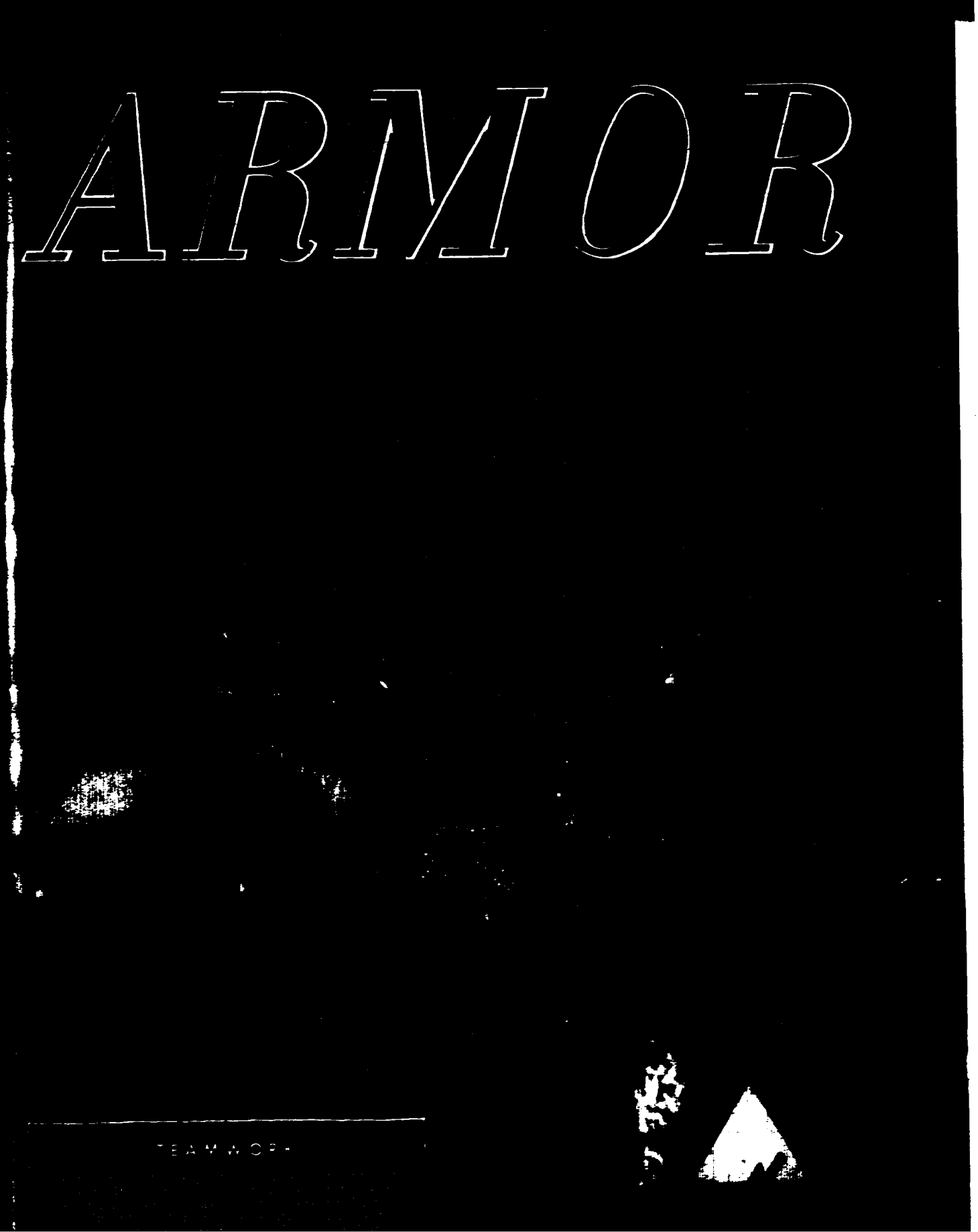
ARMOR



TEAMWORK

THE MIGHTY ATOM . . .

ATOMIC WEAPONS IN LAND COMBAT

By Col. G. C. Reinhardt and Lt. Col. W. R. Kintner

This new book explores the problem that today confronts all military men—and citizens. How will atomic weapons affect tactics and strategy? What is the meaning on the battlefield of this almost unknown, untried, mighty power? This is the first book to evaluate the new military weapon on tomorrow's battlefield.

The authors show how the atomic weapon challenges military leaders because it is a tool that demands new and exacting skills. Changes as radical as yesteryear's invention of gunpowder face the leaders of today's armies, who must know how to recognize potential atomic targets and must learn how to set up the correct missions to deal with these targets.

Discussed for the first time are such important topics as the atomic weapons and airborne strategy, offensive and defensive tactics when both sides have atomic weapons, protective measures, medical aspects, the new aspects of the logistical problem, the new casualty rate factor, the demands of individual and unit training, plus an appendix with a wealth of definitions, charts, and tables.

Aware of the challenge presented by the new tool of war, the thoughtful military man and student will welcome this opportunity to study this carefully evaluated discussion of what the atomic weapon really means to the armed forces of today.

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Foreword by Lt. Gen. Manton S. Eddy, U. S. Army

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ARMOR

The Magazine of Mobile Warfare

Continuation of THE CAVALRY JOURNAL

EDITOR
Major William H. Zierdt, Jr.

CIRCULATION MANAGER
M Sgt Lester B. Smith

BUSINESS SECRETARY
M Sgt J. William Joseph

SHIPPING DEPARTMENT
M Sgt George W. Yankovich

BOOK DEPARTMENT
Sfc Michael E. Kelsher

Volume LXII — SEPTEMBER-OCTOBER, 1953 — No. 5

CONTENTS

ARMOR

TEAMWORK

Teamwork is the keynote to success on any battlefield. It encompasses all branches of the service and all services as depicted hereon: Tactical Air—Infantry—Armor. Cooperation such as this assures us of our ultimate goal—Victory in Battle!

SEPTEMBER-OCTOBER, 1953 • 85 CENTS

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LETTERS to the EDITOR

A Precedent

Dear Sir:

I am enclosing a letter from a unit commander of the 50th Armored Division, New Jersey National Guard.

The letter itself is indicative of the splendid soldier that this individual is. I am aware of the fact that enlisted men are not eligible for membership. I will personally make the awards, and would like to know if the check is correct for the subscription desired.

Further, I suggest, that the letter might be published in ARMOR magazine; however, the writer, as he requested, should remain anonymous.

MAJ. GEN. D. W. McGOWAN
Hq, 50th Armored Division
Trenton, New Jersey

Dear General McGowan:

Since becoming a member of the Armor Association, I have experienced a deep sense of admiration for the high degree or *esprit de corps* it fosters. I especially applaud its efforts to disseminate to the American Public, the taxpayers as well as the military man, the various ramifications of Armor and mobile warfare. It incites interest in a very important segment of our national defense.

As a means of creating a greater interest in Armor within the 50th Armored Division, I am respectfully requesting the General's permission to establish a "Commanding General Award" (or a similar title) which shall consist of "Associate Membership" in the U. S. Armor Association. Such award will be given, at the end of summer field training, to the outstanding noncommissioned officer in each major command

Combat Command A
Combat Command B
Combat Command Reserve
Engineer Battalion
Division Artillery
Division Trains
Reconnaissance Battalion
Provisional Battalion

I am enclosing my personal check in the amount of $38.00 (8 x $4.75) to cover membership costs for the current year.

I personally would like to remain anonymous and have the award presented by the Division. The manner of selection is of course the prerogative of the Commanding General.

● *ARMOR is appreciative of the fact that a year's membership is worthy of an award for outstanding duty performed by the NCO's. The eight recipients are Corporal Edward O. Rappold, Sergeant Charles E. Von Rosenberg, Sergeants First Class George W. Dunham and Wesley E. Hawkins, Jr., Master Sergeants George S. Barraco, George R. Nutt and James J. McGonnell and Lt. Frank J. Ward. Congratulations!* ED.

The Navy is Mobile Minded

Dear Sir:

After reading the introductory copy of your magazine ARMOR from cover to cover I wish to subscribe for it and am enclosing a money order in the amount of eight dollars for a two years subscription.

Although I am a Navy man with over twenty-five years service I am very much interested in tank warfare and feel that your magazine is just the thing to keep me posted.

I am a Chief Communication Technician, now on inactive duty in the Fleet Reserve, having been released from active duty last February after a two-year recall. I served as a Lieutenant during World War II and transferred to Fleet Reserve in 1948, was recalled in March 1951 and released again last February.

ORVILLE L. JONES
Dundalk, Maryland

Personal Military Aid

Dear Sir:

This is a letter of inquiry concerning the cost of subscription, plus postage required to send your magazine of mobile warfare, ARMOR, to a friend of mine in Java, Indonesia.

I am presently an instructor at the Air Command and Staff School, Air University, Maxwell Air Force Base, Alabama and am a regular reader of your magazine.

Prior to my present assignment I served as a United Nations Military Observer in Indonesia. While stationed there I worked closely with Indonesian personnel and became acquainted with a Maj. dan Njonja A. Wiranatakusuma of the Indonesian Army. We correspond quite frequently and he has requested your magazine.

Please send me the particulars as I would like to subscribe and send ARMOR to this Major as a gift.

LT. COL. R. W. HALL
Maxwell Field, Alabama

More NATO Armor

Dear Sir:

I am a constant reader of your fine magazine whose historical and technical articles on tanks and mobility in ancient and modern warfare I particularly appreciate.

On the front page of your January-February 1953 issue I noted the insignia of five armored divisions allotted to SHAPE.

At pages 30-31 of your March-April 1953 issue you have printed the pictures of six armored division commanders. Of these divisions and commanders, one is American, one is French, three are British and one is Belgian.

I would like to let you know that these armored forces are assigned to SHAPE under the Headquarters Allied Forces Central Europe (HAFCE). However, SHAPE also includes Headquarters Allied Forces North and South Europa (HAFNE and HAFSE).

I do not know what armored forces are under HAFNE, but I should like to point out some details on the armored forces under HAFSE, with particular reference to Italian armored units either assigned or earmarked or under completion for NATO purposes.

Italy has now three armored divisions equipped with Patton tanks. One of these is assigned to Nato and HAFSE and its name is "Ariete," in English "Ram," in Italian slang, "Caprone." By the way, "Il Caprone" is a monthly paper issued by that division, on behalf of the other two armored divisions too.

Another division, whose name is "Centauro," in English "Centaur," is earmarked for NATO and HAFSE: a third division called "Pozzuolo del Friuli" (a locality in the Venetian plain famous for a cavalry charge made by Italian horse regiments during World War I) is now under completion. These two divisions will be assigned to NATO and HAFSE in the near future, according to a statement made on 25th April this year by Lieutenant General Enrico Frattini, ITA, Commander, Allied Land Forces Southern Europe from his Verona headquarters to the *New York Herald Tribune*.

I hope the above will give you a fairly accurate picture of what concerns Italy. As for Greece and Turkey (the other two nations also represented in HAFSE) the following can be said:

Greece has three armored regiments, one for each of her national army corps. Presently two are equipped with old British Centaur tanks and the third one with M24 light American tanks.

Turkey has now six armored brigades on a reduced strength, which will become divisions equipped with American material.

GIULIO MACRI
Capt., Italian Army
Naples, Italy

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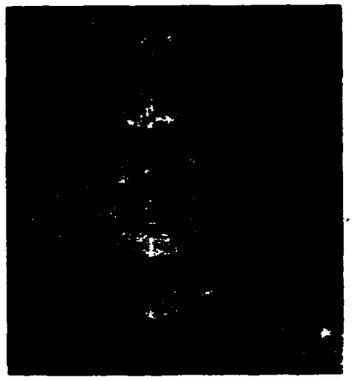
Rates: See bottom of contents page.

THE COVER

This cover shot, through the courtesy of the Republic Aviation Corporation, depicts teamwork of the highest caliber. Add to this team the efforts of the technical and administrative branches, plus our sister services—the Navy, Air and Marines. Further, we cannot overlook the civilian industry backing up this defense effort. Mold them together and it spells—Victory on the battlefield!

THE ARMY'S NEW CHIEF OF STAFF



GEN. MATTHEW B. RIDGWAY

RICH indeed is our heritage in these United States to have available top-drawer personnel to rely upon in an emergency. Many of these top-drawer personnel were drawn from the services. An excellent example is our new Chief of Staff of the Army, General Matthew B. Ridgway, who has been called upon many times to fill the breach during the past thirteen tumultous years in the history of our great nation. General Ridgway has answered each and every call, performing his duties as a fighting general, as an international statesman, and as an outstanding administrator. Upon the completion of each task, it could be said without hesitation: "Mission accomplished."

A 1917 graduate of the Military Academy, he was appointed a Second Lieutenant of Infantry. His first station was at Eagle Pass, Texas, with the 3d Infantry, followed by an assignment to West Point as an instructor. Upon graduating from the Company Officers course at the Infantry School, he commanded a company of the 15th Infantry at Tientsin, China. Returning Stateside he was assigned to the 9th Infantry at Fort Sam Houston, Texas.

General Ridgway's first taste of international politics was on his next tour of duty with the American Electoral Commission in Nicaragua from 1927 to 1929. After graduating from the advanced course of the Infantry School, he returned to Nicaragua for further duty with the Commission. A subsequent assignment to the Canal Zone was followed by a tour of duty in the Philippines where he served as technical advisor to the Governor General, Theodore Roosevelt, Jr.

General Ridgway graduated from the two-year course at Command and General Staff College in 1935 and was detailed to the General Staff Corps where he served as Assistant Chief of Staff, G3, of the Sixth Corps Area, and in that same capacity with Second Army. He graduated from the Army War College in June 1937.

In May 1939 he accompanied General George C. Marshall to Brazil on a special mission. Upon his return he was assigned to the War Department General Staff for duty with the War Plans Division. In March 1942 he was assigned as Assistant Commander of the 82d Infantry Division. He assumed command of the division and remained in command when it was redesignated the 82d Airborne Division. In April 1943 he took the division to North Africa where he was responsible for planning and executing the first large-scale airborne assault in the history of the Army—the attack on Sicily. For extraordinary heroism during this action, he received the Distinguished Service Cross. He led his division in its rapid conquest of the western half of that island, and from September to November 1943, he led the 82d Airborne Division in the Italian Campaign. In June 1944, he parachuted with leading elements of his division into Normandy where he played a major role in the invasion of Western France. For this action he received the Oak Leaf Cluster to the Distinguished Service Cross. In August 1944, he was appointed commander of the XVIII Airborne Corps, in which capacity he directed operations in the Ardennes Campaign in Belgium, the crossing of the Rhine, the Ruhr Pocket, the crossing of the Elbe and the advance to junction with Russian forces on the Baltic on May 2, 1945.

After the cessation of hostilities in Europe, General Ridgway returned to the United States with his Corps for redeployment to the Pacific, and was immediately flown to the Philippines in advance of his command to prepare for its participation in the proposed invasion of Japan. In October 1945, he was assigned to command the Mediterranean Theater of Operations, and was appointed Deputy Supreme Allied Commander, Mediterranean. In January 1946, General Ridgway was assigned to represent General of the Army Dwight D. Eisenhower on the Military Staff Committee, United Nations, and subsequently, in addition to this duty, designated Senior United States Delegate to the Inter-American Defense Board, assuming chairmanship. In June 1948, he was assigned as Commander in Chief, Caribbean Command. Thirteen months later, he became Deputy Chief of Staff for Administration, United States Army.

Upon the accidental death of Lieutenant General Walton H. Walker in December 1950, General Ridgway assumed command of the Eighth Army in Korea. Typical of his zeal to inform his subordinates of vital issues, General Ridgway soon after he assumed command of the Eighth Army issued the following statement to his men:

> "In my brief period of command duty here I have heard from several sources, chiefly from the members of combat units, the questions, 'Why are we here?' 'What are we fighting for?'
>
> "The answer to the first question, 'Why are we here?' is simple and conclusive. We are here because of the decisions of the properly constituted authorities of our respective governments. As the Commander in Chief, United Nations command, General of the Army Douglas MacArthur said publicly . . . 'This command intends to maintain a military position in Korea just as long as the statesmen of the United Nations decide we should do so.' The answer is simple because further comment is unnecessary. It is conclusive because the loyalty we give, and expect, precludes any slightest questioning of these orders.
>
> "The second question is of much greater significance, and every member of this command is entitled to a full and reasoned answer. Mine follows:
>
> "To me the issues are clear. It is not a question of this or that Korean town or village. Real estate is, here, incidental. It is not restricted to the issue of freedom for our South Korean allies whose fidelity and valor under the severest stresses of battle we recognize; though that freedom is a symbol of the wider issues, and included among them.
>
> "The real issues are whether or not the power of western civilization, as God has permitted it to flower in our own beloved lands, shall defy and defeat Communism; whether the rule of men who shoot their prisoners, enslave their citizens, and deride the dignity of man, shall displace the rule of those to whom the individual and his individual right are sacred; whether we are to survive with God's hand to guide and lead us, or to perish in the dead existence of a Godless world.
>
> "If these be true, and to me they are, beyond any possibility of challenge, then this has long since ceased to be a fight for freedom for our Korean allies alone, and for their national survival. It has become, and it continues to be, a fight for our own freedom, for our own survival, in an honorable, independent national existence.
>
> "The sacrifices we have made, and those we shall yet support, are not offered vicariously for others, but in our own direct defense, wherein certain principles mean more than life.
>
> "In the final analysis, the issue now joined right here in Korea is whether Communism or individual freedom shall prevail, and, make no mistake, whether the next flight of fear-driven people we have just witnessed across the Han River, and continue to witness in other areas, shall be checked and defeated overseas or permitted, step by step, to close in on our own home lands, and at some future time, however distant, to engulf our own loved ones in all its misery and despair.
>
> "These are the things for which we fight. Never have members of any military command had a greater challenge than we, or a finer opportunity to show ourselves and our people at their best, and thus be an honor to the profession of arms, and a credit to those who bred us."

In April 1951, General Ridgway was appointed Commander of the United Nations Command in the Far East, Commander-in-Chief of the Far East Command and Supreme Commander for the Allied Powers in Japan. In May 1952, he was named Supreme Commander, Allied Powers, Europe, with headquarters at Paris, France, which assignment he held until he was sworn in as Chief of Staff of the Army on August 15, 1953.

That General Matthew B. Ridgway is a soldier and a statesman, there is no doubt.

His appreciation of the support rendered by civilian industry was exemplified in a speech made in 1949 to the Eighth Infantry Division Association:

> "An examination of your Army will show that we are making material progress in blending together the resources of our nation to produce the best Army in the world.
>
> "We are combining the best weapons that our technicians can develop, and which our great industrial know-how can produce, with the best leaders and technicians that our people can develop—and we are doing it within the framework, and according to the precepts of our American way of life. These are the principles that have produced the fine tradition of American armies."

On the same occasion he extolled the virtues of the other services when he stated:

"Because it is recognized that the dominant factor in a future war would be air power, the Army plans to place increasing emphasis upon airborne, air transportability, and air-ground support techniques.

"For it is only by air that we can combine maximum mobility and maximum firepower.

"This, of course, will entail very close cooperation between Army troops and the Air Force and air elements of the Navy."

In assuming his duties as Chief of Staff of the Army, General Ridgway focussed favorable public attention on his distinguished leadership with the announcement of his unswerving support of his civilian superiors and his concern over the prestige of the Army and the welfare of those military careerists who make up its hard core.

General Ridgway's concern over adverse conditions affecting those wishing to follow the military service as a career were reported in the *New York Times* of September 1, 1953, to have stemmed from two particular factors:

"A growing tendency on the part of the public to discredit the armed services and their leaders.

"A gradual nibbling away by Congress of so-called 'fringe benefits' such as medical and dental care for dependents, commissaries, post exchanges and similar mitigations of living costs."

He was echoing the feelings of General Omar N. Bradley, who is reported to have written to the Secretary of Defense of his "concern about the growing lack of confidence among armed forces personnel in the military service as a worthwhile and respected career." According to the *New York Times*, same date, General Bradley referred to "habitual slurring of the officer corps by some members of Congress and some elements of the press."

In taking this strong stand on a matter that involves everyone who wears the uniform of the armed forces, General Ridgway has stepped into the leadership of the Army with the rank and file unanimously behind him.

In his determination to protect the prestige of the Army, and the interests of its loyal and deserving personnel, the United States Armor Association supports General Ridgway with enthusiasm.

TO THE MEN AND WOMEN OF THE ARMY

Upon being sworn in as Chief of Staff, United States Army, I thought it appropriate to address brief remarks to the small group of distinguished guests present at the ceremony. In fact, however, I was speaking not to them alone but also to all of you—both in and out of uniform—wherever you may be stationed. The remarks were these:

"When the President transmitted to the Congress his plan for reorganizing the Defense Department, which plan has since become law, he emphasized two essential objectives—the maintenance of democratic institutions and the protection of the integrity of the military profession.

"The first is clear. It means, in my case, service under the direct personal command of a distinguished civilian of highest integrity, Secretary Stevens, and through him under another great American patriot of highest character, Secretary Wilson.

"Today, more than ever, our future depends on the moral stature of those clothed with great authority. We are very fortunate to have these civilian commanders.

"The President's second objective, while likewise clear to us, needs much continuing explanation to many in our Government and certainly to the American people.

"The integrity of the military profession is indispensable to an effective, efficient military establishment, and that in turn to the Nation's security. The term itself, 'integrity of the military profession,' implies an Officer Corps of such character and competence as will provide the highest professional and spiritual leadership; and a Non-Commissioned Officer Corps indoctrinated and inspired by the Officer Corps, whose precepts are its guides and whose standards it emulates.

"It implies fearless, forthright expression of honest objective professional military views.

"It implies completely loyal execution of decisions, once announced by proper civilian authorities.

"To attain this second objective will require a full recognition, by civilian authority, of the qualities of integrity, devotion to duty, and loyalty, and extension by the civilian commanders of a like loyalty to the military services.

"As a fundamental institution in the development of our national life, the United States Army has played a proud historic role. It has produced leaders unsurpassed in character, competence, and courage—moral equally with physical.

"I accept with pride and trust in Divine guidance, the challenge of continuing the service of great distinction which my predecessor General J. Lawton Collins has rendered. It shall be my constant purpose, within the scope of my responsibility and authority, to insure that the highest traditions of the United States Army are maintained in all their finest aspects: that the Army accomplishes in full its assigned missions; and that the men and women who wear its uniform, and their dependents, receive the full measure of respect and consideration from their countrymen, which their high-principled devotion and utter loyalty in both peace and war so fully merit."

Today my admiration for you, the American soldier, is greater than ever, and I can find no adequate words to express my own feelings of humble pride in sharing service of country with you.

You will have my complete and unqualified support. I shall expect yours.

MATTHEW B. RIDGWAY
General, United States Army
Chief of Staff

These next three pages are remarks made by General Ridgway at his first meeting with the Department of the Army Staff, two days after he assumed office. Although we were already on the press these remarks were deemed of sufficient importance to withhold other material and bring them to the attention of all Association members and others who read these pages, in order that they might gain insight into the thoughts of our new Chief of Staff.

IN analyzing my thoughts for expression at this meeting, I came to the conclusion that the most important point, I believe the one uppermost in my mind, was:

Recognition of the limitless opportunity for purposeful service.

I believe every one of you subscribes to the criterion that there is some purpose beyond the powers of humans to discern for which we were put on this earth. For my part, I subscribe to that fully, and I believe that the greatest purpose which we are permitted to see is to serve others. I believe it is no platitude to say that never have the objectives of higher purposes been in greater need of service from men and women of high-principled integrity than the purposes for which the founding fathers established this Nation. I believe that never has this Nation, and the cause of freedom of which it is today the pre-eminent leader, been in greater need of such service.

Each of us has been rendering, I am sure, the best service of which each is capable. You have been doing so as a closely integrated team, concerned with the whole range of global problems confronting our Army and our Military Establishment. I have likewise been doing it, but in distant fields. However broad my responsibilities seemed and were, I know they were but regional, compared to yours.

Now we join to share service together of the broadest scope and of the highest plane, and as I join you, I want you to know of my profound respect for the service you have been rendering and to express the earnest hope that together we can render still better service.

I have known each of you for years, some more intimately than others, but all with a sufficient knowledge of your conspicuously superior records to appreciate them fully.

Some of the things I shall say will touch upon matters which, at this initial stage of our teamwork, I think are of sufficient importance, either as basic principles or as indications of my working methods and line of thinking, to bring to your attention.

In the first approach to any job, regardless of magnitude, my mind follows a certain sequence of steps.

First, there is a *mission*.

Second, this *mission* breaks down into certain *functions* to be performed, in order to accomplish the *mission*.

Third, there must be a sound, simple, positive, workable *organization* for the performance of these functions.

Fourth, *men* of the proper caliber must be selected and assigned, each in his proper place, to this *organization*.

Fifth, the *organization* as a team must then *perform* its *functions* and *accomplish* its assigned mission, and

Finally, the execution or *performance* must have that vital essential at all times and at all stages of *command supervision*.

Now, I have been here in Washington for thirty days. Little of that time has been available for me to go through this mental process, and even less was available before I relinquished command to General Gruenther four hours before departure from France. This has been because of other assignments given me by proper authority. I, therefore, am just starting to follow through this pattern of thinking, and it occurs to me that while, of course, I will receive the major benefit, you, too, may perhaps glean an idea or two of value.

