be no targets invulnerable to airborne attack. Any point on the globe of sufficient strategic value can, it is said, be seized by airborne armies. We are said to be relieved from the necessity for slow, painful, expensive overland attacks. Instead, we will move directly to the assault on targets of stategic importance: flying over the defenses, we hit at the nerve centers of production and the brains of the enemy government.

Is this the trend of warfare in our times? Many recent peace developments seem to bear out the aerial theories. The accomplishment of the Berlin Airlift in which we and our allies kept a city of millions supplied with every necessity and some luxuries for a period of months would seem to show that the scope of the airborne theory is not an exaggeration. However, we must consider what the result might have been if this operation had been opposed by jet interceptors, by antiaircraft units firing guided missiles, by counter-bombing of the crowded airfields, by atomic bombing of the supply bases and by an active and mobile enemy on the ground. No one who saw that bridge of planes from Frankfort to Berlin (the Germans called it the "Air Bridge") could help but be inspired, and no one who saw it could help but doubt that it would be possible in war.

Up to the present moment, no airborne force has ever been launched into combat under conditions where we did not have nearly absolute control of the air. The airborne forces have never yet had to fight in the air before reaching their target areas. If they are incapable of doing so, it must follow that airborne operations are not practicable until the attacker controls the skies. It may be said that we could always seize temporary control of certain selected airways in order to deliver the airborne and air-transported force to its target. But there is the problem of sustaining it. How are we to supply it with food, ammunition and replacements? Any serious failure of the resupply plan of an airborne force can only mean its eventual destruction for, like a city under siege, when supplies are exhausted it can no longer fight.

Airborne organizations depend largely upon fighter aircraft for anti-tank defense and for support missions which would be handled by the artillery in a traditional ground force. It is unlikely that this much needed close air support would be possible until the enemy fighter defenses were at least partially neutralized.

Unlike traditional infantry, the airborne trooper cannot count on the accurate fires of Corps and Army Artillery. He is not yet backed up by air-transported tanks. Once on the ground, he is no more mobile than the traditional infantry. In fact, he is less so, because he carries with him only a few jeeps and 2½-ton trucks for his towed guns.

The airborne soldier is entirely dependent upon his brothers-in-arms whose feet are firmly planted on the ground. He cannot exist indefinitely on his own.

There has been only one airborne campaign in history wherein all other branches were excluded—the German seizure of the island of Crete. In this action the German paratroopers were supported only by the *Luftwaffe*, and there was to be no link-up with other forces. They dropped, seized and held an island, after which they were supplied by the German navy. When the navy could no longer operate in the adjacent waters, the force had to be withdrawn. In spite of vastly improved airborne means, it is likely that airborne operations in the future will remain *special* operations and that they will be conducted in conjunction with overland attacks. The most striking example of this type of battle was Field Marshal Montgomery's plan to seize the crossings over the waterways of Northern Holland in depth by airborne forces and to push through with armored units to link up the resulting chain of airheads—Operation Market Garden. It was described by General Bradley as, "the most imaginative operation of the entire war." It failed because the weather prevented close tactical air support and made the resupply limited and inaccurate. Though it failed, it was sound in conception because it exploited the capabilities of both airborne infantry and armor—each separately and both in combination.

Our airborne forces held in strategic reserve are an important element in our national defense owing to the speed with which they can be shifted to any threatened theater of operations. Once there, however, they must fight on the ground, and on the ground it is overland mobility that counts. This, the present airborne division does not possess.

Aside from its immobility, once committed, there is at least one other fatal weakness: the airborne division has no adequate antitank defense. General Gavin testifies to the effectiveness of tanks against an airborne force. He says, "Airborne troops are at a great disadvantage in open country fighting against armor," and again, "Armored units are particularly valuable against airborne troops." The General then mentions the new bazooka and concludes that it has made "tanks in their present form as extinct as the elephants of Goma and the heavily armored Knights of Agincourt." In justice to General Gavin, it must be noted that all these remarks were made before Korea—before the "bazooka shaped-charge" advocates had met their great disappointment. For when the new bazooka was rushed to Korea with a great enthusiastic fanfare in the press, it was found that though the size of the projectile had been increased, it was still a weapon of very close range and inaccurate. The North Korean

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force of approximately 200 tanks (4 battalions) was not stopped by the new bazooka nor by rocket-equipped planes. The Red drive finally petered out through lack of replacements and was stopped by M-26 and M-46 tanks rushed from the States—proof that armor has not yet reached its Agincourt.

The combination of these two fundamental weaknesses, a lack of battle mobility and a lack of an adequate defense against armor, compels us to limit our airborne plans to objectives which can be brought within reach of ground forces in a predictable and limited space of time. If we are searching for the new mobility, we will have to seek it elsewhere, for even through the *Fog of Peace* we can see that airborne forces lack it. While they possess almost unlimited *strategic* mobility, they lack battle mobility.

But what of the traditional infantry division? Can "motorized" infantry achieve the requisite mobility to operate effectively against a well equipped enemy? For the answer to this question we must study carefully the effectiveness of the division in World War II. One startling fact becomes evident as we review the major operations of the last war: No American Division (with the exception of the troops caught at Pearl Harbor) was committed to action in any battle during which the enemy was predominant in the air. In North Africa, in Italy, in the island-hopping campaigns of the Pacific, and finally in Europe in 1944, the enemy's dwindling tactical air force was used almost exclusively in aerial battles against the invasion of the enemy's home country by our strategic bombers. We did not suffer as did the French and English armies which were decimated by the close cooperation of the *Luftwaffe* and the *Panzer* forces in 1939-40. American troops never really experienced effective air-ground resistance. This was due to several factors. A German overemphasis on heavy bombers during the Battle of Britain resulted in insufficient fighter-bombers in the later stages of the war. Attrition during the first four years of the war linked with disrupted production began to be felt. As the Allied bombing offenses accelerated, the few fighter craft available concentrated on the defense of cities and other strategic targets, with the result that our land campaigns met little effective resistance from the air.

We were consequently able to use organizations and tactics which were actually already obsolete and we permitted ourselves to develop some bad habits—which have been carried over into our present organizations and tactics. Had the enemy's tactical air force been brought to bear against our ground operations, a great many of our most successful moves would have proved impossible. Not just the logistical improvisations of the famous Red Ball Express but the usual, SOP type, movements of our motorized divisions would have been affected. It will, no doubt, come as a shock to some that only one in three of our wartime divisions was motorized. Still, we were free to utilize fully the excellent road net that existed and to shift divisions—even on occasions armies—with little fear of interruption from the air. This condition did not exist while the Germans had an air force. It will not exist at the beginning of World War III.

The present infantry division is not a mobile organization, yet the bulk of our army is infantry. The individual foot soldier in the infantry division is overloaded. As General S. L. A. Marshall has observed, "The soldier cannot be a fighter and a pack animal at one and the same time any more than a field piece can be a gun and a supply vehicle combined." Certainly a machine could be used to relieve him of much of his combat load. Somehow, regardless of the fact that the machines exist and that the infantry has them, "the machine has so far failed to reduce by a single pound the load a soldier is required to carry in war."

But fundamentally it is the organization itself which is the limiting factor. I am not referring to the refrigeration units, the mobile showers, the special service clubs and the like, which are dragged across continents; because these can be and are stripped away when the situation demands. What *I do* point to as restrictive factors are the regimental tank companies, and the tank battalion which are simply an embarrassment to the infantry division. I dare assert that even the infantry element of the division is now too large. There are too many men in the infantry regiments and it is this bulk—this sheer overweight—which destroys its mobility.

The division began to grow to its present corpulent size in World War I, when, for the first time, armies found it necessary to tie their flanks to insurmountable continental barriers. The race to the sea and the resulting unbroken lines from the Alps to the Atlantic came about because the mobile capabilities provided by truck and train made it possible to shift great bodies of troops rapidly and thereby to flank any opposing force. To seal their flanks both the Allied and the German commanders found it necessary to extend to the limit of the geography. Bulk became necessary to fill those long trenches and, though they were generally unsuccessful, massed attacks were the order of the day.

Mechanization came about between the wars. This increased mobility still forced commanders to fill the space between geographical barriers but there was now the additional capability of penetration because the deadly machine gun and heavy artillery barrages were largely overcome by armor. The infantry division was consequently augmented by the addition of antitank units, the attachment of GHQ tank battalions and the like. After the last war the division absorbed all these units and there is now a need to reconsider the larger strategic situation to determine the usefulness of all this mass.

Atomic weapons have now reached such a point of development that a penetration is possible at any place. We cannot now hope to block a continuous front across Europe. There is little need now to establish an unbroken line, if by the use of atomic weapons that line can be penetrated at will.

What we must now strive for is controlled-dispersion. Mobility has come back into warfare and battles of the future will be battles of maneuver. We must maintain contact with the enemy because by becoming closely engaged, we make it difficult for the enemy to use his most destructive tactical weapons, without destroying his own troops. In so doing we must not become so heavily concentrated as to offer a tempting target ourselves. And all the while we must remain mobile in order to react quickly to any move and to exploit our own use of the atomic weapons.

The infantry division as it is now organized is incapable of this sort of employment. The mobile capabilities of our enemy brought about the present massive division. The mass destructive contemporary weapons will bring about mobility. The pendulum swings and tactics and organizations must change to fit technological developments. Instead of continuous fronts and unbroken lines which are no longer effective, we will develop a cellular defense and even maintain dispersion in the attack. Battles will be won by the maneuvering of small task forces or combat teams, each too small to be a suitable atomic target, yet powerful enough in terms of firepower and speed to strike swift, powerful blows at the enemy's dispersed forces, or to force the enemy to concentrate so that our own mass destructive armaments can be profitably employed. Penetrations made by the use of these new weapons must be exploited quickly if we are to squeeze the fullest advantage out of the surprise and disorganization they will create. Men on foot move too slowly for such missions. Mounted on trucks, they are confined mainly to the roads, which will probably be badly torn up and partially blocked by destroyed bridges and debris caused by the new weapons' blast effect. To exploit fully the breach we have made, we must be able to move rapidly cross-country in dispersed formations while carrying with us long-range weapons capable of covering the intervening spaces. It is illogical to expect our infantry division as it is now organized and equipped to carry out missions such as these.

Can we utilize airborne troops to exploit atomic explosions? We certainly can and probably will, but the weakness of the airborne trooper once he is on the ground will also force us to employ other ground troops for his protection.

If neither the traditional infantry nor airborne forces, as presently organized, are completely adaptable to warfare in our day, is armor any more so? Let us try to be objective in the examination of our own branch. Let us try to find the truth and not simply a justification.

The greatest value of armor today is, paradoxically, not armor at all, but its mobility and its flexibility. True, the armor provides an excellent shield against the blast and radiation of the fission weapons, and this relative immunity must not be overlooked. But essentially, it is the ability to move dispersed and still concentrate its fire that makes armor the arm of decision and the weapon of the future. If it has become useless—even impossible—to establish continuous fronts across the face of a continent, then we must rely upon our ability to move quickly overland and simultaneously to concentrate *firepower* without physically concentrating our troops. This is a function which can only be performed by mounted forces. Armor appears to be more adaptable than any of the other branches of the Army to fight the fluid battles of the Atomic Age.