I shall not try, on this occasion, to state the Army's missions in detailed form, but I do wish to recall to your mind that however you word the Army's mission, there is but one final criterion by which to judge what the mission was and the manner of its performance. That criterion is *success in battle*—success and all that it contributes in battle to the Nation's military team.

The modern state and its government, particularly our own, is about the most complex organization yet developed on earth. In the formulation of its policies and in their execution, the main fields, such as the political, economic, financial, social, and military, are inseparably interdependent. No one field can any longer be isolated and major decisions in it made without regard to one or more of the others.

Yet, and I think this is basic—at least it is in my way of thinking—the responsibility of the professional military man lies in the professional military field. His overriding responsibility is to give his honest, objective, professional military advice to those civilians who by our Constitution are his Commanders. It is not his responsibility to decide whether the military means which he determines are the minimum essential to accomplish the military task assigned him will cost more than the Nation can afford. He has not been trained for that. It is not, I submit, within his field of responsibility. He must, of course, as every senior commander is today, be aware of the major factors in these other major fields. He must recognize, as every senior commander does today, the imperative necessity of maximum economy and efficiency in the utilization of whatever military means his Government may make available to him. There is no question of this any more than there is any question of the loyalty of these senior officers in carrying out the decisions announced to them by proper civilian authority.

The point I wish to make here, and I repeat it for emphasis, is that the professional military man has three primary responsibilities:

First, to give his honest, fearless,

objective, professional military opinion of what he needs to do the job the Nation gives him.

Second, if what he is given is less than the minimum he regards as essential, to give his superiors an honest, fearless, objective opinion of the consequences, as he sees them from the military viewpoint, of this shortage, and

Third and finally, he has the duty, whatever be the final decision, to do the utmost with whatever he is furnished.

Now let me return to what I was talking about a moment ago, namely, our overriding mission.

The Army's peacetime successes, however numerous, are secondary in importance to this one overriding, vital requirement—it must win in war.

Now there are certain simple essentials by which it can and will win in war.

In simplest terms, these are *men, money* and *morale*, or, since we don't control the acquisition of money, these essentials are:

First—arms and equipment.

Second—training.

Third—leadership.

None of these needs much explanation to you, and the first doesn't need much explanation to the American people. I think they recognize pretty well that the days of club and sling, of spear and ax have passed, and that no Army or military force today can expect success in battle if insufficiently or inadequately armed, no matter how well trained or how well led.

The other two basic elements need a lot of continuing explanation to our people, and one of them at least, *leadership*, needs a lot of continuing study by ourselves.

Now, developing the thought a little from these last two elements, *training and leadership*, two basic requirements stand out.

First, foremost, and always, we must have an Officer Corps, comprising a professional, long-term cadre adequate both in size and in quality. This is the heart and soul of any military organization. None will ever be better, or even quite as good, as its Officer Corps. This is the great reservoir of the character, of devotion to duty, of loyalty, of professional competence—the fountainhead by which tradition is planted and nourished.

If we are to have this, and without it we do not have an Army, we must have represented in our professional officer cadre a cross section of the Nation's life, a fair share of the best the Nation produces in character, in intellect, and in culture. If we do not, if it is not representative of a cross section of America, it will not, in the long run, have that support of the American people which it must have to accomplish its ultimate mission.

Next, and closely after the Officer Corps, is the requirement for the Noncommissioned Officer Corps, with its professional cadre of career personnel, inspired by the precepts of the Officer Corps whose standards it emulates.

These, gentlemen, are the essentials with which leadership can accomplish the seemingly impossible. These are the essentials without which ultimate success is impossible. These are the elements to which I invite your attention, and which I suggest we, all of us, keep before our eyes, however numerous the distractions of our day to day concerns.

With these two instruments with which to work, an Officer and a Noncommissioned Officer Corps of proper quality and adequate size, we can then be confident that the young men and women of America turned over to us to train will receive the best in professional, physical, and spiritual education that it is possible to provide.

This brings me to the last of the major generalizations which I wish to make: that is, the Officer and Enlisted Man relationship.

When we were young officers, we served a long apprenticeship, during which our primary concern was the care, training, and welfare—professionally, physically, and morally—of the men under our command. We had, on the average, between fifteen and twenty years to learn those lessons. They became ingrained. We recognized a responsibility twenty-four hours a day, seven days a week, for these men. We knew affection for them in our hearts, and we knew their unfailing response to real leadership. They were American soldiers, and there aren't any finer ones.

We must pass on to the younger officers the know-how of handling the American soldier. We have not taught the younger officers what to us became second nature—the responsibility of the officer for his men. We have that responsibility here in Washington equally with our brother officers in the field. We exist here in the Pentagon for one primary purpose, and that is to ascertain, evaluate and, to the limit of our abilities, to meet the requirements of the commanders in the field who are charged with the execution of decisions made here. I shall expect that no matter how engrossed we become in the multitude of staff procedures here we remember these basic elements for which we, individually and collectively, are responsible.

I have a few other topics on which I wish to dwell, unrelated for the most part but deserving I think of being brought to your attention. If you find them, or anything else I have said this morning, of value to you in the exercise of leadership by your own chosen methods, then I shall hope you will make a note, and use them.

We face a situation unparalleled in the history of our or any other country. We are in the presence of evolving social and scientific forces, of which we can perceive only the general trends at this time.

The more confused we may tend to become, the more imperative is it, therefore, that in our thinking we keep simple, basic principles and objectives before our minds.

One of these basic principles was just recently stated by President Eisenhower in transmitting to the Congress Re-organization Plan No. 6, since become law. In it he stressed several points, one of which was the necessity for the maintenance of democratic institutions. This point is illustrated by the reiteration of a principle to which America has been unfailingly dedicated: the principle of civilian control of the military.

The command channels by which that control is to be exercised have been made unmistakably clear. The channel goes from the Constitutional Commander-in-Chief to the Secretary of Defense and through him to the Service Secretaries. In my own case, my commander is Secretary Stevens. I had not known him until last April, when he first visited my command in Europe. I want to say, without reservation, that the Army has as its civilian commander as high-principled a man as the Nation can produce.

In a short talk he made at the Quantico Conference he said, "No one ever had more respect for the Army or more humility in approaching my task than I. I shall defend its prestige and rightful privileges to the utmost."

I am proud to serve under Secretary Stevens as Chief of Staff, and I feel sure you share that feeling with me.

Now I confide to you senior, responsible members of this staff the responsibility for proper indoctrination of all the personnel in your respective divisions, to the end that our teamwork and the mutual respect and understanding essential to teamwork be steadily strengthened and broadened.

Please remember, in this as in everything else I have presented today, there is a responsibility on each of us to educate others. Actually, everything in life can be translated into some form or other of educative process, or, if you like, of training; and the requirements for training, and for leadership, are just as active and just as necessary in this great staff as they are in any field command anywhere in the Army. It plays just as vital a part right here as in the Seventh Army, the Eighth Army, or anywhere in the Continental United States.

Now a few points secondary in importance to what I have already said but still worthwhile, because they represent some of my idiosyncrasies as applied to the tasks we must work out together.

* * *

Loyalty. The necessity for this basic military essential is so clear that you scarcely ever hear it mentioned. Yet it is not automatic, and it is not always present—up, down, and laterally in equal degree—as it must be. This is not so much through design as through failure to cultivate it and to recognize its eternal importance. It either does or does not exist, and sometimes determination is difficult. It is particularly vital today in this period when we cannot see very far beyond the horizons, and when the utterances of senior officers, whether made publicly or in private groups, assume ever-increasing significance.

I shall expect the officers of this Staff to present their own honest views, fearlessly, forthrightly, but objectively in the light of their own conclusions as to what best serves the Army's over-all interests. The most dangerous adviser to have around is a "Yes Man," and the most useless is one who thinks of self instead of service. I shall also expect, at all levels, that having expressed his opinions and having heard the decisions, his entire support will then be put behind the execution of that decision, regardless of what his views had been.

Cliques. I have not the slightest knowledge of the existence of any cliques within this headquarters. I pray there are none, but I want to say in unequivocal terms that I will not tolerate such vicious elements if it is within my power to eliminate them.

Criticism. Indulgence in criticism is an ever-present temptation. If yielded to it can quickly become a vice difficult to break. In the civilian field it is of lesser importance. In military organizations it is of vital importance. It tends to corrode, and corrosion produces friction; and friction generates heat and eventually spoils any machine if uncorrected. I am not talking of honest differences of opinion, least of all at those times when issues are being debated. I am talking of the practice of vicious "crabbing" about the official actions of proper authority.

Briefing. It is of the highest importance. It is impossible to read the masses of paper which your conscience might dictate that you should read, and the only alternative is oral presentation. I expect only matters of major importance—generally speaking those requiring basic decisions or providing basic information which I should have—to reach me. When they do, I want in general an oral presentation by an officer thoroughly familiar with the major points on each side of every issue involved.

I want no *ex parte* presentations at any time. If unresolved issues are presented to me, the views of the principal advocates of alternative courses of action must likewise be presented. Where the matter involves execution by a principal subordinate command, I want, in advance wherever practicable, the views of the commander who is to be charged with the responsibility for execution.

* * *

The Work Load. I think it is excessive. I think it must be and can be reduced. I shall seek the full cooperation of Secretary Stevens and the Under and Assistant Secretaries. But within our own resources, I think we can do much, by better organization—more of the spoken than the written word, less attention to the written record for alibi purposes, and more efficient and adequate delegation of authority to subordinates.

Now I have covered a good many things, all of them, in my opinion, of substantial and some of essential importance. There are many others, I don't pretend to know the answers yet. I have a lot to learn from you before I can expect to know the answers; but with your full help, on which I count, I am confident we shall find them. . . .

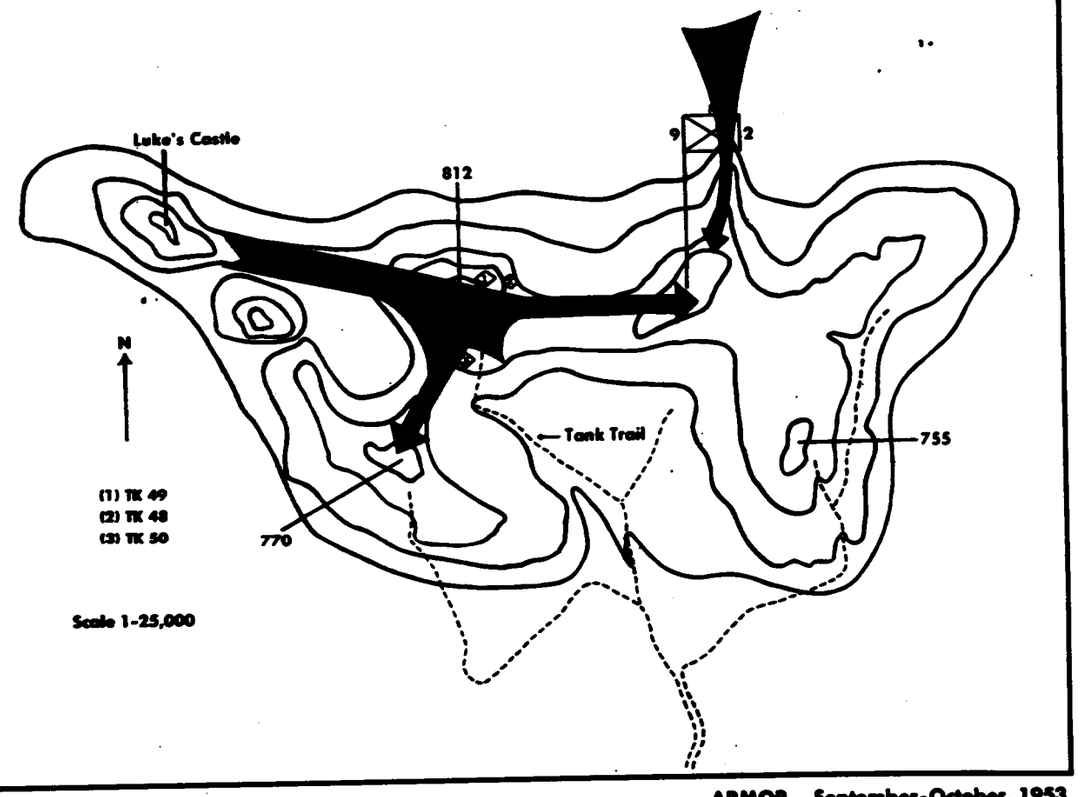
I have one note on which I want to close this first meeting. I am profoundly conscious of the privilege of sharing service with you and in seeking together to contribute our utmost in the discharge of the tremendous responsibilities with which the United States Army is charged. I have the deepest respect for what you have done, and what you are doing. I have no major changes to make at this time. I shall make none at any time without those most concerned having the fullest opportunity to discuss them with me and to participate in the process of reaching decisions. I shall have in these matters but one criterion: the over-all good of the United States Army in the light of the counsel which you and our field commanders give me and then of the best judgment I am capable of exercising.

I am convinced that whatever specters appear to some to lie ahead on close or distant horizons are the visionary imaginings of timid minds.

Decisions that will try the soul may well lie ahead. But the strength of a people is found in its energies, its capabilities, and above all in its character and moral principles. I think we have those in abundant measure.

I believe we were put on earth for a high purpose. I believe the American people have a reservoir of material and spiritual strength amply adequate to fulfill that purpose.

I am utterly confident in America's future, in the capacity of its leadership to meet the future, and in the ability of the Army to contribute to that leadership in fullest measure.



Where maneuverability is limited and two forces desire to occupy the same terrain, a slugging match is bound to ensue. Some of the lessons learned while battling for Hill 812 are worth recording for future use.

FIREPOWER PAY-OFF

by FIRST LIEUTENANT CLARK C. MUNROE

THIS is a story of tankers in battle. No sweeping envelopments or thrusting penetrations mark this fight. Rather, it resembles a prolonged toe-to-toe slugging match whose prize was a few hundred yards of dirty, shell-pocked mountaintop. Though it lacks the spectacular aspects of a wide-open war maneuver, the battle which took place on Hill 812 deserves to be recorded.

If you look at Hill 812 from the air you see that it joins its two neighboring Eastern Korean heights to form a large, irregular arrowhead which points generally to the Northwest. A long curving ridge on the upper side connects the point of the arrowhead, Hill 812, with the right tip of the base, Hill 755. A lower ridge connects 812 with Hill 770 which forms the left tip of the base. A third sharp ridge extends Northwest from Hill 812 and serves to connect the arrowhead to the enemy MLR dominated by a peculiar rocky mound known as "Luke's Castle."

On the ground these positions are characterized by deep trenches honeycombed through the hills, log-roofed bunkers and tank firing slots carved from solid rock. A combination tank trail and supply route fills the draw below Hill 770 and then swerves Northwest to climb between the upper and lower ridges to the crest of Hill 812. At best this trail could handle four tanks abreast at a point 300 yards below the crest. Elsewhere it could support only one tank.

In May of 1953 the MLR dominated by these hills was occupied by a Republic of Korea division which was part of the X United States Corps. The 140th Tank Battalion commanded by Colonel William M. Fondren was furnishing the tank support. The 140th had been supporting the ROK's since they had taken over in the 812 sector, and for months the hill was considered to be one of the most likely targets for a Red attack. In the latter part of May every sign pointed to the probability that the enemy was preparing to move.

Captain D. C. Doherty's Company B was on line with its tanks in the 812 sector in late May, and on the crest of the hill itself there were three tanks under command of Lieutenant J. F. Fitzgerald—number 50 on the left, and numbers 48 and 49 on the right with 49 slightly forward of 48. All the tanks were tied in with wire and radio to each other, to the tank company, to the ROK's on the ground, and to the supporting ROK artillery battalion. The radio nets were given complete checks at regular intervals each day.

Indications developed on the first of June that the North Koreans were going to hit Hill 812 that night. By 2100 hours the infantry and tankers on the hill had been alerted. The S-3 of the tank battalion phoned all positions at 2155 hours to confirm the need for a continued alert status. The Reds cut loose at 2200 hours.

The Communist attack was preceded by one of the heaviest artillery and mortar preparations they had used along the Eastern front in two years. The entire length of the ROK Division MLR erupted with fire; Hill 812 collected more than 10,000 rounds in the first 24 hours. An effective enemy counter-battery fire fell in all friendly artillery positions and the tank company and battalion CP's were blanketed with shells.

Within ten minutes all wire communications to the tanks and infan-

FIRST LIEUTENANT CLARK C. MUNROE, a frequent contributor to ARMOR, commanded a tank platoon in Korea during 1950-51, and is presently en route stateside. He is aide to Lt. Gen. I. D. White.

Photo—U.S. Army

The tank trail leading to 812 from 770. The ROK's were on hill to the right.

try were knocked out with the exception of one line to the supporting artillery. Radio silence was broken and contact was re-established. Lieut. Fitzgerald's first message to the company revealed that enemy forces had overrun friendly outposts between Hill 812 and "Luke's Castle," and were moving onto the forward slopes of 812 itself. He informed Captain Doherty that he was moving his tank, number 48, forward to provide better cover for tank 49. Enemy troops appeared between the two tanks as he was transmitting, and since no friendly infantry were to be seen, he called for VT artillery fire on his position. The fire dispersed the attackers and he was able to move his tank forward as planned. During the move his driver suffered a wound from enemy fire and a medic attempting to come to his aid from a nearby bunker was killed on his way to the tank. Before the platoon leader could take further action he, too, was wounded by the intense enemy fire which a few minutes later swept away the tank antennae breaking Fitzgerald's radio contact.

Back at the company CP, the company commander had already alerted a tank section under command of Lieut. C. G. Madsen to prepare to move out. Before giving Madsen the word to roll, the company commander went forward at 2300 hours to make a personal reconnaissance of the narrow tank trail leading to 812 to determine the extent of the enemy penetration and the feasibility of moving this section up the trail in the dark. He concluded that the movement would be possible utilizing illumination from flare planes now over the area, searchlight reflection and artillery illuminating shells. The enemy, from all indications, was in control of the high ground of 812, but had not yet exploited his advantage by moving down the trail. With the friendly infantry forced back along the upper and lower ridges, the Reds were in the clear to move down the trail and assault adjacent friendly positions from the flanks and rear. To plug this hole and to give all possible help to Lieutenant Fitzgerald's tanks, Lieutenant Madsen moved out together with Sergeant A. O. Lind in tanks 31 and 33. They were on their way to the hill by midnight on the first of June.

The section moved without difficulty until reaching the steep, final approach to the firing positions below the crest. There the platoon leader's tank encountered difficulty negotiating the terrain. Madsen dismounted, moved to tank 33 and continued the climb until he was in a position to cover the overrun tanks by fire. Tank 31 joined him shortly thereafter. The full status of Fitzgerald's three crews was unknown, but Madsen could observe that each tank was still firing though making no effort to pull back within friendly lines.

With this bolstering of the situation, an M-24, from the battalion reconnaissance platoon under command of Master Sergeant W. R. Moorehead, moved out from the company CP to make its way up the hill to recover wounded. As it headed for tank number 50 on the left side of Hill 812, unseen enemy troops threw antitank grenades at the light tank, which hit below the gun tube and split the turret, puting the tank out of action. Enemy fire concentrated on the disabled tank but the crew members were able to escape through a deserted communications trench and make their way to ROK positions further down the slope.

At first light on the second of June Lieut. Madsen took advantage of a lull in enemy fire and dismounted from his own tank to reconnoiter forward on foot to determine the status of tanks 48 and 49. As he approached the rearmost tank, number 48, he was brought under heavy small arms fire from enemy infantry entrenched on the high ground. Cut off from his own tank, he made his way safely to Lieut. Fitzgerald's command tank and climbed aboard. Finding the crew intact but learning that ROK medics had evacuated Lieut. Fitzgerald and his driver, he took command of the section, managed to establish radio communication with the company, and continued the fight. The tank, it developed, had thrown a track while maneuvering and was stranded in place, blocking tank 49 immediately ahead. A fire, from an incendiary grenade, had disabled the engine of tank 50 and though it had been extinguished by the fixed extinguishers, it was impossible for the driver to start the engine and it, too, could not be pulled back to within friendly lines.

Lieut. Madsen radioed his own tanks, numbers 31 and 33, to remain in position and cover the three tanks on the hill. ROK infantrymen had not yet mounted a counterattack, so the tanks alone were holding the enemy at bay. Madsen was to remain in this completely exposed and cut-off position with the survivors of the original crews for 36 hours. During this time he expended all available ammunition and prevented exploitation of the enemy's successes, in addition to supporting subsequent ROK counterattacks. He was able to regain radio contact with the company and maintain it until about 0400 hours on the third of June when, because of weakened batteries, the radio faded and finally ceased to operate.

When it became apparent that friendly troops would be unable to retake Hill 812 in time to effect relief of the cut-off tankers, Captain Doherty decided to make a ground reconnaissance, his second since the fight started, of the 812 area. Not wishing to risk the possibility of blocking the narrow trail with a tank, he moved out in his jeep prior to dawn on the second of June and was able to drive through sporadic mortar fire to a position from which he could observe the engaged tanks and infantry. The enemy spotted the jeep almost immediately and took it under intense fire, forcing Captain Doherty to move back. He had been able to obtain an accurate picture of the situation, however, which supplemented what he had been able to learn from the crews of tanks 31 and 33.

Returning to the CP, Captain Doherty briefed the battalion commander who had come forward. The two officers moved out for a further reconnaissance which took them first to a position south of Hill 812 and then to an OP on Hill 770. It overlooked the reverse slope and positions on 812 and gave a vantage point from which they could observe movement on the crest with the bulk of the enemy artillery fire falling south of Hill 812. It was evident that the enemy was well dug-in, having taken over the former ROK bunkers.

Working with the US advisors to the ROK units, Colonel Fondren and Captain Doherty planned a counterattack to retake 812. It involved ROK infantry attacking along the upper and lower ridges while a new tank section moved abreast of the attacking elements along the tank trail. The new section would replace tanks 31 and 33 on the firing positions and then support the final assault on 812 at a range from 200 to 300 yards. In addition, fire plans utilizing tanks on Hills 770 and 755, and the artillery were prepared. Lieut. L. H. Jacobs was put in command of the tank section to make the assault.

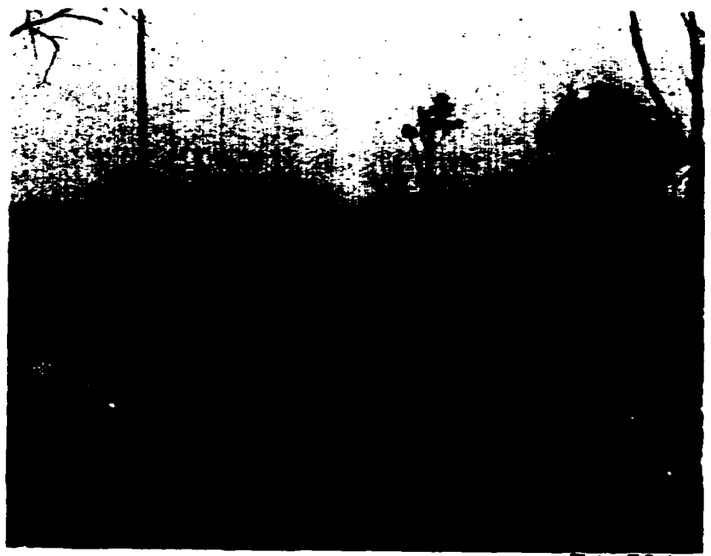
The attack against the enemy battalion on the hill jumped off in the late afternoon of the second of June and initial progress was encouraging. The enemy hurled heavy mortar and artillery fire, and as the North Koreans emerged to battle the advancing ROK's, the tanks poured their fire into the trenches inflicting heavy casualties. Working forward, the ROK's moved onto the left portion of the hill before a costly Red counterattack forced them back to positions approximately on line with the tanks. There they dug in and stood firm.

In the course of the counterattack and subsequent actions on the second of June, Lieut. Jacobs' tank threw a track on the steep slopes of the hill and the track had becomed wedged between the hull and the bogies so as to make impossible any on-the-spot repair. The risk of attempting it was too great under continuous enemy fire so Captain Doherty ordered a new section to be sent forward before nightfall.

Since all of Company B's tanks had been committed, either on 812 or on adjacent hills, a platoon from Captain R. G. Harney's Company C was alerted to replace Jacobs' tanks and to set up blocking positions below Hill 812 in event of further enemy penetrations. Lieut. R. J. Kidwell reported to Captain Doherty's CP at 1700 hours. Less than an hour later he had gone forward with two tanks to relieve Lieut. Jacobs' section.

Meanwhile, Lieut. Madsen and the survivors of the original tanks on Hill 812 were still holding out. Ammunition was practically exhausted; batteries were weakened almost beyond use; only one radio was in operation and it was fading out. Only the fire cover provided by the artillery and the tanks prevented the Reds from making a successful assault on the marooned men.

When Lieut. Kidwell's tanks from Company C joined Lieut. Jacobs' tanks the ROK's were making another effort to move up onto Hill 812. Meanwhile, an M-46 under command of Sergeant First Class J. C. Wright arrived on the hill from the company area with the mission of attempting to rescue some of the men stranded with Madsen. Utilizing the protection afforded by the fire support for the ROK attack, Sergeant Wright drove directly up beside tank number 50 and after attracting the attention of the men inside, opened his escape hatch and proceeded to bring all five crew members into his own tank. It was impossible for Wright to direct the descent of the tank from within the crowded turret, so without hesitation he crawled outside the turret and guided his driver to safety.



Photo—U.S. Army

"Luke's Castle," the rocky mass directly over the muzzle brake, viewed from 755.

Miraculously he escaped being wounded or killed. As he pulled off the crest he saw two additional men on the hill but was unable to take them aboard for the enemy troops had already directed streams of small arms at the tank. When he passed through Lieut. Jacobs' position he saw that the one operating tank in the section had not started down the hill, so he told the tank commander, SFC H. W. Culbertson, about the two stranded men. Sergeant Culbertson took his tank up to the location given him by Sergeant Wright and took the two men safely aboard. In this manner, seven of the men on the hill were pulled out.

Another rescue operation was undertaken shortly after Wright and Culbertson returned. Lieutenant Sam Stieger, who replaced Fitzgerald in the company upon the latter's evacuation, took a tank dozer and with a two-man crew moved out to retrieve Lieut. Jacobs and crew. It was impossible to repair or recover the disabled tank and the threat was still grave that the position might be overrun. Unwilling to risk a crew in a disabled tank, Captain Doherty gave permission to Stieger to make the rescue attempt. Although he encountered difficulty in maneuvering into position near Jacobs' tank, Stieger was able to accomplish his mission although he was wounded in the process.

Lieut. Madsen was still on the enemy-controlled crest the evening of the fourth of June with the remainder of the crews from tanks 48 and 49. Inasmuch as he was without ammunition and out of radio contact, he decided it was useless to risk staying with the tanks any longer since none of the men had been able to sleep since they were cut off three days ago. Knowing that any escape would necessitate moving through at least 300 yards of enemy controlled ground, he told the men he would go out through the escape hatch, attempt to find a safe way down, and then, if successful, see that they were guided along the same route. At 1700 hours he made his move. Lowering the hatch, he crawled out, eased along the ground and dropped into a communications trench. Exploring stealthily, he found it unoccupied and following it downward he made his way into friendly positions. Another lieutenant from Company B, Lieut. H. Frazer, said he knew of the trench which Madsen had used and he volunteered to return and guide the crewmen to safety. Permission was granted and Frazer successfully made his round trip, leading the men to friendly positions from the tanks in which they had been isolated for three days and nights.

At 0230 hours on the fifth of June, the ROK Division Commander ordered his units on the upper ridge to pull back to better positions and at the same time requested the Battalion Commander to have his tanks on Hill 812 pull back and tie in with the new flank of the infantry although at the time the tanks were in no immediate danger.

When the battle on Hill 812 developed on the first of June, Company A, commanded by Captain Geo. S. Patton, had been undergoing training at the 40th Division tank training area, situated 35 miles south of the tank battalion CP. As the action grew in intensity, Company A was alerted for possible commitment, and at 1425 hours on the second of June was ordered to move north to the area of the tank battalion trains. Five minutes later the first tank crossed the IP and at 2025 hours, after negotiating two long, steep mountain passes, the company closed into the designated area with all of its original tanks.

Captain Patton spent all of the third of June and the morning of the fourth preparing counterattack plans. At noon on the fourth he received orders to move forward and relieve Company B. By evening the relief was complete, with two tanks on Hill 770, two on a hill south of 770, four on 755, and three in firing positions on line with the adjusted ROK front where they relieved Lieut. Kidwell's three tanks from Company C.

The night of the fourth and the daylight hours of the fifth were relatively quiet with only moderate incoming artillery. But at 2200 hours on the fifth the enemy struck again. His attacks were preceded by another heavy artillery and mortar preparation.

The North Korean assault struck in two directions. One thrust was south along a finger leading to the ROK Ninth Company positions on the upper ridge. The other was aimed at Hill 770 along the ridge leading down from Hill 812. Initial successes were made by each. The Reds were able to come up to the edge of the trenches on Hill 770, and they made a special effort to knock out the tanks on that position. Shortly after the attack began, Lieut. B. B. Nichol, platoon leader on Hill 770, radioed Captain Patton that one tank had been hit on the left of the hill.

On the embattled crest, tank number 10 was in critical danger. The hit it had received had wounded the gunner and bow gunner and had started a gasoline fire which could not be extinguished. When it became apparent that the fire was out of control, the tank commander, Sergeant Frederick Douglas, ordered the tank abandoned although it meant that the crew would have to leave the tank during an intense fire fight. After passing the word to leave, Sergeant Douglas got down in the turret and aided the wounded gunner to crawl through the hatch and get down onto the ground. Supporting the gunner with one arm, Douglas called to the crew crouched near the tank to follow him off the exposed position. When he got down to a place of relative safety he discovered that the bow gunner was not among those who had come down from the tank. Although enemy fire churned the ground on all sides, he ran to the tank of the platoon leader, crawled up and reported what had happened. Lieut. Nichol informed Captain Patton by radio and stated he was going up to attempt to get the missing man.

Dismounting and moving forward with Douglas, Lieut. Nichol reached the burning tank. Thinking the bow gunner might have tried to get out through the escape hatch, Nichol crawled under the tank and inched his way forward only to find the hatch securely in place. Crawling out, he ordered Douglas to return to his crew and find cover. Then, ignoring enemy small arms fire which ricocheted off the tank, he hurled himself up over the engine compartment and looked down into the tank commander's hatch. Small arms ammunition inside the tank was beginning to explode as the fire increased in intensity. Unable to enter the turret, Nichol crawled outside the turret and looked into the open driver's hatch but could see no sign of the bow gunner.

Flames almost completely filled the compartment. Then, although he was in full view of enemy troops assaulting a trench less than 15 yards away, he leaped over to the closed bow gunner's hatch and with his trench knife managed to pry between the hatch and the hull and force the hatch open. A fire was raging inside and the small arms ammunition was exploding with such fury that it was obvious the man could not have survived. Knowing that the 90mm ammunition would explode at any minute, Nichol vaulted off the tank and sprinted down from the position just as thunderous explosions ripped the doomed tank, shooting geysers of yellow flame high into the air. Although the air was filled with exploding ammunition and enemy fire, Nichol safely made his way back to his own tank where, once within the turret, he radioed a full report to the Company CP.

Another report was being received by Captain Patton at the same time when the US advisor to the ROK supporting artillery radioed that he believed the three tanks in the valley below Hill 812 had been cut off when the enemy attack on the ROK Ninth Company on the upper ridge had succeeded in overrunning the positions. The Company Commander had been in constant radio contact with his platoon leader on the position, Lieut. G. P. Wright, and he was certain the report was in error. Not wanting to pass on information which was in doubt, he radioed Wright to be particularly attentive to his rear area as the enemy had made penetrations in that area. Wright receipted for the transmission and reported the entire area was under extremely heavy fire from 122mm howitzers and 120mm mortars. Withdrawing ROK soldiers were falling back onto his position and digging in on his flanks.

The enemy failed to follow up on his penetrations and move down the tank trail, and at daybreak on the sixth of June the tank positions were secure. A penetration east of Hill 812 had been contained in the vicinity of the ROK Ninth Company, and Hill 770 was still in friendly hands. Heavy fighting continued throughout the day and night and into the morning of the seventh of June, but no significant changes in the line occurred.

The positions held by Lieut. Wright below the crest of Hill 812 were restricted and afforded extremely limited fields of fire. Accordingly, Colonel Fondren permitted Captain Patton to withdraw, after having received concurrence from the infantry who moved up to fill the gap.

Plans for a counterattack to restore the penetrated lines between Hills 812 and 755 were now being prepared. The Battalion Commander, his operations officer, and the Company Commander arrived at the ROK Division CP at 0930 hours and by 1230 hours they were on their way back to the front with the complete plan of attack. The attack was slated to jump off at 1400 hours. so there was a minimum of time in which to brief the tankers on their role.

At his CP, Captain Patton picked up one enlisted man and two officers to assist him in briefing his crews and preparing the tanks for the counterattack. Since the tanks on Hill 770 were to support the attack by area fire, he briefed them in the clear by radio. Those on Hill 755 were to furnish the close support to the assaulting troops, and Patton wanted to insure that each crew was briefed individually and that all radios were in good working order. Traveling in two jeeps, the party made its way up the steep trail which climbed and then skirted behind the Hill 755 complex. Lieut. J. E. Morgan was to assist Patton in personally going to each tank to outline the plan of attack and the tank support role. Lieut R. H. Knight and Corporal D. G. McDonald, a radio repairman, were to check each tank to inspect the radios.

The preparation fires were already being unleashed by the time Lieut. Knight and Cpl. McDonald completed their last radio check. As they mounted their jeep an enemy artillery shell hit a bank directly to their front hurling fragments into the jeep. Lieut. Knight was seriously wounded and both McDonald and the driver received disabling wounds while the jeep was demolished.

Nearby the Company Commander, disregarding the intense enemy shelling, moved from tank to tank directing the crews in pouring overwhelming fire into the enemy positions. One exploding mortar shell sent fragments plowing into his jeep, destroying one radio receiver but somehow missing both him and his driver. For five hours the tanks slammed their fire over the heads of the ROK infantrymen who doggedly moved forward to engage the enemy in the trenches he had occupied. By 1900 hours the former ROK Ninth Company position had been recaptured and the ROK's, following through on their successes, moved down the finger which gave access to the position and occupied a major outpost—the key to the newly won height. Hill 812 was by this time a no-man's land, useless to the enemy and completely dominated by friendly fire.

The men of the 140th Tank Battalion had acquitted themselves well. Their stand prevented a major enemy breakthrough in the 812 sector and their destructive. accurate fire support enabled the ROK infantry to seal off a serious penetration of the MLR. Later intelligence revealed that a total of five enemy battalions had participated in the seven-day assault and an estimated 1,166 casualties had been inflicted on his forces.

Among the many teachings reaffirmed during the engagement perhaps none was more evident than the value of maintaining reliable communications. While telephone contact was wiped out during the first minutes of the attack and remained out a major portion of the time in spite of efforts by wire linemen, radio communications remained intact. With the one exception of the marooned tanks on the crest of Hill 812, where repair or replacement was impossible, there was no instance of prolonged radio failure. Double benefits accrued from this for on many occasions during the fight the tanks supplied the only link between ROK troops on the hill and the ROK Division headquarters.

The supply services of the tank battalion turned in magnificent performances. Although the entire road net from four miles south of the tank battalion CP was under constant fire from enemy artillery and mortars. truck drivers brought through thousands of rounds of ammunition. huge quantities of gasoline and other supplies.

Many instances of individual heroism undoubtedly went unrecorded during the action but the evidence is overwhelming that once again Armor has proved that any terrain anywhere is *"tankers' country."*

The eleventh of May, 1953, will long be remembered by the citizens of Waco, Texas. The ensuing few days endeared the military to the hearts of these people. The assistance rendered by the Air Force, Army and National Guard, alleviated a situation which could have become much more disastrous. If an ill wind can blow some good, it is believed that, in addition to cementing public relations, those who participated left with the feeling of a "job well-done" and "we really learned something useful in the event of a future emergency whether in war or peace."

THE WACO DISASTER

by LT. COL. WM. L. STARNES, JR.

ON 11 May at 1645 hours the city of Waco, Texas, was struck by one of the most violent tornadoes in Texas history. In a few short minutes two square miles of the heart of the business district was left a mass of twisted rubble. Telephone and power lines were knocked down. Live wires popped and whipped like snakes in the wet debris of the littered streets. Automobiles were crushed and overturned and entire buildings fell into the streets.

A visitor from Hiroshima or Nagasaki would have thought the terrible "day of the bomb" had recurred. The citizens of Waco were momentarily stunned by the magnitude of the disaster that had overtaken their city. There had been tornado warnings earlier that day but there had been such warnings before and no tornado had ever hit Waco. After all, there was an old Indian legend to the effect that "no high wind would ever visit Waco."

After the first few violent minutes a few brave souls began to poke into the ruins where cries for help indicated life. The movement grew as more persons came into the area. Contractors brought or sent engineering equipment and city officials began to rally their forces. Everyone and every organization that thought they could be of help began to converge upon the damaged area; and, failing to find any firm clear direction of effort, helped where they thought best or stood around waiting to be told where to help. Because of the heavy storm clouds night came early that evening, adding the confusion of darkness to the already unbelievable destruction of the storm.

A working force of men and equipment from James Connelly Air Force Base under the direction of Major General G. P. Disosway arrived before nightfall and set up operations in the Amicable Building to work on the R. T. Dennis Furniture Store, a five story structure completely collapsed by the tornado with an appalling loss of life. By the use of Air Police, National Guard and City Police, some semblance of order was established in this small area. Outside emergency lights were obtained for a small area of operations and a loudspeaker was set up to help control the job. As the evening wore on the crowd increased until more people were watching than were working. It was estimated that the crowd in and around this area numbered 10,000 persons.

It was this scene of large crowds, roaring machines, blaring loudspeakers, heartbreaking destruction, and debris-clogged streets, that confronted the rescue force of the 16th Armored Engineer Battalion when that unit moved into Waco at 0200 hours the 12th of May.

At about 2130 hours the evening before, the First Armored Division had been directed by Fourth Army to send a rescue force to Waco. At 2200 hours the Commanding Officer of the 16th Armored Engineer Battalion, the organic engineer battalion of the First Armored Division, received a verbal directive substantially as follows from Major General L. L. Doan, then Commanding General of the "Old Ironsides" Division:

Organize a rescue force of approximately 100 workers with the necessary equipment and dump truck support from your battalion; move to Waco as soon as possible to assist in rescue operations; be prepared to stay three days.

Upon receipt of this directive, conversations were held with all general staff chiefs regarding the details pertaining to their field. A warning order had been received 30 minutes previous and the battalion commander had alerted his battalion and sent for his staff. At 2230 hours a battalion staff-meeting was held and the necessary orders finalized to move the rescue force to Waco. "A" Company was designated as the operational unit since its trainees were further advanced (10 weeks) than the other units. H&S Company was given the mission to furnish support and equipment. The force as organized was a heavily reinforced armored engineer company to operate under battalion direction.

IP time for the first serial was set up at 2330 hours with the follow-up support serial at 2400 hours. Fragmentary orders and instructions were received up until departure time regarding additional equipment, and division support. The battalion executive officer was sent ahead of the convoy one half hour to contact the authorities in Waco, establish liaison, find a bivouac site, and reconnoiter the proposed operation.

At 2330 hours the first serial departed, followed at 2400 hours by the support and heavy equipment serial. In addition to the normal tools and equipment carried by combat engineers the force was augmented by 20 dump trucks, two ¾ yard truck mounted cranes, an air compressor, an extra field kitchen, an ordnance contact team, a ten ton wrecker, a 2½ ton truck-mounted long range radio, 5 radio jeeps mounting the AN/GRC-3, and five 2½ ton cargo trucks loaded with class I and III supplies.

The battalion executive officer met the battalion commander in McGregor, a small town outside of Waco, with the information that no one person or group seemed to be in charge in Waco, and that the condition of the city was much worse than had previously been reported. He advised reporting to the Texas Highway Patrol upon arrival, to receive a mission, since this unit was organized and operating. The battalion executive had made arrangements for the use of the Baylor Football Stadium, located on the outskirts of town, for a bivouac site, which proved a most wise choice since adequate, undamaged facilities existed for both bivouac and support operations.

The battalion commander ordered the executive to take the task force to Baylor Stadium and to prepare for immediate movement of the operating troops into the city. The battalion commander reported to Captain Sam Gardner of the Texas Highway Patrol and received a request to clear the entire length of First Street so that debris hauling to the city dump could be expedited. It was evident at that time that there was no overall plan for coping with the disaster but that various agencies were working where they thought best.

Upon return to Baylor Stadium, orders were issued to half of the force to clear First Street, departing in 30 minutes. A detail was dispatched to help on the R. T. Dennis building and the remainder placed in reserve to relieve the working detail at 0600 hours. The administrative echelon set up the CP, opened the mess and established radio contact with Division.

The S3 and the Battalion Commander proceeded to the center of the city on a reconnaissance where the terrible scene described heretofore met the eye. The center of work was the Dennis Building; however, further reconnaissance indicated devastated areas, blocked streets and dangerous buildings which were completely untouched by rescue teams.

A central Disaster Headquarters was slowly forming at the First National Bank Building, headed by the Mayor, Ralph Wolff. The headquarters was not effectively operational and too few were attempting to direct too many without a clear knowledge of the situation. It was evident that no detailed direction could be expected from this organization for some time yet, therefore it was decided to go to work wherever the reconnaissance indicated work was required.

The most damaged area except for the Dennis Building was the square around the City Hall with its many old buildings. Therefore the Battalion Commander decided to concentrate the battalion effort in that area after First Street was cleared—a two-hour job with men and equipment. The necessary orders to effect this decision were issued by radio. It was decided to work in shifts of four hours on and four hours off and, except for certain equipment operators and key supervisory personnel, this system was followed throughout the period.

The working party on First Street soon arrived at the City Hall where they were met by the command group. Previous orders had already brought to the area the available heavy equipment. The working parties with suitable equipment were assigned tasks and placed under the command of a junior officer. A shift boss was assigned to be in control of all work accomplished in the battalion area during a four-hour shift. This type of organization proved effective and was used during the entire period. The necessary administrative, supply and maintenance plans were executed to support the operational plan.

During this day, Tuesday, 12 May work proceeded as planned, however under the handicap of a terrible rain storm. As an aftermath of the tornado, at approximately 0800 hours on May 12th a cloudburst hit the city, which was to settle down into an extremely heavy rain lasting the entire week. The weather also turned cold which added to the difficulties of working in the open. This unseasonable weather and heavy rain soon ended all hopes of finding any more living survivors. No injured person could live long exposed to weather as violent as Waco was experiencing. The rains also raised the threat of floods to add to the damage, and the District Office of the Corps of Engineers kept close watch on the river stage to determine if it would be necessary to divert part of the rescue force to strengthening the levees.

Along with the difficulties attendant upon the rains and cold weather, some beneficial effects were evident. Without rain the dust from the clearing work in the demolished buildings would have been hazardous and uncomfortable to the workers. The weather also held down the usual stench that hangs over a disaster like this and probably suppressed any chance of an epidemic.

Late on Wednesday, 13 May, a

LIEUTENANT COLONEL WILLIAM L. STARNES, JR., a 1943 graduate of West Point, served in Europe during World War II. Subsequently, he received his Master's degree from M. I. T. He commanded the 16th Armored Engineer Battalion at the time of the Waco disaster; he is presently the Commanding Officer of the Combat Engineer Detachment at the Military Academy.

Photo—Windy Drum

A truck-mounted crane moves in to start work on storm-wrecked buildings.

general planning meeting was held by the Disaster Headquarters during which the city was divided into zones and certain organizations assigned specific responsibilities. The 16th Armored Engineer Battalion was assigned the 12 block area around the City Hall, where operations had been in progress for two and one-half days. Liaison plans were worked out with the Air Force contingent, the city clearing force, the National Guard and other agencies. A central control of equipment was set up to enable all equipment in the city to be utilized more efficiently. Order slowly emerged from chaos, and operations took on a professional, efficient air. From then until the battalion departed Waco at 1500 hours Friday 15 May no organizational difficulties were encountered and the rescue work proceeded twenty-four hours a day.

During the relatively short period of stay in Waco the 16th Armored Engineer Battalion Task Force, using its own and borrowed equipment, removed 26,000 cubic yards of rubble, drove a cumulative 20,000 miles, recovered 14 bodies, cleared 4 miles of city streets, wrecked 11 dangerous buildings, and performed other miscellaneous rescue and emergency missions. The experience gained by engineers of the "First" in accomplishing these rescue missions, while frightful in cost and human suffering to the civilian community, pointed up certain facts which will be extremely valuable in other emergencies of a similar nature.

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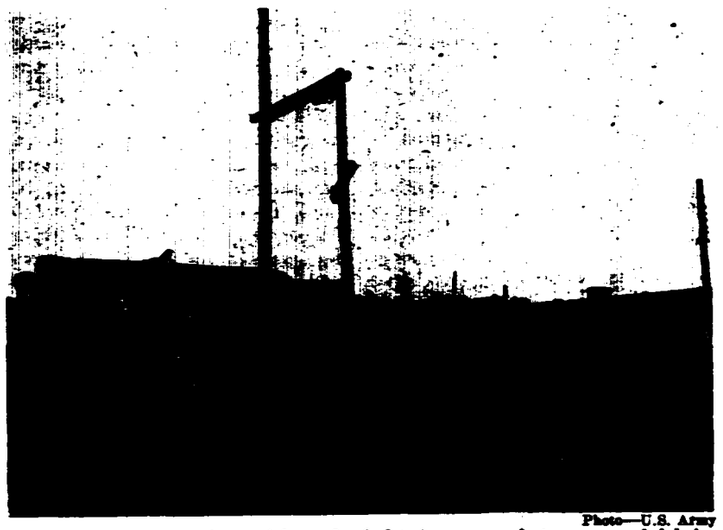
An armored division in a theater of operations is often found in reserve waiting to deliver the Corps Commander's Sunday Punch. An atomic bomb attack on a city within the Corps' or Army's area of responsibility might well find the armored division as the only source of troops available on instant call to cope with the disaster.

From a military point of view an atomic-bombed, large city in the rear of the front lines could seriously hamper the fighting effort. To mention a few of the important considerations—vital lines of communications pass through such cities, storage and manufacturing facilities exist ready made, control of civil populace in the surrounding area is usually seated in the city, and panic and epidemic would result if help were not forthcoming.

To help the commander reduce this threat to his rear, an Area Damage Control System has been devised, and, as taught at the Command and General Staff College, is sound and workable for a situation such as has been depicted. Engineer units, due to their equipment and training, are



Photo—U.S. Army

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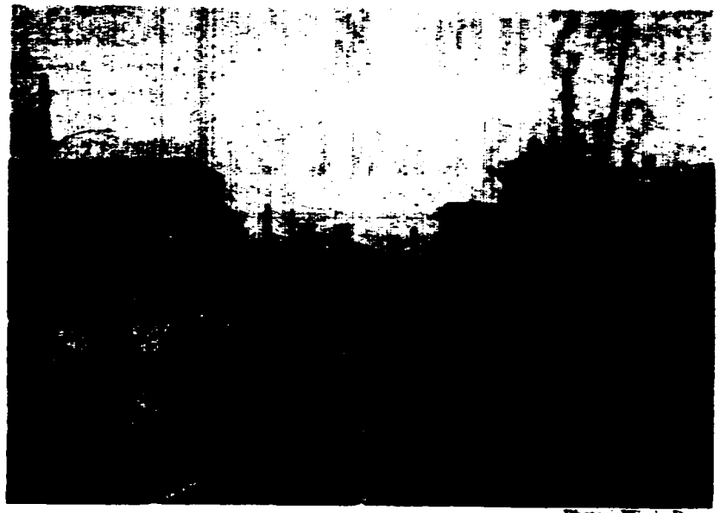
particularly suited to such operations; however, any military unit with suitable engineer equipment and operators attached can do a creditable job.

The military unit which it is planned to utilize for such work should be so constituted that 24 hour a day operations are possible. This unit should be reinforced by communications and maintenance personnel of a higher echelon than is organic to it if the operation is some distance from the home station. More than the normal proportion of NCO's and officers to enlisted men is required due to the nature of the work encountered.

The type of engineer equipment found in an engineer battalion is adequate, such as bulldozers, cranes, dump trucks, bucket loaders, etc. However, the quantity taken should be limited only by availability of operators and equipment. Clamshell cranes are especially valuable and practically any number could have been used. Dump trucks are required in proportion to the loading equipment to haul debris away to some temporary dump. Engineer hand tools such as shovels, picks, wrecking bars, saws, etc., are required in large numbers to equip the labor force. Auxiliary lighting equipment is of the utmost importance since usually all available civilian generators will be used supplying emergency power for vital city installations, and night work can be extremely hazardous without adequate lighting.



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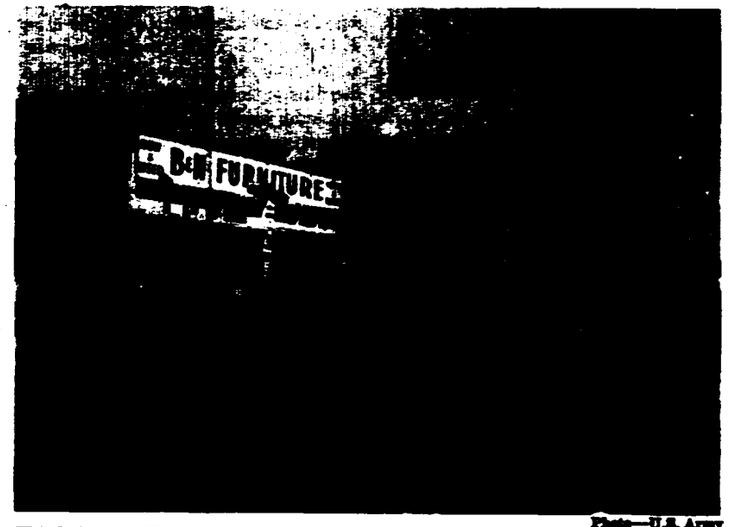
Men of the Sixteenth changing shifts in Waco, as they worked around the clock.