But even armor is not yet ready to take the lead in working out the techniques of tomorrow. It is not ready because at this moment it is still splintered and scattered in pigmy-packets throughout the other forces. It is much closer to yesterday than to tomorrow.

In order to be prepared in advance for the type of warfare we know to be possible now, armor needs a laboratory—a military laboratory in which to test the new against the old. We have several installations and numerous boards constantly testing and improving our equipment. We have no facilities for testing tactics. The armor of the U. S. Army is, for the most part, scattered throughout the infantry divisions. We have only two real armored divisions. The remainder, armored in name only, are training infantry replacements!

The subordination of armor has come about because we were lost in the *Fog of Peace* somewhere between yesterday and tomorrow. When newspapers told us that tanks were as obsolete as the bicycle-built-for-two, too many of us believed them. We lost our most outstanding and most successful armored leader after the war. Today, no officer of sufficient stature has taken his place as an advocate of armor. We have rightly become cost conscious in the last eight years, but we seem to have become so conscious of cost that we have not yet begun to adjust our forces to the technical and scientific developments of our day. We have been forced to narrow our planning and restrict our thinking to the peculiar situation in Korea, and this infantry-airborne trend must be reversed before we become engaged in a continental war, for neither is capable of effective employment in 1953, and we might easily be defeated before the weakness of the present lack of balance could be corrected. It takes years to organize, equip, and train an armored division. Who can say how many years are left? The cost of a failure to adjust may well be the loss of our freedom.

Another consideration: the continuous fronts we maintained in the past, flanks neatly tied into mountains or oceans, made it possible for us to establish a main supply route over the existing roads and to resupply our mobile forces by using wheeled vehicles. Now that our scientific weapons make it possible to pierce those continuous lines at will, these makeshift supply vehicles and inflexible supply routes are not adequate. Only ground forces flexibly organized, mounted in vehicles which provide complete battle mobility, and supplied by vehicles capable of operating cross country for prolonged periods, can successfully exploit the great power of contemporary weapons. Forces so organized and so equipped can absorb the destruction of fission weapons and maneuver to block the enemy's follow-up, denying him the advantage he has gained by their use. Only such a force could effectively exploit our own use of these weapons, moving quickly through the area of the explosion and striking deep in the enemy rear.

These changes will come about eventually because necessity will force them. If we wait until the possibilities are demonstrated for us by our enemies, learning may be painful and correction impossible.

The *Fog of Peace* is no mere figure of speech. It is a very real and dangerous weather which always prevails between yesterday and tomorrow. It has cost us lives and money in the past even though we were fortunate enough to have other countries fight the opening battles while we learned. Tomorrow we will likely be the priority target for any aggressor.

It's time we re-examine the battles of yesterday and prepare for those of tomorrow.

NEWS NOTES

More Land for Hood

Approval of the acquisition of 54,000 acres to be added to the Fort Hood reservation has been given by a subcommittee of the Senate Armed Forces Committee, it was recently announced.

This is the final action to release the funds approved last year which will permit the Engineers of Fort Worth District to proceed with the acquisition of the needed land. Expansion of the sprawling Central Texas post is essential to the training of the 1st Armored Division. The increased range and fire power in the newest model armored and infantry weapons with which the 1st Armored Division is equipped demand increased firing ranges, and consequently, greater impact areas.

Lieutenant General Bruce C. Clarke, now commanding I Corps in Korea, was the first to prompt the expansion of Fort Hood. Commander of the 1st Armored from its reactivation in 1951 until he was succeeded by General Doan in April, 1953, General Clarke prepared plans for the new firing ranges. The House approved the action last November.

In addition to affording longer firing ranges and larger impact areas for the 90mm and giant 120mm tank guns, the post's extended boundaries will allow 1st Armored soldiers to practice stream crossings and participate in other water training when Belton Lake is filled.

The additional land will also mean greater flexibility in the training for the men of Fort Hood on both a Combat Command and Division basis.

As anticipated, approval of the reservation's expansion was announced after an executive session of the Senate Armed Forces subcommittee recently. A letter from Secretary of the Army Robert Stevens urging favorable action was read to the subcommittee during a morning session. Until that time the detailed contents of the letter were not released.

The Army Secretary's request was a direct effort to speed up acceptance of the proposal and initiation of expansion plans.

Fort Hood is the only training site in the United States at this time where an armored division has adequate facilities to carry out its training mission, and with the additional area this post becomes the largest permanent armored post in the world.

STATESIDE

Lt. Gen. I. D. White
To Commanding General, Second Army

Armored Personnel Carrier—Battle Tested

A recent news release from Korea reveals that the M75, Armored Personnel Carrier (formerly identified as the T18) was used for the first time in battle.

The Army lifted secrecy recently on how it evacuated United States Seventh Division soldiers safely in daylight along a perilous dirt road winding south from abandoned Porkchop Hill under heavy Communist shelling.

A division of Chinese artillery had the road zeroed in and it was considered a virtual highway of death.

The full-tracked vehicles, sheathed and roofed with tough armor plate, brought back the wounded and sound soldiers, and some of the dead.

They rumbled up to the hill's remaining defenders in daylight, under direct view and fire from the Communists.

Mortar shells, artillery rounds, machine gun and rifle bullets pounded the carriers. Only one was seriously damaged.