Good communications within the city and to the base station are vital. The radios, organic to almost any tactical unit in the Army, are excellent for this type of work. Augmentation of the number required would allow some flexibility and would at the same time be available for assisting any vital civilian organization that is without the proper type of communications.

A needed adjunct to the normal military communications not often found in a tactical unit is a public address system. For control of the actual work site it is practically mandatory, if work is to progress safely and effectively, and if the volunteer civilian workers are to be given intelligent direction. The commander, by the use of a public address system, has increased his range of command and direction of work many times.

As a final observation, the military principles of prior reconnaissance and planning, sound organization of a job, timely maintenance of men and equipment, good communications and close liaison with adjacent units are as essential to this type of operation as to any other military operation. In this atomic world where we live, success in battle might well hinge upon success in this less spectacular field of Area Damage Control.

As the 16th Armored Engineer Battalion lined up their vehicles to return to Fort Hood on Friday 15 May, there was hardly a man among the approximately 200 officers and enlisted men who had participated who didn't breathe a prayer of thanksgiving that it was not his home town or his loved ones who had been visited by this most terrible of storms. The realization also that man was now able to compete with nature in destructive fury brought home to all the horror of atomic warfare and the necessity of planning and preparation in the event that such a catastrophe should ever overtake the world.



Photo—U.S. Army

Third Street, Waco, after some emergency clearance work had been done.

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.

An Armored Cavalry Group is capable of forming an Armored Section for an Army or Corps Headquarters. It can supervise specialized Armor-equipped units, or command a task force comparable to the strength of a Combat Command of an Armored Division. To obtain the answer in solving some of these complex problems, ARMOR has focussed the spotlight on the 19th Armored Cavalry Group stationed in Germany. This comparatively newly activated unit has been confronted with many situations which give ample opportunities for use of ingenuity, for the books are not available. **Ed.**

The writer of the following, a 1934 graduate of the United States Military Academy, served in the European Theater of Operations with the Sixth Armored Division during World War II. Prior to his present assignment as Commanding Officer of the 19th Armored Cavalry group he was assigned as Deputy of the Public Information Division, Headquarters, U. S. Army, Europe.

There are undoubtedly few officers or men in our Army today who have served with the Hq & Hq Co of what we now call an "Armored Cavalry Group." Therefore anyone receiving such an assignment is likely to find it a new experience, and will have many questions about the organization, missions, and operations of such a unit.

Without exception, the officers and men making up the Headquarters and Headquarters Company of the 19th Armored Cavalry Group, have lacked previous experience with this type organization. Consequently, there has been some groping and "feeling our way" in trying to establish clearly in the minds of all concerned just what the overall mission of the unit should contemplate; what tasks it should expect; how it should go about preparing for them; and how attached battalions should be trained for their roles as elements of the group.

Anyone whose duties require him to make a detailed examination of the "armored cavalry group" and its capabilities, is struck at once with the absence of published doctrine indicating the intended missions for such an organization, or the methods of employment considered most appropriate.

T/O & E 17-32, with changes (including T/O & E 17-32A, March, 1953) is the basis for organization of the group headquarters. This little Department of the Army publication sets up a strength in officers and men

All photos—U.S. Army

Colonel Brown

roughly one-half of that provided for an armored combat command headquarters, or for the headquarters of an armored cavalry regiment. It is considered significant that at reduced strength, the group headquarters is provided adequate staff personnel for S1, chaplain's, food service, and TI&E activities, while S2 is represented only by one enlisted space, and liaison personnel are entirely lacking. (One liaison officer and one S2 officer are provided at full strength.) This of course raises a question as to whether this type headquarters was not intended for *normal* employment in a garrison situation, where attached units are conveniently close, and where the emphasis, so far as the group headquarters is concerned, is on training and administrative inspections, rather than field operations.

In our groping for background on "armored cavalry group" operations, we have come across one report indicating that during World War II, the so-called "tank groups" which were predecessors of our type unit, provided training supervision and control of tank battalions until the time of commitment to action, at which time the group headquarters relinquished control of the battalions and was itself employed thereafter largely in the role of an armor staff section at corps or army headquarters.

If this is historically correct, it is no doubt reflected in the statement of mission and capabilities as given in T/O & E 17-32. Here, the mission of an armored cavalry group headquarters is stated as, "command, control, and supervision of one or more separate tank battalions assigned to a corps or field army."

Among the listed capabilities which follow, the more significant are:

a. Command, control, and supervision in combat of an armored task force comparable to a combat command *for short periods.*
b. Command, control, and supervision of specialized armored equipment (flame-throwing, mine-exploding, and floated tanks, etc.) which may be assigned.
c. Operation of armored-cavalry section of corps or field army headquarters *when required.*

The italicized portions of items a and b, above, suggest two of the many specific questions that arise in trying to visualize exactly what is intended as the role of this type headquarters. For example, what is meant by "command . . . in combat . . . *for short periods*"? Our field experience so far with the limited personnel authorized, and the requirement for 24-hours-a-day operation of radio nets, staff sections, etc., plus the requirement for local security at all times, leads us to an estimate of 3 to 5 days as the reasonable maximum period of sustained combat operations for this type headquarters, as presently manned and equipped. What would the 19th do if required to operate for a longer continuous period? Improvise, of course, and this covers a multitude of sins, all justified in the service of our country.

What is meant by *"when required,"* in item c, above? When and under what conditions should the group headquarters furnish personnel and equipment to operate an armor section of corps or army headquarters? Under present noncombat conditions, the 19th has been of limited assistance to the corps staff with which we are associated, without serious detriment to the command responsibilities it has in connection with the presently attached tank and armored infantry battalions. Under combat conditions, it seems clear that the group headquarters could with relative ease assume command responsibility for an armored task force in active operations, *or* it could furnish an armor section of a higher headquarters, but it could hardly do both simultaneously unless additional personnel and some additional equipment were provided. Ideally, these two functions should be divorced.

Be that as it may, the 19th finds itself on duty in Germany, with the 510th, 322d, and 141st Tank Battalions, and the 373d Armored Infantry Battalion, attached. All of these units have had and will continue to receive good training experience in supporting roles, attached to the infantry regiments and divisions stationed in Germany.

The 19th Armored Cavalry Group headquarters, in addition to the normal week-in and week-out cycle of training inspections, tests, maneuvers, field exercises, etc., is gradually working to develop for itself and for its attached battalions, the capability of operating as an armored combined-arms team, highly mobile and flexible in composition, thus providing a readily available and relatively powerful armored striking force for rapid movement and employment over a wide area in a variety of possible situations.

Assignment to this type headquarters, especially in this theater, is one of the most interesting and professionally educational experiences open to officers of our branch.

COL. CHARLES E. BROWN

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The writer of the following, a 1950 graduate of Alabama Polytechnic Institute, received his commission in Armor. During World War II he served two years as an enlisted man in the Air Force in the European Theater of Operations. Prior to his present assignment as commanding officer of Headquarters & Headquarters Company he was assigned to the 40th Tank Battalion, 4th Infantry Division.

The Headquarters and Headquarters Company of an Armored Cavalry Group is organized under T O & E 17-32N w/changes. It is quite different in structure from the Headquarters and Service Company of a Tank Battalion. We do not have the men or equipment to warrant being a Headquarters, Headquarters and Service Company. This Company is organized to furnish mess, maintenance, communications, supply, and administrative facilities for the small Group Headquarters. Our mission is primarily housekeeping and logistical support. It isn't as exciting as the mission of a line company, but the unusual problems that are constantly confronting each section of the company prevent the work from ever becoming monotonous.

Lt. Ingram

All the officers and enlisted men of the Group Headquarters Staff Sections are a part of the Headquarters and Headquarters Company. Since this is a separate company our responsibilities include taking care of all matters of an administrative nature for all personnel assigned to the Group. We have our own personnel section which handles all the records. Another part of our job is to supply all the items which are required for the performance of the Group mission. Being a separate company, we deal with agents of all the Technical Services. This increases our problems since the supply personnel must be away from the company a great deal of the time. This makes our supply much more complex than dealing with a Battalion S4 as in the case of line companies.

The major problem encountered in the Armored Cavalry Group Headquarters Company is the lack of personnel to get all the various details performed outside the normal job that each man is assigned. The Company consists primarily of specialists and many times these people must be away from their jobs in Group Headquarters in order to maintain our vehicles and equipment in a state of combat readiness. The authorized strength of the Company is 50 men and 9 officers including a Chaplain. Our present mission is to maintain a Combat Command type of headquarters as well as to operate the Armor Section of V Corps Headquarters. In order that the Group Commander may "wear both hats," the company structure must be able to react very rapidly to developments generated at the Corps level, and a high degree of coordination is required between Group Staff and Company Headquarters.

Each man of the Headquarters Company must be proficient in several fields of work. A clerk in Group Headquarters may be called upon to be a messenger, driver, and radio operator all in one day. The non-com-

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general planning meeting was held by the Disaster Headquarters during which the city was divided into zones and certain organizations assigned specific responsibilities. The 16th Armored Engineer Battalion was assigned the 12 block area around the City Hall, where operations had been in progress for two and one-half days. Liaison plans were worked out with the Air Force contingent, the city clearing force, the National Guard and other agencies. A central control of equipment was set up to enable all equipment in the city to be utilized more efficiently. Order slowly emerged from chaos, and operations took on a professional, efficient air. From then until the battalion departed Waco at 1500 hours Friday 15 May no organizational difficulties were encountered and the rescue work proceeded twenty-four hours a day.

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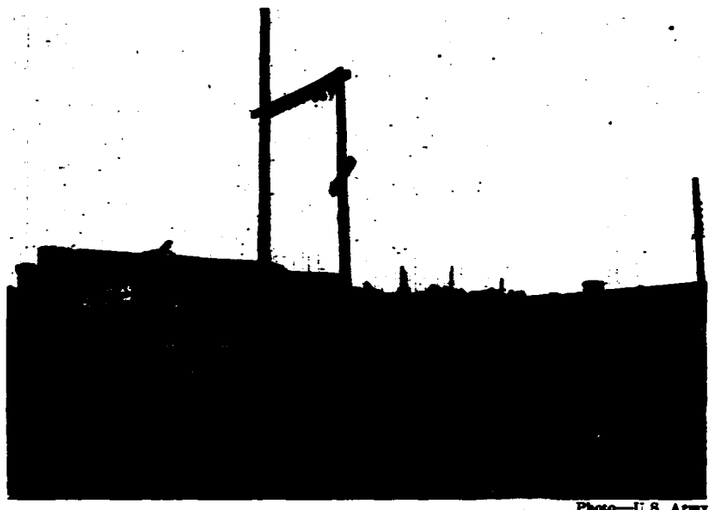

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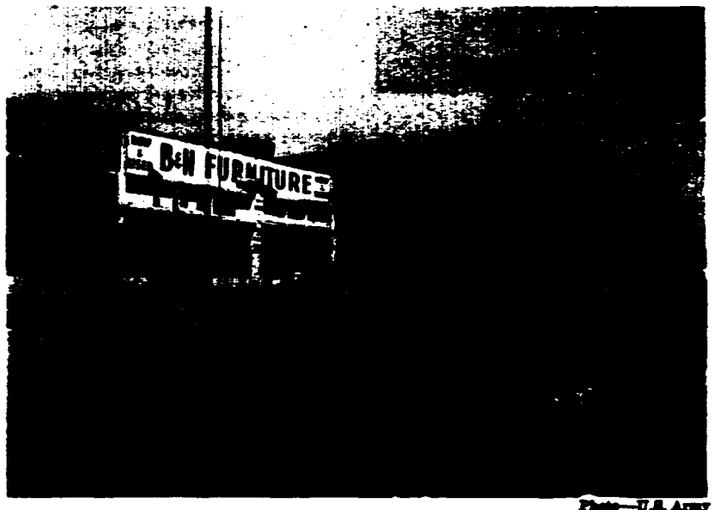

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All photos—U.S. Army

Colonel Brown

roughly one-half of that provided for an armored combat command headquarters, or for the headquarters of an armored cavalry regiment. It is considered significant that at reduced strength, the group headquarters is provided adequate staff personnel for S1, chaplain's, food service, and TI&E activities, while S2 is represented only by one enlisted space, and liaison personnel are entirely lacking. (One liaison officer and one S2 officer are provided at full strength.) This of course raises a question as to whether this type headquarters was not intended for *normal* employment in a garrison situation, where attached units are conveniently close, and where the emphasis, so far as the group headquarters is concerned, is on training and administrative inspections, rather than field operations.

In our groping for background on "armored cavalry group" operations, we have come across one report indicating that during World War II, the so-called "tank groups" which were predecessors of our type unit, provided training supervision and control of tank battalions until the time of commitment to action, at which time the group headquarters relinquished control of the battalions and was itself employed thereafter largely in the role of an armor staff section at corps or army headquarters.

If this is historically correct, it is no doubt reflected in the statement of mission and capabilities as given in T/O & E 17-32. Here, the mission of an armored cavalry group headquarters is stated as, "command, control, and supervision of one or more separate tank battalions assigned to a corps or field army."

Among the listed capabilities which follow, the more significant are:

a. Command, control, and supervision in combat of an armored task force comparable to a combat command *for short periods.*
b. Command, control, and supervision of specialized armored equipment (flame-throwing, mine-exploding, and floated tanks, etc.) which may be assigned.
c. Operation of armored-cavalry section of corps or field army headquarters *when required.*

The italicized portions of items a and b, above, suggest two of the many specific questions that arise in trying to visualize exactly what is intended as the role of this type headquarters. For example, what is meant by "command . . . in combat . . . *for short periods*"? Our field experience so far with the limited personnel authorized, and the requirement for 24-hours-a-day operation of radio nets, staff sections, etc., plus the requirement for local security at all times, leads us to an estimate of 3 to 5 days as the reasonable maximum period of sustained combat operations for this type headquarters, as presently manned and equipped. What would the 19th do if required to operate for a longer continuous period? Improvise, of course, and this covers a multitude of sins, all justified in the service of our country.

What is meant by "*when required,*" in item c, above? When and under what conditions should the group headquarters furnish personnel and equipment to operate an armor section of corps or army headquarters? Under present noncombat conditions, the 19th has been of limited assistance to the corps staff with which we are associated, without serious detriment to the command responsibilities it has in connection with the presently attached tank and armored infantry battalions. Under combat conditions, it seems clear that the group headquarters could with relative ease assume command responsibility for an armored task force in active operations, *or* it could furnish an armor section of a higher headquarters, but it could hardly do both simultaneously unless additional personnel and some additional equipment were provided. Ideally, these two functions should be divorced.

Be that as it may, the 19th finds itself on duty in Germany, with the 510th, 322d, and 141st Tank Battalions, and the 373d Armored Infantry Battalion, attached. All of these units have had and will continue to receive good training experience in supporting roles, attached to the infantry regiments and divisions stationed in Germany.

The 19th Armored Cavalry Group headquarters, in addition to the normal week-in and week-out cycle of training inspections, tests, maneuvers, field exercises, etc., is gradually working to develop for itself and for its attached battalions, the capability of operating as an armored combined-arms team, highly mobile and flexible in composition, thus providing a readily available and relatively powerful armored striking force for rapid movement and employment over a wide area in a variety of possible situations.

Assignment to this type headquarters, especially in this theater, is one of the most interesting and professionally educational experiences open to officers of our branch.

COL. CHARLES E. BROWN

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The writer of the following, a 1950 graduate of Alabama Polytechnic Institute, received his commission in Armor. During World War II he served two years as an enlisted man in the Air Force in the European Theater of Operations. Prior to his present assignment as commanding officer of Headquarters & Headquarters Company he was assigned to the 40th Tank Battalion, 4th Infantry Division.

The Headquarters and Headquarters Company of an Armored Cavalry Group is organized under T O & E 17-32N w/changes. It is quite different in structure from the Headquarters and Service Company of a Tank Battalion. We do not have the men or equipment to warrant being a Headquarters, Headquarters and Service Company. This Company is organized to furnish mess, maintenance, communications, supply, and

Lt. Ingram

administrative facilities for the small Group Headquarters. Our mission is primarily housekeeping and logistical support. It isn't as exciting as the mission of a line company, but the unusual problems that are constantly confronting each section of the company prevent the work from ever becoming monotonous.

All the officers and enlisted men of the Group Headquarters Staff Sections are a part of the Headquarters and Headquarters Company. Since this is a separate company our responsibilities include taking care of all matters of an administrative nature for all personnel assigned to the Group. We have our own personnel section which handles all the records. Another part of our job is to supply all the items which are required for the performance of the Group mission. Being a separate company, we deal with agents of all the Technical Services. This increases our problems since the supply personnel must be away from the company a great deal of the time. This makes our supply much more complex than dealing with a Battalion S4 as in the case of line companies.

The major problem encountered in the Armored Cavalry Group Headquarters Company is the lack of personnel to get all the various details performed outside the normal job that each man is assigned. The Company consists primarily of specialists and many times these people must be away from their jobs in Group Headquarters in order to maintain our vehicles and equipment in a state of combat readiness. The authorized strength of the Company is 50 men and 9 officers including a Chaplain. Our present mission is to maintain a Combat Command type of headquarters as well as to operate the Armor Section of V Corps Headquarters. In order that the Group Commander may "wear both hats," the company structure must be able to react very rapidly to developments generated at the Corps level, and a high degree of coordination is required between Group Staff and Company Headquarters.

Each man of the Headquarters Company must be proficient in several fields of work. A clerk in Group Headquarters may be called upon to be a messenger, driver, and radio operator all in one day. The non-com-

missioned officers on the staff must have a considerable degree of training in intelligence and operations, in addition to a thorough knowledge of the fundamental tactics of Armor, Infantry, and Artillery. All members of the company, both officers and enlisted men, are cross-trained to insure that the company operates smoothly around the clock. We take pride in our ability to move efficiently and communicate effectively.

1st Lt. Harold C. Ingram

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The writer of the following served in the Pacific during World War II with the First Cavalry Division. Subsequent to the war and following a stateside assignment he returned to the First Cavalry Division in Japan. A tour with the Second Armored Division preceded his present assignment as S1 of the 19th Armored Cavalry Group.

Under the present organization of the 19th Armored Cavalry Group the functions of the S1 vary from actual S1 operations in the field to a role of administrative supervisor, personnel manager, and activities coordinator in garrison. The S1 is charged with the selection and procuring of qualified personnel to operate the Group Headquarters. He maintains a continuous survey of attached units in his role as an adviser to the Group Commander, insuring that critical specialists are evenly distributed throughout the Group.

The administrative relationship between the Group Headquarters and its attached battalions varies greatly with the type administration being processed and the headquarters from which the correspondence originated. Although most personnel matters from battalions are handled directly with the army headquarters, the proceedings of courts, boards and investigations are routed through the corps headquarters and often the Group headquarters. Battalion Commanders use Group channels for transfers and assignment of key officer personnel and for transfer or reassignment of groups of enlisted personnel.

Although the Group in the field is given combat command type missions, this similarity is not found in administrative procedures. The combat command does not mix in any way with the administration of its attached battalions. They deal directly with the Armored Division Headquarters. The Group Headquarters has no DAC to which it may send its personnel section or the personnel sections of its attached battalions but must, with the limited facilities at hand, and normally over long distances, control and supervise the many reports required in day-to-day operations in the field.

The S1 in the Armored Cavalry Group must become familiar with the inner workings of the Corps staff since the Group Commander is normally the Corps Armor officer. The S1 must be prepared to assist the Group Commander not only in his command capacity but also in those problems which result from his being a member of the Corps Staff.

Administrative channels for the Armored Cavalry Group in the field are normally from Group to Corps to Army. When the Group is attached to a Division the Division then becomes the first channel for most field reports and presents a staff level

Capt. Ackley

which is more easily reached by the Group Staff and with which more personal transactions can be made.

Because of frequent attachments and detachments to and from the Group in the field, it is not possible for the Group S1 to become too involved in Battalion administration. Consequently the relationship between the S1 and the attached Battalions will vary with the personality of the commander and the situation at hand.

Capt. John M. Ackley

The writer of the following served in Europe during World War II with the 4th Cavalry Group. He received a battlefield commission and was awarded the Distinguished Service Cross and Silver Star while serving as a Second Lieutenant in the Hürtgen Forest. He is presently assigned as S4 of the 19th Armored Cavalry Group.

The Armored Cavalry Group commander is assisted in supply functions by the supply and evacuation personnel of the staff. This consists of an S4, a supply sergeant, and a Food Service Warrant Officer with two enlisted assistants. The Group supply section acts in an advisory capacity, coordinating supply, maintenance and evacuation functions between higher headquarters and armored cavalry group elements.

Successful operation of the group is dependent upon adequate and timely supply. Because of the high consumption rate, emphasis is placed on the resupply of fuel and lubricants, ammunition, and spare parts. These must be provided in a steady stream if armored cavalry is to roll, shoot, and communicate.

In order to retain flexibility of organization and facilitate attachment and release, subordinate unit supply requests are not consolidated by the Group S4. He is not an operator in the supply chain, nor does he have the logistical means to receive or issue supplies to the battalions. All battalion reports are normally channeled direct to division and army installations, with information copies being retained by the Group S4.

The armored cavalry group headquarters contains the necessary command and staff personnel for command and control of a tactical grouping of combined arms. It is completely mobile, with all personnel and equipment habitually mounted or transported in organic wheeled vehicles. Each battalion normally attached is organized for independent administrative operation, and is capable of supporting itself with resupply of fuel, lubricants, ammunition, rations, and water for organic and attached elements.

Field and combat trains are retained under the control of each battalion and include operating personnel to perform the functions of supply, maintenance, and evacuation. The battalion combat trains normally consist of the major elements of the battalion maintenance platoon and the battalion medical detachment, and those ammunition and fuel and lubricant vehicles of the battalion supply platoon required for the immediate support of combat operations.

Capt. Grotelueschen

The battalion field trains consist of those vehicles not required for the immediate support of combat operations, and generally include kitchen, ration, water, and equipment and administrative trucks. Normally they will include fuel and lubricant trucks, and ammunition trucks not required in the battalion combat trains. A small part of the battalion maintenance platoon, such as 2½ ton trucks, and a small part of the battalion medical detachment, such as the ¾ ton ambulance, may be left with the battalion field trains.

When the group is attached to a division, battalion resupply vehicles proceed directly to division supply installations. When operating directly under corps control, the battalion is resupplied from army installations. In the latter case there is a considerable distance for the resupply vehicles to travel, often as great as 100 miles.

In the European theater of operations the day-to-day supply operations are far from routine, and there is vigorous competition among the top-notch units seeking the best logistic support. This group has been fortunate enough to obtain early this year the equipment necessary to become operational, although even now, six months after activation, some major items of equipment have not been issued by the various technical services, due to non-availability.

Capt. Edgar W. Grotelueschen

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The writer of the following served in the European Theater of Operations during World War II with the 741st Tank Battalion. Prior to his present assignment as Communications Officer of the 19th Armored Cavalry Group he served with the 2d Armored Cavalry Regiment.

When I reported for duty as communications officer of the 19th Armored Cavalry Group shortly after it was activated, I was dismayed to learn that the group with a combat command type of mission was authorized a communications section of only seventeen enlisted men and was to be equipped with just eight FM radios (infantry series) and three SCR 506 radios. The seventeen-man communications section is broken down as follows:

1—communications chief
4—CW radio operators
5—wiremen
2—code clerks
2—motor messengers
2—armored utility vehicle drivers
1—radio mechanic

The first several months of training were spent mostly in the garrison, and I concentrated on 24-hour-a-day radio operation for the CW operators, and on-the-job training for the wiremen, who were basically armored cavalry crewmen and unskilled wiremen.

As training progressed and the group participated in field exercises and special operations, it became apparent that more CW radio operators were needed and that the wire personnel were not fully employed in the field. Hence, steps were taken to train the wiremen as CW radio operators so that they could augment the TO&E CW radio operators. This training is in progress now.

Field work also proved the necessity of having FM radios of the armored series in the group, for in our short existence I have been called on to arrange for voice radio contact with separate armored field artillery battalions, a separate armored infantry battalion, an armored cavalry reconnaissance battalion, and units of the 2d Armored Division. All these units are equipped with the armored series of FM radios and as the group is equipped with the infantry series of FM radios no voice (FM) communications can be established. The group has requested on EML three AN VRQ-1 FM radios (armored series) to be mounted in ¼ ton trucks for communications with units that have the armored series of radios. The group presently has three heavy tank battalions attached and as these units have the infantry series of FM radios and as elements of the group often work with units of the US infantry divisions, it is mandatory that the group be equipped with both the infantry and armored series of FM radios.

The requirement of having both voice and CW communications at air distances of more than 100 miles during field operations presented a communications problem that could not be met with the group's SCR 506 radios. This problem was solved by the corps signal battalion supporting the group with VHF teams and AN-GRC-26 or SCR 399 radio teams. The group has requested five SCR 399 radios on EML and a personnel augmentation of CW radio operators to operate these radios in order to have positive communications over extended distances to both higher and lower headquarters in future training and field operations. One or two of these SCR 399 radios would operate in the higher headquarters radio nets and one would operate as NCS of the group's CW command radio net. The two remaining sets would be kept as group reserve and would be used as the tactical situation dictates. For example, if one of the group's sub-

Maj. Sterrett

ordinate units was operating out of range of the SCR 506 radios, as is presently the case, one of the reserve SCR 399 radio trucks complete with radio operators would be attached to the unit.