The carriers backed up to caves and bunkers to load on the Americans. They returned with Engineer teams that blasted bunkers and caves before the Chinese could occupy them. A carrier holds about 25 men, but the number employed in the operation is security information.

Maj. Gen. Arthur Trudeau, commander of the Seventh, said:

"This action proved without doubt the tremendous value of the T18 armored personnel carrier."

11th Armored Division Association Meets

The Eleventh Armored Division Association will hold its annual convention and reunion in New York City on August 14th and 15th at the Roosevelt Hotel. Details may be obtained by writing Mr. Kenneth W. Hanlon, 118 Thorne Street, Jersey City, N. J.

Noted Historian Passes Away

Dr. Douglas Southall Freeman, outstanding scholar of the Confederacy, and Pulitzer Prize winner, passed away on June 13th at the age of 67. The famous author, editor and educator will be missed by many Armor officers who were looking forward to reading more biographical material on George Washington. Among the best sellers here at ARMOR were his famous books *Lee's Lieutenants*. He served our nation well.

More Effective Ammunition

A secret metal powder process developed during World War II is currently aiding the effectiveness of 90mm ammunition and saving tons of strategic materials.

Mr. A. J. Langhammer, President of Chrysler Corporation's Amplex Division, disclosed recently, with approval of the U. S. Army Ordnance Corps, that Oilite iron rotating bands are being used on 90mm shells now being produced.

Two of these rotating bands are on each shell and the rifling inside the gun barrel digs into them to give the projectile the spin necessary for range, accuracy and stability in flight. Without bands the shell would either tumble in flight or range would be short and not accurate.

Rotating bands must be made of a soft metal, Mr. Langhammer said, in order not to damage the interior of the gun barrel. Originally, these bands were made of copper and gilding metal, but during World War II, Amplex engineers in cooperation with Ordnance developed a superior iron metal powder rotating band.

The powder metallurgy committee of the American Ordnance Association has been active in research and development work pertaining to the band, as well as in subsequent assembly work.

The metal powder bands, like most other Oilite parts, are porous and soak up lubricant which, under heat or pressure, oozes out to oil the gun barrel interior.

Mr. Langhammer, a pioneer in the development of powder metallurgy, said special care and control of manufacturing process must be exercised in the production of the 90mm rotating bands.

He explained that in processing rotating bands for just 1,000,000 of the 90mm shells, approximately 460,000 pounds of copper are saved and made available for other urgent needs.

Other savings result, he said, because the Iron Oilite rotating bands require no machining operation, which is characteristic of tube-formed bands. The Oilite band is formed to exact dimensions in a special press and is a precision product.

Special iron powder is poured in precise amounts into a large band-forming press. After forming, the parts are placed in a heat treating furnace which fuses the metal particles together. The bands are then immersed in a lubricant which is sponged up by the porous metal. Under pressure, friction or heat the lubricant comes out to ease any friction points within the gun barrel.

Editor of Combat Forces Journal Dies

Colonel Joseph I. Greene, Editor-General Manager of the *Combat Forces Journal*, recently passed away from a heart attack.

Colonel Greene had been Editor of the *Infantry Journal* since 1940, and the *Combat Forces Journal* since it commenced publication in July, 1950.

Colonel Greene graduated from West Point, class of 1923. He retired from active Army duty in 1946.

British Reveal New Tank-Killer Gun

The British Army exhibited its new 120mm recoilless antitank gun recently and said it was capable of stopping the largest existing tank.

The gun weighs almost one ton, about one third less than the 17-pounder it will replace. It resembles a large bazooka and can be towed behind almost any vehicle or handled by hand.

Skysweeper to Undergo Army Troop Tests

Troop tests of the Army's new 75mm Skysweeper, large caliber automatic antiaircraft artillery weapon reported in the March-April issue of ARMOR, have commenced at Camp Roberts, California, the Department of the Army announced recently.

The tests, which will continue for an indefinite period, are expected to provide practical information concerning the weapon's performance under actual field conditions, maintenance and logistical data, and tactical employment. They will be conducted under supervision of the Chief of Army Field Forces.

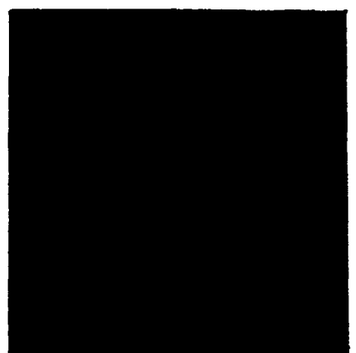
Troops participating in the tests will be instructed in the Skysweeper's operation and capabilities, and will undergo training in all phases pertinent to it, including firing.

New British C-in-C for Middle East

General Sir Cameron Nicholson succeeds General Sir Brian Robertson as Commander-in-Chief of the Middle East Command, which is, geographically speaking, the largest of the British overseas commands.

General Nicholson gained fame in North Africa as an Armored Commander. He was the British Commander at Thala where he received the bar to the British D.S.O. for driving the Germans back after they had fanned out through Kasserine Pass. Later he gained fame as a Division Commander in Burma. Since the war he has served in the War Office and more recently as Commander-in-Chief of the Western Command in West Africa.