Signal maintenance for the group and its attached units is efficient in Germany, as there are Seventh Army signal repair teams located with the ordnance companies which support the Seventh Army tactical units.

Positive radio communication is absolutely necessary for an armored commander to have control of his units. In order for the Armored Cavalry Group commander to have this positive radio communication the group needs FM radios of both the armored and infantry series for voice communications with subordinate units in addition to the SCR 399 radios for CW or voice communication over extended distances to both higher and lower headquarters.

MAJ. JOHN D. STERRETT

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The following article represents a composite summary of the views of the four battalion commanders (three Tank Battalions and one Armored Infantry Battalion) presently attached to the 19th Armored Cavalry Group. They were asked to discuss the significance, to them, of being attached to the group as compared with their normal status prior to activation of the 19th Armored Cavalry Group.

We four battalions attached to the only Armored Cavalry Group in Europe have much to say for the feasibility of having such a group to herd our so-called "loose" or separate battalions. Prior to the February 1953 activation of the 19th Armored Cavalry Group here in Germany our three tank and one armored infantry battalions in V Corps were separate in the true sense of the word with no intermediate headquarters between us and the corps headquarters. Understandably, considering the large number of units, including three divisions, reporting directly to corps, a separate battalion was far removed from much of the vitally needed and undeniably profitable supervision that higher headquarters normally can provide. Corps headquarters having had no armored section, the functions of coordination and supervision of training, allocation of major training areas, school quotas, etc., for the separate battalions fell within the purview of the already busy corps G3 section. Now, with the activation of the 19th Armored Cavalry Group, the corps has gained not only an armored staff section but also the advantage of dealing with but one armored sub unit instead of four. This happy circumstance for the corps staff has been every bit as fortunate for the battalions themselves, inasmuch as it has removed some of the burden from their staffs. We battalions may now take our problems to the relatively small group headquarters where, being much closer to the group commander or staff officer concerned, they receive much more in the way of individual attention than heretofore.

From the standpoint of plans our problems are vastly simplified. Initially our staffs were required to spend long hours gleaning from the voluminous corps plans the bits that affected the battalions. Now that group headquarters has assumed this function and passes to the battalions only the information pertinent to their plans and operations, the battalion operations officer can devote the majority of his time to normal training.

The group with its attached units can be utilized very much like a combat command, can act as a sub headquarters for corps in controlling corps units temporarily attached, or can provide the control element under which to weld assault or reserve task force units. Naturally, we battalions very much prefer the former. The group with its three heavy tank battalions and one armored infantry battalion constitutes a potent force and can acquit itself well on any assigned mission, but we like best to visualize ourselves as a powerful striking force held initially in reserve and used for the "Sunday punch" which so often provides the margin of victory.

Our major problem to date is communications. The present T/O & E for our separate tank battalions calls for radios on the infantry band while the T/O & E of our armored infantry battalion provides radios on the armor band, as is also the case with the units of the 2d Armored Division. This problem renders our getting together on the air a little difficult in combined training and certainly presents a potential hazard in battle whenever units on the armor band work with or are attached to those which are not. Our present, admittedly interim, solution is maximum utilization of CW common to all our units as well as dependence upon the common "B" set with its very limited range. Our recommended solution is the issue of enough armor sets to each battalion that the key sets within the unit may be switched when necessary. Although this problem is far from whipped, with what we have, we of the 19th Armored Cavalry Group are prepared to give a good account of ourselves as we are whether we are fighting as a group or as detached units.

Commanding Officers (L to R) Col. Brown—19th Group, Lt. Col. Boylston—510th Tank Battalion, Lt. Col. West—322d Tank Battalion, Lt. Col. Hansen—141st Tank Battalion, and Lt. Col. Colyer—372d Armored Infantry Battalion.

A Potential Team

History has proved to be most helpful to students of the military art and science in preparation for the future. We can rely on history to help establish principles. We can use these principles in future planning. We must supplement past experiences with a continual search for new ideas. For example, with the cessation of hostilities in Korea, armored officers can glean a great deal on infantry support in difficult terrain and in extreme cold, on gunnery, motor maintenance, communications and combat leadership. However, they will have to turn elsewhere to study armor's primary function—the title role in mobile warfare. They likewise will have to turn elsewhere to get data to study the proper utilization of tactical air, in combination with armor, guided missiles, atomic artillery and airborne infantry units. Similarly, tactical air officers will have to examine other sources to study close ground support in conjunction with fast-moving mobile spearheads. The airborne infantry officer can learn much from ground infantry tactics but will have to search further to determine what he can contribute to the mobile team. The tactical, guided missile or atomic artillery officer will have to visualize an entirely new role.

With the development of new weapons, which in some instances are not battle proved, new methods of employment at least must be considered even though later they may be rejected. To fail to explore all the facets of new tactical doctrine is sheer folly. To fail to capitalize on gains made possible by new weapons is unwise and uneconomical.

In order to provoke some thought on future aspects of warfare, which is one of the missions of ARMOR as an outlet for such expression by our readers, we would like to pose a hypothetical situation. Thus, we hope to invite constructive comments on the part of those readers who may be interested.

An Army commander, to accomplish an appropriate offensive mission, has at his disposal atomic artillery, airborne infantry, tactical air and armored units. What is the most economical method of employment to accomplish the assigned mission of effecting a saving in manpower, time and equipment? If you were the armored officer for this Army, what would you want to know in advance in order to advise the Army commander on the proper utilization of the armor at his disposal? And what would you ask the Army artillery officer concerning use of his tactical atomic artillery units in support of the attack? Conversely, what information could you give each specialist to assist him in his mission of advising the Army commander as to proper utilization? If you represented either the tactical air, airborne infantry or artillery units, what would you want to know about armor and what assistance could you render each other?

Let's move up to the front line units to see some of the problems which confront the unit commanders.

As an airborne infantry commander of a unit to be employed in the accomplishment of this mission, what would you want to know prior to the attack? What information concerning tactical air, guided missiles, atomic artillery and armor could you pass on to your subordinates?

As a division artillery officer, might you not inquire as to support expected from corps, and what is the possibility of utilizing the atomic shell?

As a squadron leader of a tactical air unit, wouldn't you desire information concerning the location of possible air drops and routes of approach for the armored units?

As a tank company commander in the lead company, what information would you want to receive from the commander of your combat command in respect to the other members of this team?

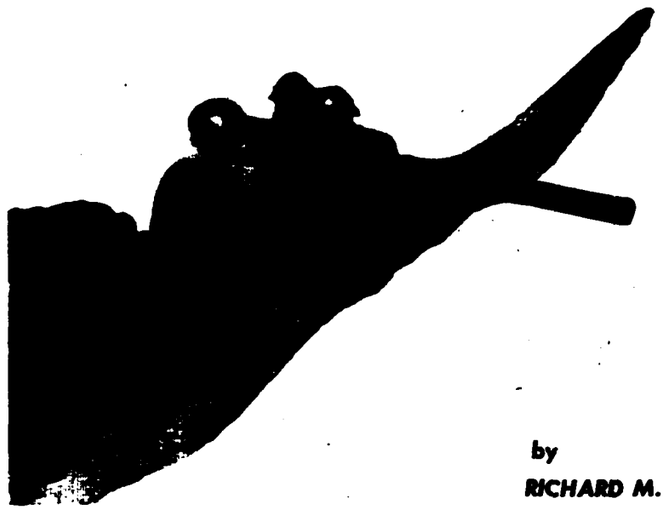
This should bring speculation from the technical services such as the Combat Engineers, Ordnance, Signal, and Chemical Corps as to how this team might affect their operations and what they might contribute in support.

These are but a few of many questions which undoubtedly would arise.

It appears on the surface, if we can propose a conjecture, that this team would be most effective. With tactical air and atomic artillery units supporting *massed* armored spearheads, and airborne infantry units properly meshed in, it is believed that the Army commander has at his disposal a modern force capable of accomplishing his mission with the maximum saving of time and the minimum expenditure of personnel and equipment.

ARMOR welcomes constructive articles intended to develop this idea: a team of *airborne infantry—tactical air—atomic artillery—armor*, forming a self-reliant striking force, yet mutually dependent upon one another, capable of rendering a quick decision when given an appropriate mission and objective.

RECOILLESS GUNS AND TANKS



by
RICHARD M. OGORKIEWICZ

The pros and cons of recoilless guns have been bashed over many times since they first made their appearance on the battlefield early in World War II. In fact the Russians used them against the Finns during the Winter War of 1939-1940. For a history of their background and some sound conclusions based on analytical studies a perusal of this article is in order.

Of the many weapons developed during the course of World War II few have attracted as much attention as recoilless guns. Fewer still have made such an impression on all the post-war thinking on the subject of armor.

The impact of recoilless weapons on military thinking has, on the whole, been to the detriment of the tank. Opinions have been voiced in many quarters that the introduction of recoilless guns has greatly reduced the effectiveness of tanks. More than that, one has only to recall the statement made shortly before the Korean aggression by the then Secretary of the Army to show how far some of these views went: ". . . tank warfare as we have known it will soon be obsolete"!

The causes of this are not far to seek. Recoilless guns have been developed largely to increase the organic fire power of the infantry; to provide infantry units with more powerful, yet handier, weapons than those which they hitherto possessed. This they have accomplished. They have increased the fire power of the infantry and its ability to engage several types of targets, including armored vehicles. These facts can hardly be questioned. But the conclusions which have been drawn from them are very questionable.

Erroneous Conclusions

First, there is the "devastating"—to quote a senior ordnance officer—performance of recoilless guns. It is "devastating" indeed, compared with earlier types of infantry weapons. But, as far as the target effect is concerned, it is no more so than the performance of field artillery and tank guns, which have been in use for some time. Unfortunately this fact is often forgotten and quite erroneous conclusions are drawn as to the on-target effect of recoilless weapons.

Secondly, there is the more general question of armor-piercing weapons and the validity of the argument that tanks are rendered obsolete because their armor can be penetrated. Such an argument, if it were true, would mean that tanks have hitherto been invulnerable—which, of course, they never were. So, on that score alone, the argument is false. Moreover, armor protection is not the tank's only or even chief attribute, though, unfortunately, there are still many who are under that illusion. Thus, whether the armor can be penetrated or not, the question of the tank becoming outdated does not really arise. It is the thinking attaching such importance to armor protection which is hopelessly outdated.

Need for Analysis

Confused thinking must not, however, be allowed to obscure the real value of recoilless weapons, any more than their limitation. It makes it all the more important to examine them carefully; to attempt a close and objective analysis of the characteristics of recoilless guns and of their possibilities in other than infantry roles. They have already a fairly wide background of development, which deserves some attention, and which is also interesting in illustrating the progress made in this field since the first guns were introduced.

German Development

The first German recoilless guns were produced for airborne troops, where their light weight and ease of dropping by parachute fitted them well. They were first used, appropriately enough, during the German attack on Crete, in May 1941, the first large scale operation ever to have been carried out almost exclusively by airborne forces.

The first type to be produced was a short 75mm gun, mounted on a light wheeled carriage. Like all subsequent recoilless weapons it balanced the recoil forces by allowing a portion of the propellant gases to escape to the rear through a nozzle, these escaping gases acting in much the same way as the counter-projectile of the Davis gun. This nozzle assembly replaced the conventional breech block and the cartridge cases were provided with a plastic base which disintegrated on firing but which was sufficiently robust to allow an initial pressure built up for shot propulsion.

After the 7.5cm L.G.40 proved itself in the hands of the German airborne troops it was issued and used successfully by mountain troops and infantry units. It was found particularly useful by the units operating in Finland, where it could be carried to positions where it was impossible to take heavier types of weapons.

More than one type of 75mm gun was actually built and it was followed closely by 105mm models, which were also originally intended for airborne troops but which were used by others as well. Both types, the 75mm and the 105mm, were in service in some numbers by 1943 and were encountered by Allied troops in Italy.

Other types were also under development, fairly high priority being given to this until the middle of 1944. By 1945 the range of models stretched from a 55mm automatic aircraft cannon to a 280mm coast defense gun and included several self-propelled versions.

Except for the 75mm and 105mm guns, most of the German recoilless weapons were still in an experimental stage when the war in Europe ended, and were not battle tested. In the meantime, however, work was begun in the United States and the first few recoilless rifles were built in time to be used in action in the closing stages of the war.

U. S. Development

Work on recoilless guns in the United States commenced in June 1943, at the Frankford Arsenal, the original intention being to develop a light weapon which could be fired from the shoulder. This led to the adoption of a 57mm tube and the design of the 57mm recoilless rifle, T15—now M18. After pilot models were successfully demonstrated the Infantry, early in 1944, recommended the development of a second and larger recoilless rifle which has since become the 75mm M20.

Early in 1945 small numbers of both 57 and 75mm rifles were flown out to the main theaters of operations. In Europe they were employed successfully in the final offensive in Germany and, like the first German recoilless guns, were used initially by parachute troops, of the 17th Airborne Division. A little later they showed equally well in the Pacific, during the fighting on Okinawa.

Since World War II recoilless rifles have, of course, become standard equipment, partly as a replacement of conventional support and antitank guns: three 57mm rifles to each infantry company and four 75mm rifles to each infantry battalion. There is hardly any need to add that more recently they have demonstrated their value as infantry weapons in Korea and have been supplemented by a third and still larger model, the

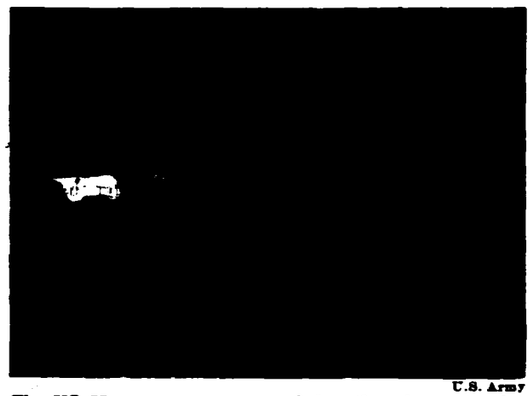
RICHARD M. OGORKIEWICZ, a frequent contributor to ARMOR, and a former lecturer at the British Imperial College of Science, is presently with the Engineering Division of the Ford Motor Company in England.

105mm recoilless rifle, four of which are now allotted to each infantry battalion.

Other countries too have been developing and introducing recoilless guns. In France, for instance, details have been released of a 75mm recoilless rifle, one version of which is mounted on a light Hotchkiss tracked carrier. The British Army too has been experimenting with recoilless weapons for some time. Recently it has been announced that a new recoilless gun, the 120mm BAT, will replace the high velocity 17 pounders (3 inch guns) as standard, infantry

U.S. Army

The US 105mm recoilless gun, mounted on a ¼-ton vehicle. allows additional mobility but without armor protection.



U.S. Army

The US 75mm gun, on a weasel, has the advantage of a full-tracked vehicle. Its limitations are those of the vehicle.

with the infantry, for it enables the fire power of heavy weapons to be carried well forward and used in conjunction with small infantry units.

This last process of distributing heavy weapons among infantry units, has been going on for some time, much longer than the development of recoilless weapons. It is, in fact, part of a much more general trend towards increased employment of heavy, crew-operated weapons, instead of individual ones, which has been going on for over a century. The Germans were among its earliest exponents when, some time before World War II. they provided their infantry regiments and battalions with light infantry howitzers. So were the Japanese with their ultra-light 70mm battalion howitzers.

It is within this trend that much of the general development of recoilless guns falls, a trend which they accelerated considerably.

Powder Consumption

The advantages of light weight and of the resultant mobility of the piece have to be paid for, however. The price is powder consumption.

When a round is fired only a small portion of the gases does work on the projectile: the rest escape to the rear. The latter is responsible for giving the gun its recoilless characteristics but it is also responsible for the large amount of propellant used by recoilless guns compared with that used by conventional guns of similar performance.

For example, a typical recoilless gun may use four or five times as much propellant as a conventional gun of the same performance. This ratio will, of course, vary somewhat with the type of gun; in general, the higher the chamber pressure and muzzle velocity the greater the relative inefficiency of the recoilless gun.

The high powder consumption of all recoilless guns brings in several serious disadvantages, from heavier and more bulky ammunition, through transport and storage problems, right back to the cost of manufacture and the question of raw materials. The price paid for the lightness of the piece with reference to the ammunition problem is, therefore, quite high. It limits severely the scope of recoilless guns and makes it unlikely that they will supersede conventional guns in general use. It also restricts their application to such roles where a high muzzle velocity and hence a high chamber pressure are not required.

Infantry guns, of course, fall into the latter category. A relatively low muzzle velocity is adequate for support guns firing high explosive shells. But, important as the development of infantry support guns and the contribution made to this by recoilless

battalion antitank weapons.

Light Weight

The success of recoilless guns to date must, in the first instance, be ascribed to their light weight. By virtue of the fact that the recoil forces are balanced a very much lighter piece can be constructed; one whose weight is largely confined to the tube; which can fire projectiles comparable with those used by field artillery and yet remain portable or, at any rate, capable of being mounted on a very light carriage. Small wonder that it has been dubbed "hand carried artillery."

The lightness of the piece explains the success and popularity of recoilless rifles with airborne troops, with whom weight is always a major problem. It also largely explains its success

guns are, the importance of the latter would have been far less were it not for another development. A development which produced a projectile whose armor penetration did not depend upon its velocity—in other words, the development of the shaped charge.

Shaped Charge Projectiles

The development of the shaped, or hollow, charge projectile may, like that of the recoilless gun, be traced back a number of years. But its practical application only began in the middle of World War II: among the earliest projectiles incorporating this feature were some German field artillery shells and the British No. 68 rifle grenade. The most effective and spectacular, however, was its use in the original U. S. bazooka, the 2.36 in., first used during the Allied landings in French North Africa in 1942.

The bazooka is in itself a recoilless weapon, though it is more properly classified with rocket launchers than with what are usually termed recoilless guns. Anyway, its lack of recoil and light weight combined with the performance of the shaped charge projectile provided the infantry with a highly effective short-range antitank weapon.

As such the bazooka demonstrated its power against German tanks in the Italian and French campaigns. A little later similar German weapons did the same against American and British tanks. These weapons were the *8.8cm Racketenbuchse* (or, more commonly, *Ofenrohr*), a copy of the U. S. bazooka, or the single shot *Panzerfaust*—an individual, short-range launcher with 4 or 6 inch diameter projectiles.

Almost simultaneously, shaped charge projectiles were also applied to other types of weapons, including rifle grenades and field artillery as well as recoilless guns.

So effective were all these weapons that many began to doubt the value of tanks there and then. In fact, the menace of the shaped charge projectile was considered to be such that Hitler and his advisers began to doubt further value of tanks as early as 1942. Allied leaders and experts took much the same view immediately after the war and, unlike the others, have been slow in revising their first and unduly pessimistic impressions.

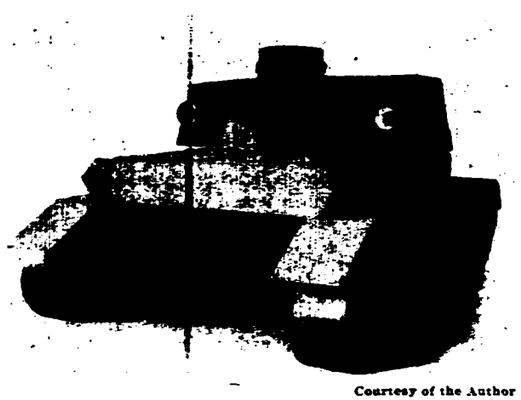
Armor Penetration

This is not to say that the menace of the shaped charge projectile to tanks is negligible. Since such projectiles rely on the focussed blast energy their target effect is substantially independent of velocity and range. And since armor penetration can be achieved without using a high muzzle velocity the gun design is greatly simplified. It is this which has made the antitank rocket launcher and the antitank recoilless rifle, with all their advantages of lightness and mobility, possible.

As regards muzzle velocity, the lower it is the better is the performance of the hollow charge projectile, though, of course, a reasonable initial velocity is required to attain the necessary range and accuracy. In this last respect the recoilless gun is greatly superior to the rocket launcher, though again spin stabilization entails some loss of armor-piercing performance, compared with fin stabilized projectiles fired from smooth bore launchers. But in both cases the low velocity remains a disadvantage as applied to accuracy.

In this respect, at least, the high velocity shot as fired from conventional type antitank or tank guns is bound to remain greatly superior to the shaped charge projectile. Regarding armor penetration itself the general opinion among those technically qualified to speak on this subject seems to be that the high velocity, high density shot will also, in the long run, remain the more dangerous.

It is also well to remember that some of the current performance of shaped charge projectiles may be misleading as a guide to the future. For one thing, the armored vehicles against which they have proved so



Courtesy of the Author

The German Pz. Kpfw. IV tank with two 75mm recoilless guns has armor protection and full-tracked mobility.

Courtesy of the Author

The German 105mm recoilless gun on a light Borgward carrier has frontal armor protection and full-tracked mobility.

successful had all been designed before shaped charge projectiles were known or seriously considered by the designers. They may no longer be so when greater consideration is given in future tank design to them. Spaced armor, to mention but one possible approach, had proved effective on some German vehicles but so far about the only other application has been to the suspension protecting plates of the British Centurion tank.

Large Caliber and Back Blast

Whatever the relative effectiveness of shaped charge and high velocity projectiles, to achieve penetration by blast energy a good deal of explosive is necessary and, hence, a heavy and large caliber projectile.

This dependence of armor-piercing performance on caliber is well illustrated by the general trend to larger caliber weapons: the replacement of the 2.36 inch bazooka by the current 3.5 inch model, the development of the 105mm recoilless gun to supplement the 75mm version which is now regarded effective only against lightly armored vehicles.

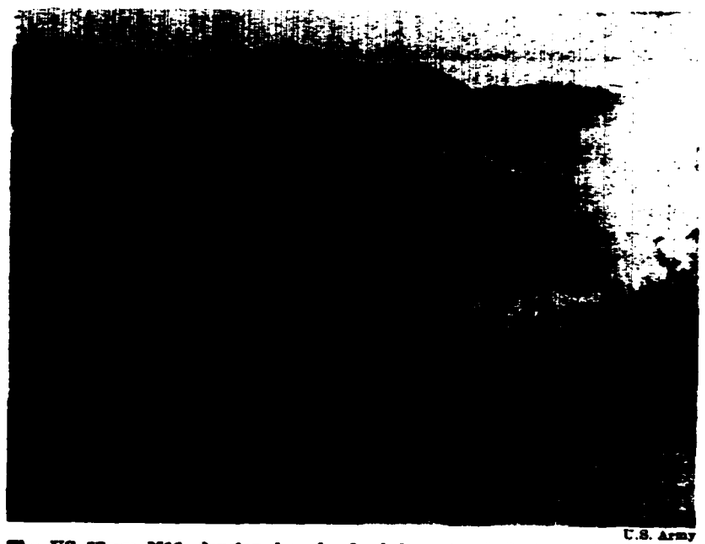
The necessity of going to large calibers means that the piece also becomes large and heavy and that the recoilless gun begins to lose some of its advantages of very light weight. For instance, the 75mm rifle at 103 lb weight, without mount, may truly be called "hand carried artillery." But that no longer applies to the 105mmm model which weighs some 365 lb and whose ammunition is proportionately heavier.

It thus becomes necessary to mount the gun on a towed carriage, or, to achieve maximum effectiveness, to mount it directly on a suitable vehicle —in other words, to make it into a self-propelled gun.

As the size of the gun increases, another problem, associated with recoilless equipment, becomes of increasing importance and also suggests self-propelled mounting: the problem of back blast.

Tactically the latter is the greatest drawback of all recoilless equipment. It is potentially lethal for some distance behind the weapon and thus considerable care must be taken in positioning a gun, so as not to endanger friendly troops or the gun crew. It makes the gun unsuitable for firing in confined spaces and makes concealment difficult by throwing up, as it often does, clouds of smoke and dust behind the weapon, which discloses its position immediately at night.

These are serious problems. But they can, at least, be reduced by mounting the gun on a vehicle: even the lightest armor will minimize the danger to the crew, and the ability to change positions rapidly will partly alleviate the problem of concealment.



U.S. Army

The US 57mm M18, developed to be fired from the Infantryman's shoulder.

At the same time, vehicle mounting will considerably ease the problem of ammunition handling.

There are thus several good reasons for using all but the lightest models of recoilless guns on self-propelled vehicles. Further, it takes little imagination to see such a vehicle turning rapidly into a tank or, at least, a "tank destroyer." A fast, light vehicle of, say, somewhere between 5 and 15 tons, which would exploit the lightness of the recoilless weapon and at the same time minimize the latter's shortcomings.

Recoilless Gun Tank?

But such a light, recoilless gun armed, armored vehicle has already been advocated from another quarter. It has been proposed on various occasions by U. S., French and Canadian armored force officers as a means of getting round some of the difficulties of size, weight and cost of present day tanks. It has even been suggested as the basic tank of the future, a light and highly mobile tank which would go into action in swift-moving swarms and revive the tempo of ground warfare.

Whether it would prove quite as effective as has been suggested or more so than other types of tanks armed with more conventional high velocity guns must remain a matter of conjecture. But whether it will or not, such a type has undoubted and more immediate possibilities.

In fact, the Germans were already working on such a vehicle when World War II ended. Having considered several types of self-propelled and tank applications they were developing a 150mm recoilless gun version mounted on their light, turretless *Jagdpanzer* 38 chassis. Considerable hopes were placed on it as a "tank destroyer," or, more accurately, a vehicle of the light *Panzerjager* class, which was evolved towards the end of the war and which combined the roles of offensive action against hostile armor and direct support of the infantry.

For these roles the characteristics of the recoilless gun were particularly suited: the low velocity, shaped charge projectile provided good anti-tank performance at up to medium ranges and the large caliber assured good high explosive effect. There

should have resulted a highly versatile and successful vehicle but the war ended before the Germans were able to build more than one or two experimental models.

Armament Alternatives

The advantages of any such vehicle are worth considering again.

They are due to the combination of the types of projectiles and the absence of recoil, and hence a light gun which imposes no stresses on the vehicle. But the disadvantages of the recoilless gun are also there: the back blast, and its danger to friendly troops, and the ammunition, as bulky and heavy as that of any heavy, high velocity gun.

Therefore, having accepted a light armored vehicle as the best way of using recoilless guns, or assumed the desirability of a light recoilless gun armed tank, one may well carry the analysis one step farther and enquire whether there is some other way of projecting large caliber, low velocity projectiles from such a vehicle—for is this not the basic problem?

The weight of ammunition could be reduced and back blast eliminated by using a conventional gun. Guns of 105 or even 150mm can be fired from a vehicle of about 10 tons, or even less. But the gun would be considerably heavier and the force of recoil on the vehicle considerable. The projectiles too would have to be much more robust and this would reduce their explosive content and hence effectiveness.

A way round some of the difficulties of the conventional gun, yet without incurring the disadvantages of the recoilless gun, was discovered by German engineers towards the end of World War II. So far the new type of gun has been referred as a "high and low pressure gun," but it could equally well, and much more briefly, be called a "throttled gun."

Throttled Gun

Very briefly, the main feature of this gun is that the front of the cartridge case is closed by a nozzle plate (in practice a plate with plain holes), and by a suitable choice of areas the pressure on the base of the projectile can be kept lower than in the chamber—hence the "high and low pressure" designation.

This drop in pressure across the nozzle plate means that the peak pressure in the bore and on the projectile is lower and hence a less robust construction can be used and more explosive can be carried in the projectile. It also means that recoil stresses are less violent. For firing low velocity projectiles it can be made a good deal lighter and more efficient than a conventional gun.

Because recoil stresses are not eliminated a throttled gun cannot, of course, be as light as a recoilless gun. But it can still be made sufficiently light to be able to compete directly with recoilless guns in several roles. In fact, the two models which the Germans built and which they were about to introduce into service when the war ended—the 8cm PAW 600 and the 10.5cm PAW 1000—were to serve the same tactical purpose as recoilless guns.

In armored vehicles, in particular, some recoil load can be accepted without any difficulty. The recoil forces of the throttled gun would not, therefore, be a drawback. On the other hand, the saving in ammunition weight and space over those of a recoilless gun would be very considerable and the back blast entirely eliminated. It would appear, therefore, that the throttled gun is a very serious competitor of the recoilless guns mounted in vehicles, which as already shown, means virtually all recoilless guns except the very light models.

Conclusions

These comments show how far the analysis has moved from the starting point, from the popular concept of the recoilless gun as a portable, all-powerful, infantry weapon, which would spell the doom of the tank. To clarify this reasoning it is worth restating the main points.

The recoilless gun of today is essentially a light, low to medium velocity weapon and as such relies for its armor-piercing performance on the focussed blast energy of the shaped charge projectile. Its light weight makes it particularly valuable to all infantry units, airborne or otherwise, and the lighter models are truly portable. But for effective armor-piercing performance larger caliber and heavier guns are necessary. The result is that the recoilless gun ceases to be portable.

Whatever its size, it will still be a great deal lighter than a conventional gun but, except for the very light models, the problems of transport and tactical mobility are much the same. It may thus be towed or it may be mounted directly on a vehicle—to get the best results as in the case of the conventional gun. In fact, the case for a self-propelled version is even stronger than with the latter, in view of the disadvantages of back blast and bulky ammunition. The second conclusion would thus seem to point definitely to a self-propelled version.

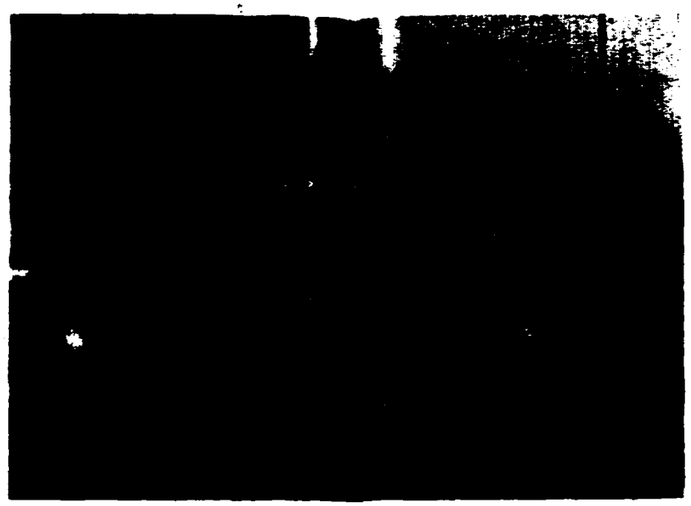
From a self-propelled recoilless gun there is but a small step to a recoilless gun tank. The latter has been suggested as a way of improving vehicle design through gun characteristics, just as the former is a way of improving gun effectiveness through the characteristics of the automotive vehicle. Whichever the approach the result is much the same—which is hardly surprising since tanks and self-propelled guns are fundamentally the same.

As regards the armament of such a vehicle the recoilless gun would appear to have a most serious competitor in the throttled gun. But whether one type or the other is chosen the final result will essentially be the same: a relatively light, highly mobile and relatively inexpensive armored vehicle.

Most likely it is going to be a general purpose vehicle of the type which would considerably increase the organic fire power of infantry units and provide airborne units with badly needed mobile heavy weapons: which would augment the striking power of armored units by providing them with a light, go-anywhere vehicle; which would, in an amphibious version, provide mobile, readily available fire power for the initial landing forces; or, in a wheeled version perhaps, a versatile vehicle for reconnaissance and armored cavalry units.

It may even be able to accomplish more. But this list of possible roles is a sufficient indication of the potentialities of such a vehicle—and of the fact that recoilless guns, far from making tanks obsolete, should make them even more effective and versatile.

The British version of the American Jeep makes a sharp turn on a hillside.



The new Liaison scout car carries a crew of three, is capable of over 58 MPH.

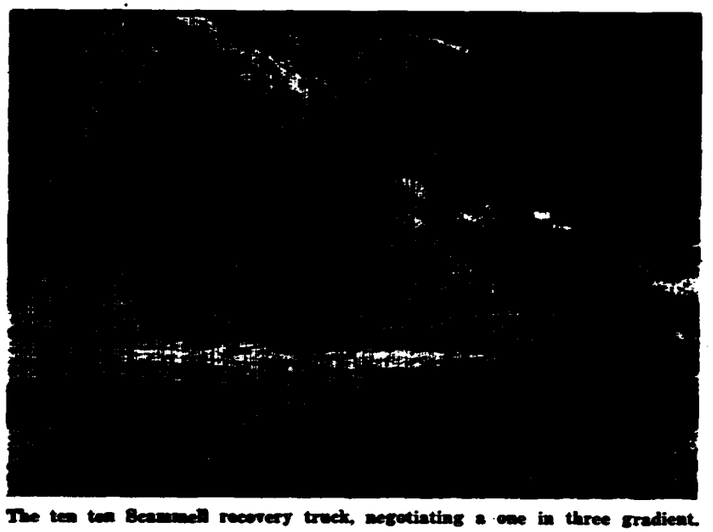
The Universal carrier, an improved version of World War II Bren gun carrier.

NEW BRITISH VEHICLES FOR COMBAT AND GENERAL SERVICE

Britain's latest combat and general service vehicles—some just off the secret list—were shown to military experts of the European Defense Community, at a demonstration held at the "proving ground" of the Ministry of Supply's Fighting Vehicles Research Establishment near Chobham, Surrey.

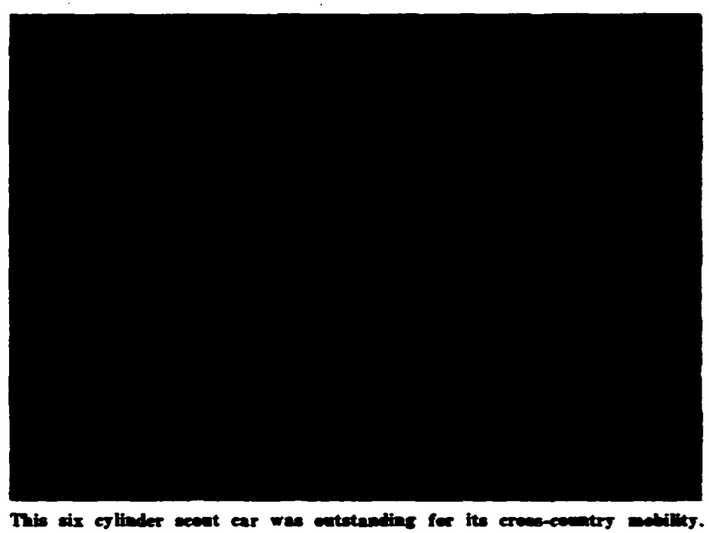
The vehicles put through their paces on hilly country, ranged from motorcycles to a huge 30-ton tractor, towing a 60-ton tank transporter, complete with Centurion tank, some of which were driven round the difficult cross country circuit, negotiating sharp bends and right angle turns at high speeds, and climbing gradients as steep as one in three.

One of the vehicles which stole the limelight was the new six-wheeled armored personnel carrier, known as the "Saracen," which was seen in public for the first time. It is to be issued to motor battalions of British armored divisions. Powered by a Rolls Royce engine, it has a top speed of 45 miles per hour, and weighs ten tons. It can carry a complete section of infantry, and is armored against small arms fire and shell splinters. It mounts a .30 caliber machine gun and a Bren gun. An outstanding feature of the vehicle is that it can even be driven minus a wheel or two if the front wheels are not hit. The military experts were also highly interested in a new liaison scout car which seats a crew of three and is capable of high speeds over rough country.—British Information Services.



The ten ton Scammell recovery truck, negotiating a one in three gradient.

All Photos—British Information Service



This six cylinder scout car was outstanding for its cross-country mobility.

If War should come, we, the people of the United States, with our "Know-how," should not try to meet hordes with equal hordes. We should employ our equipment more skillfully.

THE ARMORED CORPS AND ARMORED ARMY

by MAJOR HAROLD H. DYKE, JR.

IF war should break out in Europe, we need not and should not plan to meet hordes with equal hordes. We must be well in advance in the nature of our weapons and the skill with which we use them." Dr. Vannevar Bush made this astute statement in a speech at the Mayo Clinic, Rochester, Minnesota, on the 26th of September, 1952.

The doctrine on the employment of armored divisions, as presently taught in our service schools, is not fulfilling the above requirement for skillful use of our modern weapons, including helicopters and atomic artillery. The present school doctrine contemplates the organization of army corps, within Field Armies, in which the ratio of armored divisions to infantry divisions is about one to three. Such employment results in the frittering away of armored strength in "penny packets." It fails to make the maximum use of the powerful characteristics of mobility, flexibility, and firepower inherent in armor.

It is true that this type corps organization was used with great success in World War II by such leaders of armor as Generals Patton, Walker, Harmon, Eddy, and Crittenberger, but the blunders of Hitler and the exhaustion of the German armies played a major part in that success. In the War Between the States, horse cavalry was used with great success by the South and later by the North. Infantry, attacking in waves behind an overwhelming artillery barrage, achieved a degree of success during World War I; however, neither the outmoded arm on the one hand nor the outmoded technique on the other could reasonably be expected to produce any decisive result in favor of the user today.

Thinking leaders, both military and civil, see the futility of attempting to defeat Eastern masses with the sort of combat at which the latter are manifestly superior, i.e., "meet hordes with equal hordes." The most skillful use which can be made of our superior equipment is to employ it in

MAJOR HAROLD H. DYKE, JR. served in Europe during World War II. Since the War he served with the Constabulary, attended the Advanced Class at Ft. Knox and is presently en route to FECOM following a tour of duty with the Idaho National Guard.

To employ our Armor in greater mass than ever before, we must reorganize it in greater masses. This entails the formation of Armored Corps and Armored Armies under its own leaders.

highly trained formations possessing maximum mobility, both strategic and tactical, firepower and shock action. Such formations would be used in the early phases of a war in Europe to conduct a vigorous mobile defense on a large scale while the Western Allies gather their strength. Later, on the offensive, these units would perform deep strategic penetrations into the enemy's rear and against his centers of control and supply.

Armor is the obvious arm around which to build these formations. Armor alone has the requisite characteristics of mobility, firepower, and shock action. Armor, supported by tactical air and atomic artillery, supplied by helicopter, and with airborne forces under its command, would be the ideal combination in the performance of the missions outlined above.

Armor must be employed in greater mass than the United States Army has ever attempted before. In order to obtain mass, it must be organized into larger formations than ever before, and under its own leaders. The smallest fighting unit into which it should be organized is the corps; the corps could further be confined into armored armies in order to perform the strategic penetrations once the West has gone over to the offensive.

This does not preclude the use of the tank units of the infantry divisions, corps tank and armored cavalry units, and the few armored divisions necessary to add power to the infantry corps. Armor must continue to give its support to infantry along with the artillery and air, but the armored concept must be completely divorced from the Type Corps. The Armored Corps and Armored Army are things apart and must be considered in addition to the present Type Corps and Type Field Army. Only the armored corps and armored army can give the commander the sort of formations he will need to organize the highly trained, highly mobile forces which alone are capable of inflicting defeat on the masses of the East.

Organization

The unit upon which the organization of the armored corps would be based is, of course, the Armored Division. The armored division contains all the essential elements for the successful performance of the armor mission; however, in order for it to exploit to the fullest its powerful potential for offensive combat, its present organization requires some modifications. As it is presently organized the armored division contains too many non-essential, non-fighting elements which reduce its mobility by making it roadbound and so increase its vulnerability to air and ground attack. In addition, the majority of the vehicles in the division do not possess the cross-country ability of the tanks. This requires that the division base its movements not upon its most mobile vehicle but upon vehicles with less maneuvering ability. In order to overcome these handicaps several changes in the division's organization must be accomplished.

All the elements of the division which are not absolutely necessary to carry out the fighting mission should be eliminated. Bath and laundry units, band, replacement company, The Adjutant General, The Judge Advocate General, the Public Information officer, the Special Services officer, and others that make up the division rear should be organized and trained to operate in the Army area, completely cut off from the division for long periods of time. They should join the division only when it is in a rest area, when it is in reserve for an appreciable time, or at any other time when their presence will not detract from the division's mobility or increase its vulnerability. An even more effective solution would be to furnish such units from an Army pool whenever the division CG felt the need for them. Such things as a Special Service Office and a PIO have no place in a fighting division's T O & E and should be done away with.

A further increase must be made in the division's mobility by making every item of transport, both combat and administrative, capable of complete cross-country mobility under all conditions. During the rainy season in Russia, the Germans found that while their tanks were able to move, albeit with difficulty, the wheeled transport in the supporting and supply elements was completely immobilized. This fact alone is convincing proof of the need for all transport to be as mobile as the tanks. This may require that all vehicles be tracked; if this is the case, all vehicles, with the possible exception of the ¼ ton truck, should be equipped with tracks and with power plants that will enable them to keep up with the tanks under all conditions of terrain and weather. It may be that industry is developing or will develop a series of wheeled vehicles that will have the same cross-country characteristics as tanks and armored infantry carriers. Regardless of whether or not the vehicles are tracked or wheeled, the criterion by which they must be judged is their ability to keep up with the tanks and carriers during movement off the roads. The mobility of the division must be based on the capabilities of the fighting vehicles.

The incorporation of the above changes into the organization of our present armored division will render the division more capable of performing its important role in the armored corps. The same principles of organization should be adhered to when the armored corps is formed.

This does not preclude use of tanks in support of the Infantry Division but it does divorce the Armored Corps concept from the Type Corps concept, to obtain the required Armor Mass.

All headquarters and units which do not contribute to the accomplishment of the fighting mission should be left out of the corps troop list. All transport must be capable of moving with the fighting units cross-country; here again the answer may be to put everything on tracks. The armored cars should be organized so as to be able to operate deep within the enemy rear without fear for its own flanks or rear. The armored corps should consist of armored divisions, the necessary minimum of logistical and supporting units, and one or more armored cavalry regiments to provide flank and rear security and protection of the corps trains. Everything should be done to free the corps commander from the drag of large unwieldy trains and from the crippling necessity for regulating his advance by that of the slow infantry army. Aerial resupply, both by conventional aircraft and helicopters, should be utilized whenever possible. Organization should be based on the requirement for taking the maximum advantage of the flexibility and mobility of armor troops and the flexibility of the minds of the armor commanders.

Employment of the Armored Corps and Armored Army

As mentioned earlier in this article, the armored corps is ideally suited, by reason of its mobility, flexibility, great firepower, and shock characteristics, to play the leading role in a mobile defensive situation and in an offensive situation utilizing the strategy of the indirect approach. During the initial phase of any future war, the Western Allies will be forced on the defensive while they mobilize and prepare to strike back at the enemy. During this defensive period it would be the height of folly to attempt to form a continuous defensive line along a natural obstacle such as the Rhine River. Such a cordon defense would suffer the same fate as the Austrian cordon in Italy during Napoleon's first campaign in that country. Disaster would result not only because of the weakness inherent in this type of defense but also because there probably would not be enough divisions available for the job.

A mobile defense based upon the armored corps should be adopted. Available infantry divisions should be organized into a series of "hedgehogs" along the obstacle to be defended. The "hedgehogs" need not be mutually supporting but must be strong enough in weapons and supplies to withstand the heaviest attack for several days. Behind this gigantic outpost line the maximum number of armored corps should be held in reserve. As the enemy attack in any army area threatening a penetration of the line of "hedgehogs" or the destruction of one of them, the armored corps should be launched in a powerful counter-attack, limited in objective but designed to cut off and destroy the threat. Because of its maneuverability, flexibility and lack of dependence on the existing road net, the armored corps could move quickly to counter a threat in any part of the army area, destroy the enemy, and return to its reserve position in minimum time and with little confusion.

When the Allies move over to the offensive, the strategy of attack must not be based on a continuous pressure exerted against the enemy all along the front, driving him back on his prepared positions and on his reserves, as was the SHAEF strategy in Europe in the last war. Rather the strategy of the indirect approach, as advocated by B. H. Liddell Hart, utilizing deep penetrations into the enemy rear to seize his centers of control and supply should be employed. In this situation the armored corps organized into an armored army would come into its own. Able to maneuver cross-country, able to drive ahead without fear for its flanks or rear, resupplied by air when necessary, the armored army could drive deep into the enemy's rear seizing his nerve centers and paralyzing his operations. Such strategy was advocated by Guderian and other German armor leaders in the early stages of the German campaign in Russia. The effectiveness of the armored army in such operation could be increased a hundredfold by placing under its control one or more airborne divisions. In this way the indirect approach would be accomplished from two directions, the airborne troops dropping from the sky on a critical center, well in the enemy's rear, while the armored army, slashing through a gap made by atomic artillery, moved swiftly on the ground for a link-up. Armor and airborne would form an unbeatable combination.

Summary

Victory for the Western Allies, in the event of another major war, lies in using the most modern weapons in the hands of highly trained, highly mobile troops employing maximum firepower and flexibility against a larger and inherently slower enemy. Armor, with its characteristics of mobility, flexibility, firepower and shock action, is the logical arm for the task. Organized into armored corps and armies to obtain the necessary armor mass, it can perform the initial defensive task by conducting a vigorous mobile defense, and, when the offensive stage is reached, it can encompass the final defeat of the enemy by a deep stab into his vitals. The armored corps and the armored army can be and should be relied upon to fulfill the requirement, as stated by Dr. Bush, for skillful use of the modern weapons which science will give it.

BACKGROUND
for deliberate planning

★ ★ ★

by LIEUTENANT COLONEL GEORGE B. PICKETT, JR.

ARMOR thrives on "Deliberate Planning" and "Violent Execution." But deliberate planning requires adequate and timely information on which to base the plans. Throughout all of our training in Armor, we have been taught certain factors affecting tank employment, such as terrain, weather conditions, obstacles, soil trafficability, and enemy antitank means. These are planning factors at all levels and in varying degrees from the Tank Commander to the Field Army Commander. However, the methods of obtaining the information and using it will vary with the size of the unit. Normally, we can consider these factors under the general heading of tank terrain and trafficability studies for the larger units. The information can best be used in the "deliberate planing" phase by the use of a tank terrain and trafficability map.

Information Sources

Sources of obtaining terrain and trafficability information include personal reconnaissance, patrols, engineer road reports, reconnaissance units, reconnaissance by light aircraft, aerial photographs, civilian line crossers, interrogation of PW's, artillery surveys, and various combinations of all these.

Tank Terrain and Trafficability Situation Map

As this information is received from the various sources, it must be collated and recorded in a place and manner to make up-to-date information readily available to the planners. A tank terrain and trafficability situation map affords the best means. This map is best maintained by the armor officer in Corps or Army headquarters and by the G(S)2 in divisions, regiments, combat commands, and battalions. It should be maintained as current as the situation permits. All changes in trafficability resulting from fluctuating weather conditions (rain, snow, freezes, thaws, etc.) must be recorded on the map as soon as received. A map clerk can maintain the map similarly to G2 or G3 situation maps. All information is then funneled through this one clerk who posts the information, source, date, time and other information of importance as quickly as it is received.

Information to be Recorded

Information that should be recorded on the map falls into two categories: Terrain and trafficability conditions that affect tank maneuver, and detailed information of a "spot" nature.

The information, as recorded here, is based upon Korean experiences and does not necessarily apply worldwide.

In the first category we find conditions that affect tank cross-country maneuver and that determine the maximum size of the tank unit that can be deployed in any particular terrain compartment. Cross-country maneuver is affected by natural and artificial obstacles, soil conditions, weather conditions, and the width of the valley or the width of the area between obstacles. In Korea it is normally the valley widths that primarily restrict the size of the tank units that can be deployed; whereas, in other geographical areas it could be the widths between marshes or whatever the main obstructions indigenous to that area happen to be. However, the problem of determining and designating the maximum size unit that can be deployed exists. The map and any reproductions or overlays made from it must include in the legend the formula that was used as the basis for computation. The formula used in Korea by IX Corps was based on the principle that the maximum tank platoon deployment is the line formation with certain specific intervals between tanks. Therefore, any valley capacity in terms of numbers of tanks was determined by dividing the usa-

LIEUTENANT COLONEL GEORGE B. PICKETT, JR., a frequent contributor to ARMOR, has recently returned from a tour in Korea. He is presently assigned to the G3 section, Headquarters, Fourth Army.

ble space (valley width) in yards, minus unusable spaces in yards, by that specific distance. However, since tanks are not employed in numbers but as units, the number of tanks was divided by five to obtain the number of platoons that could be maneuvered in this area; the number of platoons was divided by three to obtain the number of companies that could be employed, and the number of companies was divided by three to determine the number of battalions that could be employed. Using this formula to determine space requirements for the American type armored division, we can consider that space for two battalions would be the minimum space in which a combat command could be deployed, even though it would even then be considerably restricted in its maneuver.

Technique of Keeping the Map

The trafficability and deployment information must be plotted on the map so that it can be utilized at a glance. This can be done by the use of color tinting with separate colors to represent different maneuver space capacities. For example, blue can be used to tint all terrain compartments in which entire tank battalions can maneuver; green can be used to indicate an area in which one or two tank companies can be deployed; brown can be used to indicate areas where one or two platoons may be deployed; and red can be used to indicate areas impassable for tanks, such as swamps, marshes, cliffs, sand traps, as well as enemy antitank obstacles and mine fields. When operating in mountainous areas, where the bulk of the terrain will be so mountainous that tanks cannot be employed, the legend can indicate that any unshaded area is impassable due to mountainous conditions. This applies particularly in Korea in order to avoid having red almost completely predominate on the map. It is poor psychology to let the "impassable" color predominate.

The next category of information to be plotted on the map is "spot" reports that indicate such information as road widths, bridge capacities, bypasses, fording sites, good direct firing positions, routes of approach, enemy mine fields, antitank ditches, possible tank bivouac areas, assembly areas and attack positions. Also, special temporary conditions, such as detours, flash floods, temporary bogs, quicksand, and impassable mountain passes due to ice or snow conditions should be indicated. In short, all information that is of planning value both at the Corps and Army level and at the fighting level should be plotted.