TOP COMMAND CHANGES



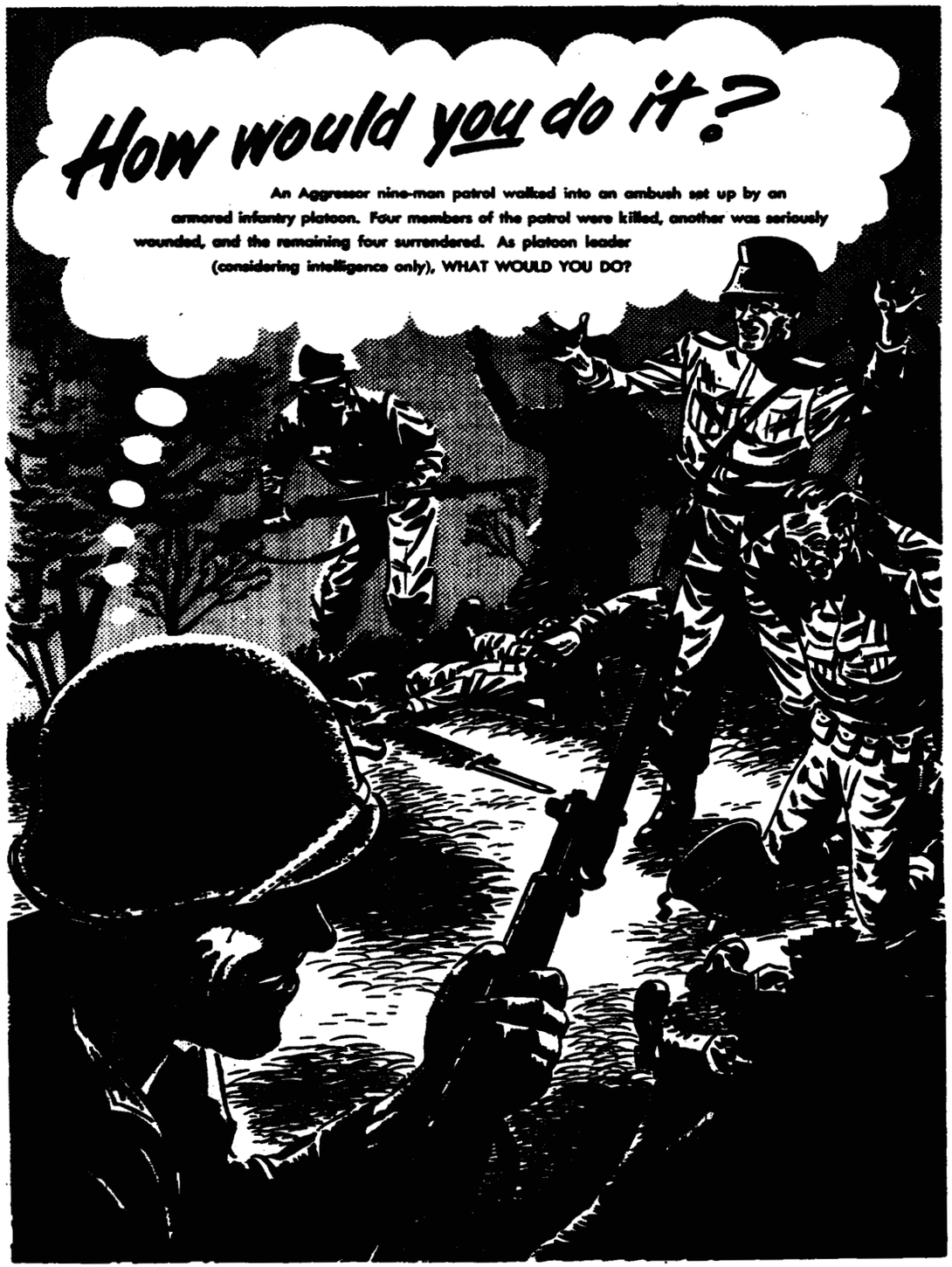
General John R. Hodge
To Retirement

Lt. Gen. John E. Dahlquist
To Chief, Army Field Forces

Maj. Gen. George W. Read
To Army Field Forces

How would you do it?

An Aggressor nine-man patrol walked into an ambush set up by an armored infantry platoon. Four members of the patrol were killed, another was seriously wounded, and the remaining four surrendered. As platoon leader (considering intelligence only), WHAT WOULD YOU DO?



AN ARMORED SCHOOL PRESENTATION

AUTHOR CWO H.A.McDOWELL

ILLUSTRATED BY PVT. A.P. ZOELLICK

"How would you do it?" solutions

SITUATION NR 1

Apply the "Five S" principles at once. They are: Search, Segregate, Silence, Speed of evacuation, and Safeguard.

1 **Searching the prisoners relieves them of concealed weapons and also of any documents which may be of value to our intelligence. The dead are searched for documents, too; all documents are evacuated regardless of your opinion of their military importance.**

2 **Segregate the able prisoners into three groups—the lieutenant, the corporal, and the two privates. This prevents ranking members from exerting disciplinary influence over other members, coaching them on what to say, and warning them of their rights under the provisions of the Geneva Convention. The wounded prisoner is segregated from the nonwounded (or walking wounded) and evacuated through medical channels, but his capture must be reported through intelligence channels.**

3 **Silence is enforced between the prisoners and a state of discipline is maintained which is at least as high as that to which they have been accustomed.**

4 **Speed of evacuation is of great importance for the following reasons:**
a. The prisoners are suffering to a varying degree from shock as a result of their capture and, therefore, are more vulnerable to early interrogation.
b. The quicker the prisoners are processed to the rear, the less their chances of escape. It also relieves front-line troops of the responsibility of caring for them.
c. Rapid evacuation and interrogation results in speedy access to tactical information, which tends to decrease in value rapidly.