Reproduction and Dissemination

In order to be of value, this information must be available to planners at the higher headquarters as well as the operational tank units. Although much of the information is valuable only to the tankers in their immediate front, any tank operation, regardless of its scale, in areas where tank employment is restricted, has to be carefully planned. Plans for overcoming natural and artificial obstacles in the path of a tank attack must be made and obstacles eliminated in rear of our defensive lines to facilitate tank counterattacks. Korean experience indicates that due to the psychology of the average soldier and officer in desiring to have the maximum amount of information about his enemy, any information disseminated through G2 channels receives greater distribution, discussion and individual attention than if distributed through a separate channel. For that reason, trafficability information will get to more of the potential users if issued as an annex to G2 Periodic Intelligence Reports (PIR) and as an inclosure to the G2 estimate in operational plans and orders than by other means. The information is best disseminated in the form of over-tinted maps with the spot information overprinted in black. If the information is issued as a compilation of reports, located by grid coordinates, requiring it to be replotted before it can be used, the operating personnel (battalion and company officers) will not use it to the desired extent. The map, when it is reproduced, can be photographed down by the Engineer topographical unit from 1:50,000 scale situation map into a smaller, more usable map, provided the scale is also photographed down with the map. The Representative Fraction of the resulting map is relatively unimportant, since the 1,000-meter grid system and the photographed-down graphical scales will enable accurate distance determination. Also, the smaller the map, the easier it is to handle in a tank turret or ¼-ton truck. Likewise the smaller size facilitates distribution.

Marginal Information on Reproductions

The legend shows the marginal data that should be included in addition to the graphical scale on each reproduced terrain and trafficability map. Although certain colors are indicated in the figure, any color scheme that is explained in the legend can be used provided it is sufficiently specific to be understood easily.

Korean Experience

Korean experience indicates that, particularly in areas of restricted tank employment, terrain and trafficability studies are invaluable for operational planning. Although many examples are available to illustrate this point, there are two which illustrate most planning factors.

On 26 April 1951, the Chinese Communist Forces broke through the IX Corps front northwest of Chunchon. Previous terrain and trafficability studies had shown the valley system northeast and northwest of Kapyong to be capable of supporting two complete tank companies. G2 reports, prior to 26 April, indicated a possible enemy offensive down the Kapyong axis. Consequently, the Corps Reserve, 27th British Commonwealth Brigade, had been moved to Kapyong on 24 April to back up that sector of the line. Company A, 72d Tank Battalion, was sent to Kapyong to join this unit, closing on 25 April. Officers from this company and the IX Corps Armored Section made a "verification" reconnaissance of the terrain while the company was en route to Kapyong. Possible routes of counterattack, objectives, assembly areas, and attack positions were reconnoitered. As a result of this prior reconnaissance and planning, the tank company, although operating against great odds, materially assisted the 27th Brigade in holding Kapyong. The 27th Brigade and Co A, 72d Tank Battalion, withdrew only on IX Corps' order after units on their flank had been penetrated, making their position untenable. Both the tank unit and the 27th Brigade received Distinguished Unit Citations for this action. The Brigade Commander later asked that this company remain permanently as his "brigade tank unit."

LEGEND


—Areas where from two tank companies to an entire battalion can maneuver cross country except in rainy season.


—Areas where from two tank platoons to one tank company can maneuver cross country except in rainy season.


—Areas where tank employment is limited to single platoons cross country.


—Marshland & Tank Traps.

Unshaded—Areas generally impassable for cross country tank movement.


—Main axes of tank employment.

TRAFFICABILITY CLASSIFICATION FORMULA

$$\text{Tank Capacity (in numbers)} = \frac{\text{Valley width — Unusable space (in yards)}}{\text{(Specific distance between 2 tanks in line of yards)}}$$

$$\frac{\text{Tank Capacity (in numbers)}}{5} = \text{Capacity in Platoons}$$

$$\frac{\text{Capacity in Platoons}}{3} = \text{Capacity in Companies}$$

Units report changes in trafficability (due to rain, etc.) to Hq _____ (Attn: Armored Officer) whenever observed.

In addition to courage and good leadership, prior information of the battle area was instrumental in this success.

In planning for a tank raid in September 1951 south of Kumsong, arrangements were made to alternate the use of M4 and M46 tanks, based on width of mountain passes. The depth of the attack and the continuation of the attack was planned by using M4A3E8 tanks to crack through enemy front lines initially, having engineers widen the passes and sending the M46's through behind the M4A3E8's into the valleys in order to concentrate all available tank power on the final objectives.

Summary

It cannot be overemphasized that mere road and trail information is not sufficient for satisfactory planning. The actual cross-country maneuver capacity of each area must be determined prior to making operational plans. Also, terrain and trafficability studies cannot degenerate into mere map studies, but must reflect accurate and up-to-date terrain conditions. In addition, engineer studies of areas of operation that have been made years previously from topographical maps must be carefully re-evaluated, since they are generally accurate only as to whether there are mountains or valleys in an area. However, they do provide an excellent guide for planning the study by indicating the areas that might be trafficable and enabling the responsible individuals to plan their reconnaissance to obtain the necessary data. Whenever line crossers, PW's, and patrols are used as a source of the information, it must be verified.

The armor officer must ascertain that these individuals are sufficiently well acquainted with tanks before the information can be used. In this respect, the credibility of the source has to be evaluated almost the same as a G2 evaluates sources of enemy information.

The Top Command in the Far East

Since this spread was last published in the March-April, 1952 issue of ARMOR, many changes have taken place, and further changes will undoubtedly occur, even as this is written. The one of prime importance and most dramatic, of course, was the cessation of hostilities: that is, the end of the shooting war. We, likewise, see an entirely new array of faces. It is a fact that not one key commander who appeared here on this page last year is currently in that critical area. Once again, as stated in the July-August, 1953 issue of ARMOR, this is a tribute to the wealth of top command personnel available to the United States armed forces. In addition to the Army personnel depicted hereon, ARMOR recognizes and pays tribute to the contributions made by its sister services in arms; however, space does not permit the mentioning of all those who were so deserving. Yes, the shooting stage has stopped, but we must not forget the vital importance of the area that so recently has required dearly of our blood and treasure.—THE EDITOR.

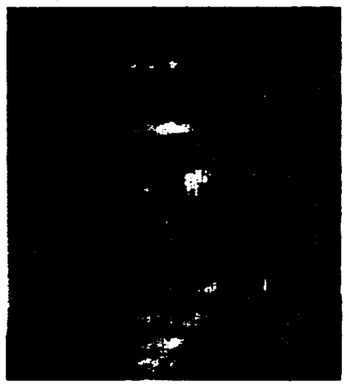
U.S. Army Photos

FAR EAST AND EIGHTH ARMY COMMANDERS

Gen. Mark W. Clark
Commander in Chief, Far East

Gen. Maxwell D. Taylor
Commanding General, Eighth Army

THE CORPS COMMANDERS



Lt. Gen. Bruce C. Clarke
Commanding General, I Corps

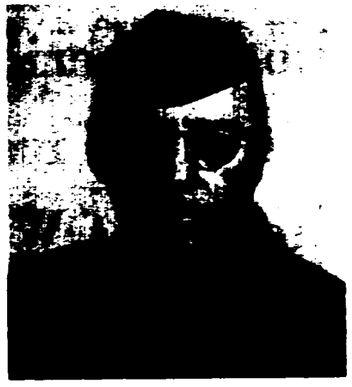
Maj. Gen. Thomas Hickey
Commanding General, IX Corps

Lt. Gen. Reuben E. Jenkins
Commanding General, X Corps

Maj. Gen. Samuel T. Williams
Commanding General, XVI Corps

THE DIVISION COMMANDERS

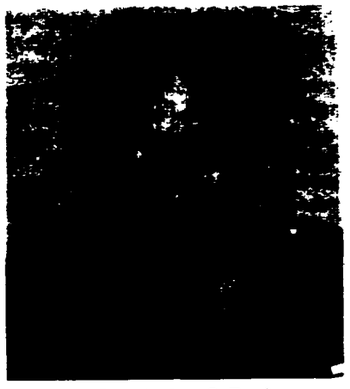
Maj. Gen. Armistead Mead
CG, 1st Cavalry Division



Maj. Gen. Randolph Pate
CG, 1st Marine Division

Maj. Gen. William L. Barriger
CG, 2d Infantry Division

Maj. Gen. Eugene W. Ridings
CG, 3d Infantry Division



Maj. Gen. Arthur G. Trudeau
CG, 7th Infantry Division

Maj. Gen. Charles L. Dasher, Jr.
CG, 24th Infantry Division

Maj. Gen. Halley C. Maddox
CG, 25th Infantry Division

Maj. Gen. Ridgely Gaither
CG, 40th Infantry Division

Maj. Gen. Philip D. Ginder
CG, 45th Infantry Division

PART ONE

The Revolution: American Military Policy Emerges from the Crucible of War*

by C. J. BERNARDO, Ph.D. and EUGENE H. BACON, Ph.D.

England the Underdog

CONTRARY to the popular belief that the American colonists engaged in an almost hopeless task when they decided to settle the issue in a clash of arms with the might of Great Britain, there were many factors which actually placed the British in the role of the underdog. Without listing these in any category of importance, the following sequence of events will suffice to bear this statement out.

The exchange of fire on Lexington Green was less a spontaneous reaction of a patriotic people against British tyranny than the result of a well-directed and carefully calculated movement to achieve complete independence by force of arms; albeit many Americans cherished the hope as late as July 3, 1776, of a reconciliation with the mother country.

By 1763, the thirteen colonies had learned to subvert their local prejudices in favor of a common bond of union, welded by a community of purpose and aims, when pressed by the dangers of a common foe. They had fought shoulder to shoulder in all the colonial wars since 1689, and three quarters of a century had bred within them a mutual understanding of each other; a spirit of unity which was alien to the ways of Europe.[1]

During this period, largely because of their isolated position from European turmoil and intrigue, they had come to enjoy a larger and ever-increasing measure of political liberty by initiating laws while limiting the power of the royal governors, by control of provincial finance, and by appointing administrative officers despite the contention that this appointive power resided in the governors alone.

These extra-legal privileges went unchallenged while England contended with Louis XIV for control of the continent; and after the Peace of Utrecht, in 1715, this "salutary neglect" was permitted to go unchecked by England's ministers who had grown to view with a measure of suspicion any scheme for taxing the colonies. Nor were they checked in 1756, when England made a determined effort to displace the French in North America. To attempt it at this time would have been folly since full support of the American colonists was not only desirable, but indispensable to British victory.

Keenly aware of the fortuitous implications of these contingencies, the colonial assemblies lost little of their initiative for prying further concessions from Parliament. Throughout the course of the French and Indian War, they displayed a greater eagerness to curtail British authority than to come to grips with the French and their Indian allies, with the result that they strengthened their claim to exclusive control of the purse strings. When they granted money, they prescribed the purposes for which it was to be spent; and often interfered in the command of military forces and removed officers considered incompetent.[2]

In taking advantage of the critical position of England hard-pressed by war in Europe, America, and India, the provincial assemblies dispossessed the Crown of its powers. All were unanimous in giving only the barest assistance for the war effort; and even the most loyal of the colonies refused to subordinate their own interests to those of the King. Compared with this unity of objectives, the thirteen colonies displayed a provincial isolation which defeated the plan of Parliament, accepted by Benjamin Franklin[3] to join the colonies in a military union in 1754. Unmindful even of the repeated threats of coercion from Parliament, the assemblies remained firm in their resolves to refrain from such a union.

After four troublesome years of experimentation with this method of financing the war, William Pitt saw the wisdom of bringing to an end his Government's determination to persuade the legislatures to shoulder their share of the expenses of the struggle. Instead, the colonies were promised reimbursement for their expenditures, and with no restraints and few strings, they threw economy to the winds in equipping and supplying troops. The humiliation of stooping to her colonies was a high price to pay for aid; but added to this, Great Britain was saddled with a tremendous public debt brought about by the most expensive war Englishmen had ever waged. In contrast, the colonies emerged with a comparatively low debt, and greatly enhanced prestige in local self-government. These were no small considerations in the determination of George III to tax his subjects to help defray the crushing debt.

England's experiences in the Seven Years' War clearly indicated the need for a change in colonial policy. The stubborn refusal of the colonies to work together for the benefit of the mother country might prove fatal in another conflict. From the purely selfish viewpoint of protecting the Empire, the King's ministers could no longer disregard the need for a revitalization of the ties that bound the colonies. Few could deny the wisdom of this decision, but fewer still were willing to accept the British formula for bringing about a more perfect union. Having partaken of the fruits of unlimited self-government for almost a century, Americans were prone to guard jealously against any encroachment upon their political and economic independence by means of taxation.

Disregarding the serious consequences that were sure to follow in the train of economic coercion, Parliament undertook to set in motion the series of incidents that would lead to open revolt. It should have been evident to the King's advisers and to George himself, that what England had been unable to bring about in 1756, she could no longer accomplish after the threat of French aggressiveness in America had been eliminated in 1763. While the danger from that quarter remained, Americans were forced to seek the protection of the British Army and Navy. But now this was past, and with it had slipped any hope the British may have entertained for knitting the colonies into a solid union. Unfortunately for the Crown, British statesmanship at that time failed to display the talents of future generations of its leaders on the stage of power politics. The American Revolution was kindled by the fateful decision of Parliament to enforce the financial prerogatives of the Crown.

American objection to taxation was aired primarily because of a universal feeling that it was a scheme to enhance the economic well-being of British merchants at their expense, and secondly because the money thus collected would be used to maintain and subsist large English armies in North America. Each succeeding revenue law, beginning with the Sugar Act of 1764, was met with increased opposition until the flood gates of public indignation were finally thrown open by the Boston Tea Party. This outbreak was precipitated by the notorious Townshend duties of 1767,[4] and paved the way for the Intolerable Acts of 1774,[5] which drew the curtain on the first phase of the bloody melodrama that was destined to last eight years.

Below the surface of this controversy, Americans began to lay the groundwork for a unified effort to dispute the authority of Parliament to tax them without their permission. By 1768, a nonimportation agreement was consummated among the New England colonies, New York, and Pennsylvania; and one year later, their southern neighbors joined the concert. Americans clothed in homespun began to give evidence of a national consciousness.

The uncompromising temper of the patriots in opposition to the Parliamentary policy, coupled with British inability to restrain them, assured the final break. The difficulties encountered by Parliament in formulating and executing American policies were vastly increased by the problems created by time and space, a factor which led Edmund Burke to remark: "Americans were finding that they had a great resource in the incapacity of the mother country."[6] Well aware of their own strength and the utter helplessness of the Crown to execute the laws, Americans could hardly be restrained even by their own local governments. It was only a matter of time until the attempt on the part of Britain to impress her will was bound to be challenged by a show of force.

In 1773, when the British established a Court of Inquiry in Rhode Island to investigate the destruction of the *Gaspee*,[7] the Virginia House of Burgesses sounded the tocsin of rebellion by proposing that committees of correspondence be appointed by all assemblies in America to resist all forms of oppression. In Boston, Samuel Adams met the crisis by organizing a similar committee designed to cover New England with a network of resistance groups, and the middle colonies quickly fell into the pattern of united opposition. (What they had failed to bring about in 1756 the British finally achieved by neglecting to understand the American psychology.) With the destruction of the tea in Boston, the intricate and cumbersome wheels of this machinery were set into high gear, and the British attempt to bring the culprits to justice merely accelerated the effectiveness of these committees.

The closing of the Port of Boston, June 1, 1774, was actually an experiment to determine how far the other colonies would go in giving succor to a sister colony. The Government of George III had not long to wait for the answer. In this emergency, the colonists rallied to the aid of the beleaguered city. Plans were quickly evolved, in an effort to unite the colonies for a common defense, to call a Continental Congress; and while the question of ultimate control over this body remained dubious at the outset,[8] the British were to furnish the solution by the passage of the Coercive Acts during the summer of 1774. The arbitrariness of these laws was sufficient ointment to salve all the petty jealousies existing among the different patriotic elements.

The immediate effect of these Acts was to produce an outburst in Massachusetts which swept all authority before it, and the Boston Committee's call to arms quickly aroused the country against British tyranny. At the same time, patriot leaders utilized this evidence of oppression with great effect by interpreting the Quebec Act as a challenge to religious liberties in America. The blaze spread in all parts at once, observed General

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C. JOSEPH BERNARDO, Ph.D., received his Doctorate at Georgetown University in 1950. He is lecturer on Military Policy of the United States at Maryland University. He is presently on Active Duty with the Office of the Chief of Military History.

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EUGENE H. BACON, Ph.D., received his Doctorate at Georgetown University in 1951. During World War II he served in the European Theater with the 42d Infantry Division. He is presently an Instructor in American History at Georgetown University.

Thomas Gage, "and the mother country began to appear in American eyes as a foreign despotic and Papist power."[9]

As a counter-measure the local Committees of Correspondence issued the call for a Continental Congress to represent the interests of the thirteen colonies.[10] The most important task assigned to this body was the creation of an "Association" to supervise the boycott of English goods and to direct the public support for united opposition. In Boston, General Gage sat upon a powder keg, unmindful of the revolution that had been wrought by the decision of the Continental Congress. Hemmed in on all sides save the sea, Gage could do little except remain in winter quarters at Boston to await further orders, reinforcements, and the Spring season.

What the British commander had overlooked, however. was the tremendous resources in man power that America could count upon; and he, as well as his superiors in London, neglected to attach much significance to Baron DeKalb's report on the militia of the colonies. According to this estimate. the number was conservatively placed at 200,000 men,[11] and while largely untrained in the art of modern warfare, they did possess a working knowledge of small arms. These men, mostly old soldiers, were known, listed, and assigned to units; and the machinery existed, frequently tested, for calling them out.[12] While their training was defective from the viewpoint of existing practice, tactical measures against surprise attack and forest warfare had been perfected to a science since the days of John Smith and Miles Standish.

Moreover, although Americans themselves were generally willing to admit their militia organizations could not compare with those of their British cousins, Englishmen were prone to exaggerate the proportionate difference. Furthermore, it was generally felt in England that American militiamen were no match for British regulars. Few could dispute this fact. But what about the leadership which is a necessary element in any army? Little regard, it seems, was in evidence for American generalship which had demonstrated itself during the late war with France. Twelve general officers of the Revolutionary War had seen service in the French and Indian War, and several others had already been tested as Indian fighters.[13] In addition to all this, individual Americans had proved their mettle under such leadership on more than one occasion. These resources were not easily to be discounted even by proud Britons. And if they were, a healthy respect was soon to be acquired for the pastoral riflemen on Bunker Hill.

Nor could the lack of powder magazines and arsenals be charged as a disadvantage for the patriot cause. Inferiority in artillery weapons was nullified to a large degree by the seizure of many cannon from the weakly garrisoned coast forts, and by the bold exploits of American privateers. Small arms and powder, metals and saltpeter were plentiful; and the numerous navigable rivers and rich agricultural land provided a reservoir of abundance that could permit the assembling and subsisting of large bodies of troops. Compared with these, British troops were few and widely scattered on the eve of the war; and while England could check Americans with a naval superiority, she could be checkmated by the tremendous facilities in the hands of the patriots for building and manning ships.[14] If all this were not enough to impress the British with the futility of attempting armed coercion, every problem of logistics, recruiting, and even of strategy that plagued the American Commander-in-chief had to be multiplied (in the British column) by the distance separating the two continents. Britons proved to be poor students of simple arithmetic.

The British Are Coming

The decision of Thomas Gage, the British General, in Boston, to capture the military stores at Concord gave rise to a spontaneous call to arms implemented by dispatch riders throughout New England and to New York spreading the news of the coming of the British. The men who drew up on Lexington Green on April 19, 1775 in answer to this summons were farmers who knew little of military discipline, but they did know how to make the most of the terrain upon which they chose to fight, and when the bloodshed had ended, they had proved their point with callous effectiveness. There was little left for the small British force but to withdraw to Boston for a much needed "breather."

When news of this engagement reached the southern colonies and the western frontier settlements, the cause of America suddenly crystallized into a national crusade. All were now unanimous (the Tories excepted) in the opinion that British tyranny in any form could no longer be tolerated this side of the Atlantic; and although the men beyond the Hudson River felt little compunction for sending their militia immediately to the aid of Boston, there was no dearth of spirit. Arms were quickly collected, outgoing ships were seized, and men organized for the fight.

The swiftness in which an army was gathered around the Bay city was due chiefly to the efforts of Massachusetts. Some weeks before Lexington, her leaders had taken steps to invite the neighboring New England colonies to join in a proposed Army of Observation; and when Gage struck, chosen delegates were already out on their missions. As early as December, 1774, Rhode Island, acting in accord with the Massachusetts proposal, had made preparations to reorganize her small militia force by amending the old laws to distribute public arms and cannon (seized from Fort George at Newport), and for the dispatch of her militia to the aid of any of the sister colonies. Later in the same month. New Hampshire also seized her share of guns and cannon from Fort William and Mary at Portsmouth, and made preparations to qualify her militia for any ordeal. In Connecticut, the militia was both well-equipped and well-trained and stood ready to march to the defense of the Bay State.[15]

Recognizing the necessity for efficient organization and coordination, Massachusetts assumed responsibility for the forces gathering around Boston and selected the general officers to command.[16] On April 23, the provincial legislature proposed the raising of an army of 30,000 men to be principally drawn from these forces. Of this total, they assigned themselves a quota of 13,600, the rest to be recruited from the other colonies.[17] To encourage recruiting, the Massachusetts Committee of Safety offered the commission of Captain to any man who could bring 56 men into camp, and higher grades in similar proportions. While this new Army was slowly being recruited to serve for eight months, the men who had held the lines since April 19, and who refused to enlist, began to make their way back home. In this manner the minutemen, who had been part of the militia system for over a hundred years, faded out of the picture, giving place to the militia and the continental army.[18]

By the middle of May, the hoped-for enthusiastic enlistment of thousands of men failed to materialize, and the Massachusetts Provincial Assembly began to grow apprehensive in the face of the tremendous responsibility they had so suddenly inherited. The appeal to a stronger power to carry forward the burdens of organizing and supporting this army could no longer be postponed by the Bay State leaders. Traditionally fearful that a powerful military might overshadow the civil authority, reluctant to bear the cause of America alone, and finally admitting the need for a more energetic conduct of military affairs, the Massachusetts Congress, on May 16, appealed to the Second Continental Congress, assembled in Philadelphia since the 10th.

This appeal was prompted more by the fear that Massachusetts could exert little control over a force recruited from other colonies than by a desire to surrender authority to some national body empowered to do the will of thirteen united colonies. In this narrow outlook, the Bay Colony willingly accepted what was considered a lesser evil rather than gamble on the eventuality of a military force which owed obedience to no other authority than the individual colony each component represented. Haunted by this petty provincialism, they appealed to the Continental Congress for advice; and, since this army was for the general defense of all the colonies, "we suggest your taking the regulation and general direction of it. . . ."[19]

Three days later, May 19, the Congress assumed full responsibility and General Artemas Ward was commissioned to command under this new jurisdiction. On the same day, the commissioning of entire regiments was undertaken,[20] but because recruiting was slow they were under strength, and the 30,000 man army remained merely a future quantity. Meanwhile, most of the men in the field were wending their way home. Since the British were not fighting there was no immediate danger, hence no need for them to longer absent themselves from the hearthstone. Furthermore, the fields were in need of attention.

This condition gave rise to many apprehensions on the part of the leaders who were not slow to realize that, despite an apparent victory over the British, they had no army. Around Boston swarmed an unorganized and undisciplined force, its regiments incomplete and companies varying in size; but here, they were sure, was the core of a real force. The weeding out process was deliberate and painful. The militia had to be sent back home to be called out again and again as the need arose; and the minutemen as a body disappeared principally because they had no legal standing.[21] Those who remained did so on a voluntary basis, it being difficult to enlist men who already were registered as militiamen in the various colonies without incurring the displeasure of those colonies. These legal obstacles in the path of enlisting an army from the militia together with all the problems of recruiting and supplies were inherited by George Washington when he arrived on the scene on July 2. But in addition to this he assumed the command of a body of troops that had shattered the legend of the invincibility of British regulars.

Washington Assumes Command and Displays the Wisdom of a Genius

Among the first acts to engage the attention of the Second Continental Congress assembled in Philadelphia was the selection of a commander-in-chief for the armies to be integrated with the heterogeneous force collected before the City of Boston. After affirming the right of each colony to self-government, the provisional government was named the United Colonies with leadership vested in a President. As the visible head of government, the Congress began to act with the authority of law enforced by the revolutionary committees of the colonies. On June 15, George Washington was selected as Commander-in-chief of the armies largely because of the impression he had made upon John Adams as a delegate to the first Continental Congress in 1774.[22]

That this was a happy choice the episodes of the war bear adequate testimony. That it attests to the wisdom of those who made the selection, the judicious use of the power thrust into his hands to uphold and insure American liberties is sufficient evidence. The supremacy of civil authority is the rich heritage Washington bequeathed his posterity, and future generations of military heroes were to emulate this example with all the wisdom of the patriots who lived and died for freedom. But in spite of these manifestations of sincere devotion to duty, the fiction continued to grow in the minds of most Americans that a strong military organization constituted a danger to liberty, and the only safeguard against such a threat was to render such an entity impotent, even if this meant exposing themselves to the mercy of powerful neighbors.