5 **Safeguarding the prisoners offers insurance that this potential source of information is available when it is needed. It also prevents escape and reduces the prisoners' ability to rejoin hostile forces to fight again.**

The "Five S" principles are applied as soon as practicable after capture and throughout the evacuation process. At the first opportunity after capture, each prisoner is tagged, giving the date, time, capturing unit, and the circumstances of the capture. The documents removed from the prisoners normally are evacuated with the prisoners, and in the custody of the guard.

SITUATION NR 2

Realizing that this article of clothing is new, and that it might be special protective clothing, you obtain all possible information about the circumstances of the find from Pvt. Doe, impressing upon him that you are dissatisfied with his failure to report his discovery immediately. You then take it to the company commander with information as to where, when, and under what circumstances it was found. Furthermore, you might suggest that if this item has intelligence value, that fact should be made known to all members of the company, serving to alert them in locating additional items of equipment.

1 **An article of clothing or equipment which is new or of a different type from that which normally is encountered is of vital intelligence interest. This item might indicate the enemy is preparing to use CBR, which would be of immediate tactical value. Later, technical intelligence personnel will make a full study of the reported item and the resulting intelligence will be disseminated.**

2 **Rarely does the individual soldier see the results of intelligence effort. If this find has intelligence meaning, it could be used as a teaching point to impress upon each soldier that he is the most valuable intelligence agency available to the Army.**

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THE ROMMEL PAPERS

THE ROMMEL PAPERS. Edited by B. H. Liddell Hart. 545 pp. with Illustrations. Harcourt Brace and Company, New York, N. Y. $6.00.

Reviewed by
Maj. Gen. Orlando Ward

Rommel was not only a great soldier, but an able writer. Intending to write his memoirs, when time permitted, he took advantage of every opportunity to dictate memoranda and to prepare a manuscript as the events in his campaigns unfolded.

Through the eyes of this competent soldier, an armored commander in the thick of it, we see the collapse of the French armies, as his division, one of the spearheads, thrust from the Rhine to Cherbourg.

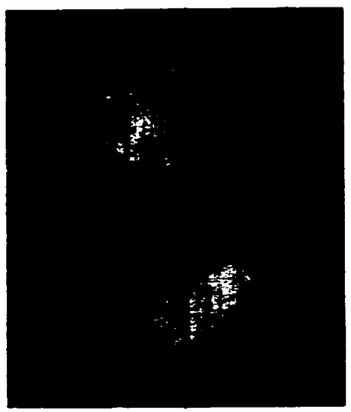
We see his crossing of the Meuse, the battles around Arras and Lille, the crossing of the Somme, the Somme-Aisne breakthrough, and the capture of Cherbourg.

We accompany him to Africa and feel the ebb and flow of battle in his graphic description of the intimate participation of a leader who had no doubt the ability, but certainly the courage and the luck of being where he should have been in the critical stages of battle. We see him in victory and defeat, always the mobile-minded soldier.

After Tunisia we follow his part in Italy in 1943, written from his records by his son.

Then comes his part in the preparation for the invasion, the cross channel attack, and the breakout at St. Lo, written most ably by his associate, General Fritz Bayerlein.

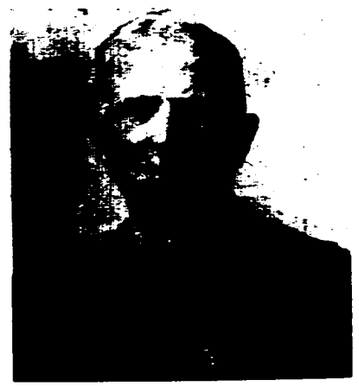
The Editor



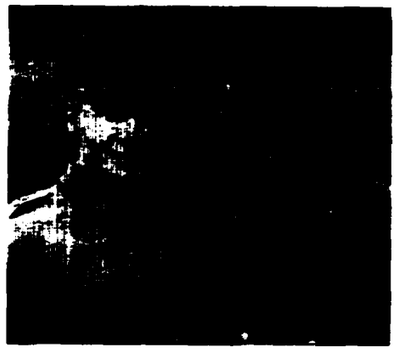
Liddell Hart, an internationally famous military analyst, has been a military correspondent for several leading English periodicals, and military editor of the Encyclopaedia Britannica. His books include: *Through the Fog of War, The German Generals Talk,* and *The Other Side of the Hill.*

The Subject

The Reviewer



Major General Orlando Ward, 1914 graduate of West Point, commanded the First Armored Division during combat in North Africa. Subsequently he commanded the 20th Armored Division in the ETO. Prior to his retirement, he was Chief of the Historical Division, Department of the Army.



Rommel (left) in WW I, with a friend.

At home, just prior to his death.

von Rundstedt announces Rommel's death and reads the funeral oration.

Frau Rommel and her son, Manfred, attend the funeral rites for the Desert Fox.

Finally comes the tragic end, written by Rommel's son, Manfred, and last, in summary, Rommel's reflections on military leadership and Africa in retrospect.

The result of the translation by Paul Findlay makes for clear understanding. Scattered through the whole book are appropriate extracts from letters to his wife, "Lu," throwing still more light on the character of the man, which otherwise would have been lost to the reader.

The editor, Liddell Hart, has acted as a most efficient analytical agent in providing appropriate background, comments and corrections throughout the text. He is correct in his opinion that "No commander in history has written an account of his campaign to match the vividness and value of Rommel's."

Some readers have the habit of underlining passages in books which particularly appeal to them. The following quotes from *The Rommel Papers* are some of those that are of sufficient interest to be underlined:*

"Prejudice against innovation is a typical characteristic of an Officer Corps which has grown up in a well-tried and proven system. Thus it was that the Prussian Army was defeated by Napoleon. This attitude was also evident during this war, in German as well as British officer circles, where, with their minds fixed on complicated theories, people lost the ability to come to terms with reality. A military doctrine had been worked out to the last detail and it was now regarded as the summit of all military wisdom. The only military thinking which was acceptable was that which followed their standardised rules. Everything outside the rules was regarded as a gamble: if it succeeded then it was the result of luck and accident. This attitude of mind creates fixed preconceived ideas, the consequences of which are incalculable."[1]

"However praiseworthy it may be to uphold tradition in the field of soldierly ethics, it is to be resisted in the field of military command."[2]

"The best form of 'welfare' for the troops is first-class training, for this saves unnecessary casualties."[3]

"This reverse took us completely by surprise."[4]

"The peril of the hour moved the British to tremendous exertions, just as always in a moment of extreme danger things can be done which had previously been thought impossible. Mortal danger is an effective antidote for fixed ideas."[5]

"There often occurred to me the difference between the Professor of Economics and the business man, as judged by their financial success. The business man may not perhaps be on the same intellectual plane as the professor, but he bases his ideas on real facts and puts the whole power of his will behind their realization. The professor, on the other hand, often has a false conception of reality and although perhaps having more ideas, is neither able nor anxious to carry them out; the fact that he has them is enough. And so the business man has the greater financial success."[6]

"It is better to allow an incident to go unavenged than to hit back at the innocent."[7]

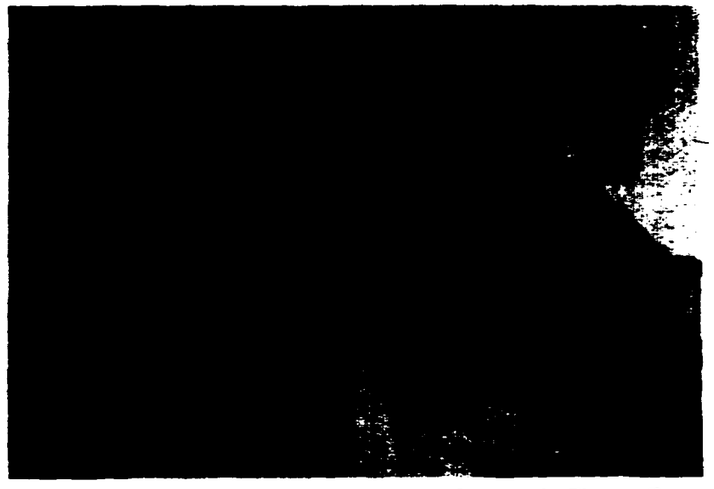
On page 307 Liddell Hart comments: "Both sides, indeed, successively provided an object lesson in the cost and futility of the 'direct approach'—the offensive spirit unguided by subtlety of mind."

"We either lose the position four days earlier and save the army, or lose both position and army four days later." Rommel's advice to the statesmen.[8]

"But the delay had enabled the Americans to organize some sort of a defence and they now fought back skillfully and bitterly."[9]

As Commanding General of the Afrika Korps, Rommel attained world fame.

Rommel in the early days of the war.



With his Chief of Staff, General Speidel, and Capt. Lang on the Western Front.

"The American defence had been very skillfully executed."[10]

"The main defence against the tank is the anti-tank gun," General Bayerlein, quoting Rommel.[11]

Bayerlein's description of the air attack of American bombers on the 25th of July, in tactical support of their troops, appearing on page 489, is a fine piece of descriptive writing.

"We, on our side, would have had very little advantage over the French and British in 1940, even with our up-to-date tank and air arms, if these arms had not been matched by equally up-to-date organisation, training and tactical doctrine.

"There was a particular clique that still fought bitterly against any drastic modernisation of methods and clung fast to the axiom that the infantry must be regarded as the most important constituent of any army."[12]

"Respect for the opinion of this or that great soldier must never be allowed to go so far that nobody dares to discuss it."[13]

"The greatest efforts must be made in the field of training to counteract the separatist tendencies of the various services and arms of the services. It happens again and again that the air force or army begins to play its own private political game."[14]

Liddell Hart, the editor, has written an outstanding description of the content of the book. His masterly introduction is a review to stop all

other reviews: No soldier should, and no true soldier will fail to read *The Rommel Papers* after reading Hart's introduction. It should be read, then re-read, and then read again. In connection with contemporary judgment on the ability of commanders, Liddell Hart comments, substantially, that *history has a habit of correcting the superficial judgments that temporarily keep company with victory*. His comment on Rommel's section on "Rules of Desert Warfare" is most comprehensive:

"'The Rules of Desert Warfare' is a masterly piece of military thinking, while the whole narrative is sprinkled with sage reflections, often with a fresh turn—about concentration in time rather than in space: about the effect of speed in outweighing numbers: about flexibility as a means to surprise: about the security provided by audacity: about the stultifying conventions of the 'quartermaster' mind: about creating new standards and not submitting to norms: about the value of indirect rather than direct reply to the enemy's moves: about the way that air inferiority requires a radical revision of the rules of ground operations; about the unwisdom of indiscriminate reprisals and folly of brutality; about the basic inexpediency of unprincipled expediency."

Other quotations from the introduction are:

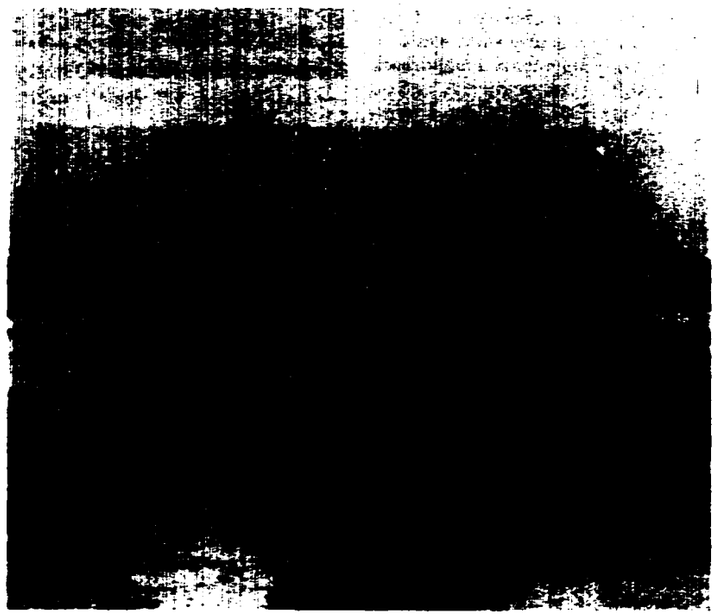
"The outstanding feature of Rommel's numerous successes is that they were achieved with inferiority of resources and without any command of the air.

"Save for his many narrow escapes from death, or capture in battle, he owed less to luck than many commanders who have attained fame."

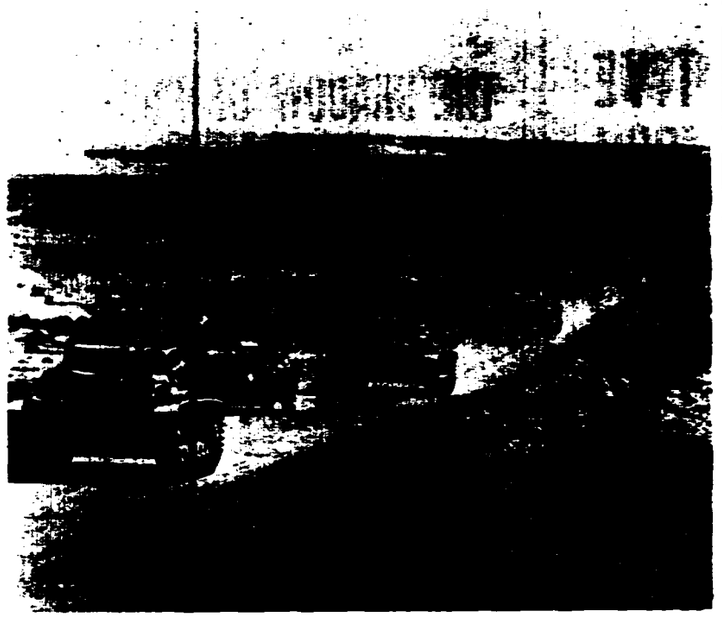
"In the history of war great ideas have been less numerous than great generals, but have had a more far-reaching effect.

"All the great captains possessed in high degree this faculty of grasping instantly the picture of the ground and the situation: of relating one to the other and the part to the whole. Rommel most clearly had this faculty."

Here and there throughout the Rommel Papers some light is thrown on the destruction of enemy tanks. This should provide a means for testing the oft-repeated slogan, "The best tank destroyer is a tank." The question in my mind has always been, "Whose tank?" Can we economically always afford to have a tank that will be the best tank destroyer?



Tanks of the Afrika Korps advancing in Libya after the capture of El Brega.



Here the Allies met and defeated the cream of the crop of the German Army.

The Papers throw light on questions concerning civilian control of operations. The book should be on the "must" reading list for all members of the Congressional Armed Services Committees, from here on out. It should be read by Presidents, Prime Ministers, and Dictators.

In conclusion I see in *The Rommel Papers* illustration after illustration of his ability to use with great skill and effect the means placed at his disposal. I also see that he possessed outstanding ability to capitalize on the weakness as well as the strength of the enemy, at the same time being an advocate of maintaining "the decency in the soldier code."

I feel that in our system of training in the schools, as well as in the field, not enough variety is introduced into the forces representing the enemy, on matters pertaining to equipment, training, strength, and characteristics. Certainly you fight differently against an enemy who does not seem to mind if he is surrounded, and fights on, as against one who gives up and surrenders or withdraws when you appear in his rear. Certainly it is costly to stick to main highways and advance on each defended village by way of the main roads, and lose men and equipment the same way in each attempt. Yes, *The Rommel Papers* is not only worth reading, but it is interesting reading. The book should be used extensively in the Branch Schools, the Service War Colleges and the National War College. They will find therein matters pertaining to tactics, strategy, and politics. For those who have finished their formal education, and are involved in responsible positions in the government, both military and political, a study of this book might warn against repetition of mistakes, and make for fewer errors in the future.

*All footnotes refer to page references in *The Rommel Papers*.
[1]P. 203. [2]P. 204. [3]P. 226. [4]P. 249. [5]P. 244. [6]P. 288. [7]P. 292. [8]P. 362. [9]P. 398. [10]P. 406. [11]P. 451. [12]P. 51[7]. [13]P. 518. [14]P. 519.

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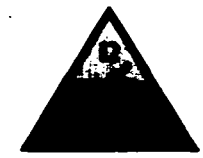

Hellcat

Black Cat

Liberators

The Sixteenth

The Twentieth

Represented hereon are the sixteen Armored Divisions which were formed and saw action during World War II. ARMOR salutes the deeds of the men comprising these fine outfits. But, in addition, we must not overlook the heroic actions of all separate tank battalions, including our Marine brothers in arms, who contributed so greatly in bringing the war to a successful conclusion. Nor must we overlook those units which are still gallantly fighting on Korean soil.

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