This fear of the military was sharply emphasized by the British insistence on quartering large bodies of troops in American cities before the outbreak of the war; and, while New England patriots seized upon such a vivid example of tyranny as choice propaganda, the effects upon the public mind lingered on long after the war had ended. Congress, in giving expression to the will of the States, insisted upon civil control of the military at all times. This was made clear on October 14, 1774, when the First Continental Congress announced that standing armies within the colonies "in times of peace without the consent of that colony in which such an army is kept, is against the law."[23] This was reaffirmed in June, 1776, when a Board of War comprising six civilians[24] was organized by Congress, and re-emphasized one month later in the Virginia Bill of Rights by the declaration that "standing armies in time of peace should be avoided as dangerous to liberty; and that in all cases the military should be under strict subordination to, and governed by, the civil power."[25] These proclamations of civil supremacy were religiously underwritten by the Commander-in-

chief, who made it clear that he would carry out the will of the Congress even if it ran contrary to the dictates of his own reason.

Whatever power the Continental Congress presumed to exercise with reference to military affairs was neutralized by the insistence of the separate states to retain the right to raise a revenue and to levy taxes. In this contingency, resort was had to the emission of bills of credit, the redemption of which was pledged not by the Congress, but by the "United Colonies." Not only was the ensuing military legislation seriously handicapped by these restrictions, but it was made to depend largely upon the combined understanding of a body of citizens who in their individual experience were totally ignorant of military affairs. In this limited capacity the Congress was called upon to direct the war effort, and on June 14, 1775, it authorized a regiment of 10 companies of riflemen to be recruited from Pennsylvania, Virginia, and Maryland for a period of one year. Thus began the system of short enlistments which was to prolong the war, and thus was introduced the Continental Army.[26]

Two days after this momentous decision, the Battle of Bunker Hill made its imprint indelibly upon the thinking of Americans of that generation and laid the basis for the military philosophy of future generations. This was the proof necessary to convince Americans that standing armies were unnecessary, for here on that June afternoon untrained men engaged British regulars and won a bloody moral victory. Few were willing to heed the warning, however, that the men who fought on Breed's Hill[27] could not have proved their valor without the leadership of those officers, standing shoulder to shoulder with them, instructing them, encouraging them, and directing their fire for maximum effectiveness. The redoubts behind which the pastoral militia gained a measure of comfort and safety, were built under the direction of the trained officers; and, while history cannot deny the courage and fortitude of those men, it has failed to ascribe the accomplishments of the day to the ability of the officers who supervised the erection of the defenses on Breed's Hill.

Filled with an overweening confidence in themselves over the outcome of the battle, the patriots gave free rein to their enthusiasm. All sign of discipline soon disappeared while they waited for the British to give battle once more. Added to this was the confusion attending the appearance of increasing numbers of minutemen and militia from the upcountry and the seacoast towns of the New England colonies who came under the independent orders of those provincial legislatures.[28] When Washington finally arrived on the scene some three weeks later, what his trained eyes saw was not a military encampment, but rather an undisciplined mob respecting no other authority than the officers whom they had elected, and who in turn were restrained in their prerogatives by the electors. In the face of such an unmilitary situation, the Virginia farmer assumed formal command of the Army on the third of July.

On the following day, a general order was issued to the army which at once placed everything upon a new basis and put an end to the divided command that existed in camp:

> The Continental Congress having now taken all the Troops of the several Colonies, which have been raised, or which may be hereafter raised for the support and defence of the Liberties of America, into their pay and service, they are now the Troops of the United Provinces of North America; and it is hoped that all Distinctions of Colonies will be laid aside; so that one and the same spirit may animate the whole, and the only Contest be, who shall render, on this great and trying occasion, the most essential service to the Great and common cause in which we are all engaged.[29]

This meant a complete reorganization of the armed forces in the face of an enemy who might attack at any moment—a dangerous undertaking even under the most favorable circumstances—but here, with little discipline, order, or even government among the troops, it was suicidal. But it had to be done regardless of the hazard.

Washington at once proceeded to organize the Army into three grand divisions with Major General Artemas Ward commanding the right wing at Roxbury, Major General Charles Lee in command of the left, and Major General Israel Putnam in the center. By this Washington eliminated the separate groupings of men, while the troops of each colony were held together as much as possible. In the matter of commissions for field officers, however, he was allowed little discretion, and as he was unable to reward officers for meritorious conduct, congressional appointees often proved more embarrassing than welcome to him. There was little denying that Congress was going to control this army as much as was possible.

Although Congress recognized the necessity for assuming control, they failed to make the Army a permanent organization. This oversight was the result of a general feeling that the war would not be of long duration, and that a reconciliation with Great Britain could be expected hourly; and by the fear that an army of long-term volunteers might be transformed into a standing army which could destroy its progenitors.[30] These reasons were of sufficient moment to limit enlistments to the end of the year.

Such an open display of prejudice against the army was not lost to the sight of Washington, who, hopeful that idealism and patriotism would suffice to induce men to the call of arms, acquiesced in the Congressional policy of short enlistments and opposition to bounties. But, finding himself in the precarious position of seeing his army melt away as the terms of the men expired on December 31, 1775, the Commander-in-chief began to search for means other than patriotism as an inducement to keep the men in the ranks.

However, the soldiers would serve according to the letter of their contract and no more; when their time was up they would go home leaving it up to others to fill their places. This was the system that would prevail at the termination of each enlistment period unless Congress extended the term of service. But Congress was in no position to reckon with reality; their power limited by the will of the States, they could do little more than legislate by resolves which did not carry the authority of law; while the fluctuating character of the American Army became a fixed principle. Despite the earnest appeals of Washington urging the men to remain at their posts, each expiration period would witness whole regiments going back home.

With a hostile army just a few miles distant, Washington looked upon the first of these ominous episodes on the last day of the year. If it had not been for the New England militia and the few remnants of the minutemen who hastened in, to fill the depleted ranks, he would have been left virtually alone; and his disillusionment was not diminished by the sight of the irregular levies who, for the most part, were unaccustomed to the rigors of camp life in the face of an enemy. This transitional period, from one army to another, gave Washington his most trying moments, and as each succeeding year came to an end, his apprehensions were compounded over and over again. As one authority describes it: "Nations at war have often changed generals in midstream, but it remained for the Americans to change armies."[31]

Nor did the chagrin of the commanding general end here. There was also the problem of supply which, because of the absence of proper organization, would not only become progressively worse, but often operated to leave whole units without the bare necessities while others were provided with an abundance.[32] The limited supply of powder was rendered acute by the lack of proper organization, and at critical moments the army often was forced to withhold its fire for fear of running out of ammunition.[33] Coupled with these was the sensitive question of commissions granted by Congress for the new regiments—an issue which never failed to produce a detrimental effect among those men of ability who were passed over. These and many other problems continually plagued Washington, dulled the effectiveness of the Army, and dictated the policy to be followed in the prosecution of the war. In this predicament, there was little advantage in preparing plans, the execution of which would be seriously handicapped by the operation of any number of these deficiencies. Strategy, then, was dependent upon the many vicissitudes which visited Washington from every direction, by land and by sea.[34]

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[1]This feeling of unity reached its high point in 1775. In 1776, when the retributive arm of George III reached out across the Atlantic, each State began to adhere to the age-old dictum of self-preservation, notwithstanding even the Declaration of Independence which at least paid lip-service to the idea of union.

[2]John C. Miller, *Origins of the American Revolution*, Boston, Little, Brown & Co., 1943, p. 39. Hereafter cited as Miller, *Origins*.

[3]This was the Albany Plan of Union.

[4]Miller, *Origins*, p. 243ff.

[5]These were the Quartering Act, the Boston Port Act, the Massachusetts Government Act, the Administration of Justice Act, and the Quebec Act. See Henry S. Commager, *Documents of American History*, New York, F. S. Crofts & Co., 1947, pp. 61-62; 71-76.

[6]Miller, *Origins*, p. 287.

[7]*Ibid.*, pp. 325-329.

[8]Many Americans feared the radical group among them just as much as Parliament's attempt to enforce their authority; and they were reluctant to grant any measure of control over such a Congress to a group that proscribed authority in any form. See *Ibid.*, pp. 368-370.

[9]Quoted in Miller, *Origins*, p. 376.

[10]The first session of the First Continental Congress got under way on September 5, 1774.

[11]Oliver L. Spaulding, *The United States Army in War and Peace*, New York, G. P. Putnam's Sons, 1937, pp. 24-25.

[12]Spencer Mead, "The First American Soldiers," *Journal of American History*, Vol. I, 1907, pp. 122-123.

[13]Spaulding, *op cit.*, p. 25.

[14]*Ibid.*, pp. 24-25.

[15]Allen French, *The First Year of the American Revolution*, Boston, Houghton, Mifflin Co., 1934, pp. 42-45.

[16]These were Artemas Ward, Jediah Preble, Seth Pomeroy, John Thomas, William Heath, and John Whitcomb.

[17]French, *op. cit.*, p. 61.

[18]The minuteman organization was much like the present regular army in principle. It was looked upon as the first line of defense to hold the lines until the civilian components could be brought into the field. This mission passed on to the regular army with the adoption of the Continental Army on June 14, 1775.

[19]French, *op. cit.*, p. 66.

[20]Field rank was bestowed on the basis of the number of companies a man could recruit. This unique method of recruiting and commissioning officers remained the practice until World War I.

[21]On December 14, 1775, Connecticut enacted a law setting aside a fourth part of the militia of that State enlisted for one year on a voluntary basis "to stand in readiness as Minute Men for the Defence of this, and the rest of the United Colonies." See Connecticut, *General Assembly Session Laws, December Session*, December 14, 1775.

[22]Although there were several generals (Philip Schuyler, Horatio Gates, and Charles Lee) with more experience in the command of large bodies of troops, Washington was selected at the instance of John Adams for the effect this would have upon the South in the war effort. See French, *op. cit.*, p. 284. Cf. Thomas G. Frothingham, *Washington, Commander-in-Chief*, Boston, Houghton Mifflin Co., 1930, *passim*.

[23]Commager, *op. cit.*, p. 83.

[24]This Board assumed the functions of a War Department and continued in that capacity until a Secretary at War was selected.

[25]Commager, *op. cit.*, p. 104.

[26]This force, together with the 17,000 men blockading Boston, became known as the Continental Army in contrast to the Ministerial Army.

[27]The Battle was really fought on Breed's Hill.

[28]By this time open criticism of Artemas Ward was rife; although Connecticut agreed to place her troops under his command, Rhode Island refused to surrender her authority until George Washington was selected to command. See French, *op. cit.*, p. 86.

[29]John C. Fitzpatrick (ed), *The Writings of George Washington*, Washington, Government Printing Office, 1934, Vol. 3, p. 309. Hereafter cited as *G.W.W.* On August 11, the Massachusetts Assembly reaffirmed its *Resolve* to place its Army under Continental authority. See Massachusetts, *Records of the Great & General Court or Assembly for the Colony of Massachusetts Bay, July Session*, 1775, August 11, 1775, p. 77. Rhode Island voted in the same manner on June 29, 1775. See Rhode Island, *Journal & Minutes & Proceedings, June Session*, 1775, No. 5.

[30]The question could be debated here. It might well be asked whether the conservative element in the Revolution were not more fearful of the patriots who had demonstrated but little regard for the rights and property of their own numbers during the struggle over taxation since 1763. Was it the fear of the conservatives who lived in constant dread of the explosiveness of the more liberal elements that gave wide currency to the fears of a standing army? John Adams gives some evidence of this feeling in declaring that only "the meanest, idlest, most intemperate and worthless . . . would enlist in the army for the duration of the war. . . ." See John C. Miller, *The Triumph of Freedom*, Boston, Little, Brown & Co., 1948, p. 81. Hereafter cited as Miller, *Triumph*.

[31]Miller, *Triumph*, p. 83.

[32]In his account of the suffering at Valley Forge, Lafayette wrote of the unfortunate soldiers: "they had neither coats, nor hats, nor shirts, nor shoes; their feet and their legs froze . . . and it was often necessary to amputate them." Yet while this was going on, "hogsheads of shoes, stockings and clothing were lying at different places on the roads, and in the woods, perishing for want of teams, or money to pay the teamsters." See William Matthews and Dixon Wecter, *Our Soldiers Speak, 1775-1918*, Boston, Little, Brown & Co., 1943, p. 54.

[33]For a descriptive analysis of the faulty organization of the services of supply see Miller, *Triumph*, Chapter 8.

[34]For a sweeping review of the complex and interrelated problems handled by Washington as Commander-in-chief, see Douglas S. Freeman, *George Washington*, New York, Charles Scribner's Sons, 1952, Vol. 5, pp. 497-501.

NEWS NOTES

Tank Contract Awards Announced

Secretary of the Army Robert T. Stevens recently announced his decision to award a contract for approximately $200,000,000 (M) worth of M48 medium gun tanks to the Fisher Body Division of General Motors Corporation.

The General Motors bid on the M48 tanks was approximately 12 percent lower than the quotation by the Chrysler Corporation for production of the armored vehicles.

"In making this decision, I have conferred with Assistant Secretary Slezak, in charge of Matériel, and with representatives of the Ordnance Corps and the supply division of the Army staff," Mr. Stevens said. "After carefully weighing all of the factors, I decided upon the award as being clearly in the public interest."

Both the Chrysler and General Motors Corporations now are manufacturing the medium gun tank. The Chrysler Corporation will continue to build the M48 at its Newark, Del., tank plant until April, 1954. When production there is discontinued, the company will maintain its machine tools in package storage adjacent to the plant in order that it may resume production quickly if necessary.

Chrysler will continue to be the vehicle design agency for the M48 tank under separate contract.

Three other plants now are making other models of tanks and are not affected by the new contracts.

The number of tanks involved in the new contracts was not disclosed for security reasons. However, Mr. Stevens revealed that the tanks would be built under the new contracts over a period of more than one year.

Former Council Member Dies

Colonel Henry T. Cherry, Jr., 1935 graduate of the Military Academy, and a 1952 council member of the US Armor Association, died at Brooke Army Hospital on the 19th of August. As a tank battalion commander in the 10th Armored Division during World War II, Col. Cherry received the Distinguished Service Cross for extraordinary heroism in addition to the Silver Star with two clusters.

The Patton Stamp

Official information has been received by Headquarters, The Armored Center, Fort Knox, Kentucky, that Postmaster General Arthur Summerfield has designated Fort Knox for first day issue of the General George S. Patton, Jr. commemorative stamp and has set the first day date as November 11th, General Patton's birthday.

The idea for a commemorative Patton stamp was originated by the World Wars Tank Corps Association, which has its offices in Indianapolis, Indiana. Congressman William G. Bray of Indiana presented the request to the Postmaster General who approved it, and it received further approval of President Eisenhower.

Major General J. H. Collier, Commanding General of The Armored Center, has commenced planning for the ceremonies and other preparations. Many high military officers and civilians will be invited to participate in the stamp ceremonies honoring General Patton.

Based on the experience of Fort Bliss' Centennial Anniversary Stamp issue of 1948, the Fort Knox Post Office may well have over forty thousand first day cachets sent to it for cancellation. Total commemorative sales in all probability will exceed one million stamps.

Tank Progress

Progress in the design of military tanks has been as dramatic and startling as the advances made in any other weapons since World War II, according to Robert T. Keller, vice president and general manager of tank manufacturing operations of Chrysler Corporation.

Speaking at the convention of the Fifth Armored Division Association recently, Keller declared that tanks are of more value in modern warfare than they ever have been in the past.

Keller said that military writers are now pointing out that tanks can withstand atomic explosions better than any other weapons system. In addition, he said, tanks can move in quickly to exploit atom-bombed areas with relative immunity from any radioactivity that may remain.

"In the early days of World War II, we learned the value of tanks in modern warfare. And for all the talk of push-button warfare, there is no evidence that tanks and tank men will be any less important in the future," he declared.

Keller credited the design of the Patton 48, the nation's newest medium tank, to the close working relationship developed with Army Ordnance, Army Field Forces, and Chrysler Corporation engineers.

He said that a design coordinating committee made up of members from the three groups has followed every phase in the development of the tank from the drawing board to final delivery of production models.

As a result of this close cooperation, the number of major engineering changes required in the development of the Patton 48 was only one-tenth of the number encountered in the development of World War II tanks, Keller reported.

Salute to the Pioneers of Armor

At the First Armored Division Convention, held recently in Washington, D. C., the theme for the Noonday Luncheon was a salute to the Pioneers of Armor. Many of them were in attendance and many more sent messages of rememberance.

Chief speaker at the luncheon was Lt. Gen. Willis D. Crittenberger, recently retired as commanding general of the 1st Army, who—like many of the other guests—was an armor pioneer in days going back to the old 7th Cavalry Brigade.

Other general officers were Lt. Gen. Geoffrey Keyes, Maj. Gen. Orlando Ward, Maj. Gen. Guy V. Henry, Maj. Gen. Robert W. Grow, Maj. Gen. Robert W. Hasbrouck, Maj. Gen. Frank A. Allen, Brig. Gen. Harry Semmes, Brig. Gen. Lawrence R. Dewey, Brig. Gen. Peter C. Hains, 3d, Brig. Gen. Edward G. Farrand, Brig. Gen. John F. Davis, Brig. Gen. L. Holmes Ginn, Jr. (MC), and Brig. Gen. William S. Biddle.

Each General Officer spoke briefly, paying tribute not only to the First Armored, but to all Armor personnel for their contributions to the successful conclusion of World War II and the strides forward made in Armor subsequent to the War to the present date. Brig. Gen. Robinett, head of the Washington Chapter of the "Old Ironsides" Association, was the chairman of the Host group.

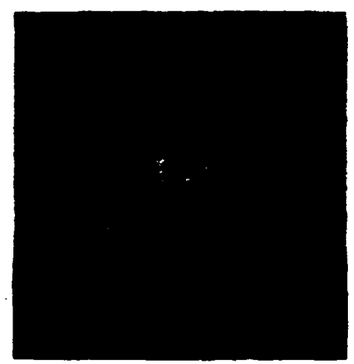
280mm Guns to Europe

A battalion of 280mm mobile guns will shortly be deployed to Europe for use in support of the defense forces. Mr. Stevens, Army Secretary, stated that this is part of established U.S. policy to make available for the support of NATO coalition, highly trained and well equipped balanced forces. "No single weapon will solve the military problems of Western Defense or deter aggression," he stated, as he pointed out that although the 280mm gun strengthens the defense of NATO, it cannot be regarded as a substitute for other weapons and forces.

TOP COMMAND CHANGES

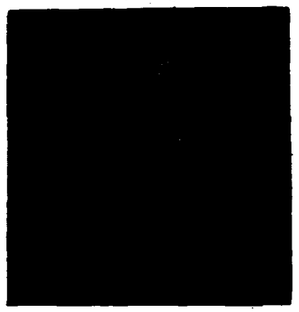
Lt. Gen. I. D. White
To Commanding General, Fourth Army

Maj. Gen. Floyd L. Parks
To Commanding General, Second Army



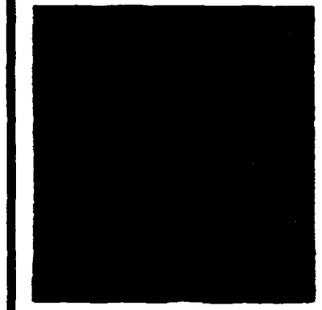
Brig. Gen. William S. Biddle
To CG, First Armored Division

TAPS



Major General Bruce Magruder, United States Army, Retired, died at Orlando Air Force Base, Florida on 23 July 1953 at the age of 70. Enlisting as a Private in the Regular Army, he rose through the ranks to the grade of Major General. Commissioned as a Second Lieutenant of Infantry in 1907, General Magruder was assigned to the Philippines. Following a tour on the Mexican Border he returned to the Philippines. The General's next assignment was to France during World War I. As Executive Officer of the Intelligence Section of the Headquarters of the American Expeditionary Forces, he received the Distinguished Service Medal. Returning Stateside he served on the War Department General Staff in the Military Intelligence Division. Graduating from the Infantry School in 1923 he was assigned as an Instructor at Fort Benning in the Department of Tactics. In 1926 General Magruder was ordered to the Command and General Staff School. Completing his course as a Distinguished Graduate he was assigned in the Office of the Chief of Infantry. In 1931 he was assigned as PMS&T at North Carolina State College. He was transferred to Fort Meade where he commanded the 66th Infantry Regiment, a light Tank outfit. Subsequent to an assignment at the Infantry School he commanded the Washington Provisional Brigade. His next assignment was as the first CG of our First Armored Division.

LAST CALL



General Jonathan M. Wainwright, United States Army, Retired, died at Brooke Army Hospital, Fort Sam Houston, Texas on 2 September 1953 at the age of 70. After formal funeral services at Ft. Sam Houston, the body was flown to Washington, D. C. for interment at Arlington National Cemetery, where he was buried five feet from his father's grave—Major Robert Wainwright. The General's body lay in state in the Trophy Room at the Cemetery—the first tribute of its kind since the burial of the Unknown Soldier of World War I, in 1921. Graduate of West Point in the class of 1906, General Wainwright was commissioned in the Cavalry. Serving in all ranks and at various posts of the Cavalry, he commanded the Third Cavalry Regiment at Fort Myer when he received his first star. He was transferred to the command of the First Cavalry Brigade at Fort Clark, Texas, and subsequently to the Philippine Islands. It was here that General Wainwright gained national prominence as the Commander of all US Forces in the Philippines, succeeding General MacArthur. For five months, his beleaguered forces held out against the Jap first team, for which he received the CMH, and himself became a prisoner of war. For his heroic action at Bataan and Corregidor, it may be said—to borrow a Churchillian phrase—"Never did so many (the U.S. people) owe so much to one man in those bleak days of the war."

How would you do it?

SITUATION NR 1:

You are a reconnaissance company commander in combat. You have discovered that your third platoon performs poorly in comparison with the others. Your platoon leader has a splendid personnel combat record; he won a Silver Star as an enlisted man in World War II and a Soldier during his first tour in Korea in 1950. You have noted that on combat missions he remains in the rear by his radio "to keep the channels of communication open" and sends his men forward. In conversation with him you note that he is completely bitter about the present state of affairs in the world and about human nature in general. He is married but gives no evidence of being bothered by marital problems. His men regard him highly, and obey him readily. They obey others indifferently and seem bitter about their lot. Replacement of this officer is not possible at this time.

What steps will you take to remedy the leadership problem here?

AN ARMORED SCHOOL PRESENTATION AUTHOR: MAJ E S WELLS ILLUSTRATED BY PFC A P ZOELLICK

SITUATION NR 2:

Your second platoon has penetrated the fortified position of the enemy without resistance to discover that the enemy has withdrawn. The platoon leader reports to you and proceeds along the road he has been following. Though the road leads directly into the former enemy positions, he meets no enemy. Unprepared for this total lack of resistance, he runs off the edge of his map into terrain for which only you have a map. He has none.

What instructions will you give him concerning the reporting of his position as he proceeds?

(Turn to next page for solutions)

"How would you do it?" solutions

SITUATION NR 1

1. Show the platoon leader that other platoons have bettered his recent record.

2. Inform him that his negative attitude has communicated itself to his men, injuring their efficiency.

3. Explain to him the dangers inherent in his failure to lead his men. Refer to his past combat record. Tell him he must lead.

SITUATION NR 2

1. Establish as a base point the point at which the road runs off the map.

2. Designate the road as a modified threat line.

3. Indicate his position by speedometer mileage from the base point and his distance from the road right or left in miles.

FROM THESE PAGES

65 Years Ago

In the first number of this JOURNAL there appeared an article under the caption of the "New Field Artillery Gun and Carriage," in which the idea is boldly advanced that "from its lightness it is suitable though not especially designed for horse batteries." The idea that any gun not especially designed for horse artillery purposes is suitable therefor, must from the nature of things, and the practices of every military nation, be denied absolutely. The services required of horse and field batteries are quite distinct and widely separated in their character. It need hardly be specified that in one, mobility is of vital importance, without which a horse battery possesses no value to a cavalry leader; in the other, power of fire is of the first importance, as field batteries have less trouble in keeping pace and place with the movements of infantry, while power and volume of fire are required to meet inanimate as well as more powerful animate obstacles. Without this virtue the infantry commander has little use for artillery. In field batteries both of these elements can be, and frequently are combined, and in several nations a single gun is made to do duty for a single battery which performs the functions of both light and heavy batteries. But in no nation is the same gun designed to do duty as both a horse and a field gun. Everywhere the horse artillery gun is especially and carefully designed and constructed for this particular service alone. The reasons for this are perfectly obvious. The services required must first conform to the demands of the cavalry commander. His all important requisite is, that a horse battery shall under no reasonable circumstance impede his marching and maneuvering abilities, and further that in keeping pace with his arm the horses of the artillery shall maintain as good condition as those of the cavalry. In other words, that in a field of operations practicable for horse artillery its mobility shall be fully equal to that of the cavalry. Naturally the power of the gun is a matter to which he gives less consideration as celerity of movement is the secret of power.

A Horse Artillery Gun

1ST LT. A. D. SCHENCK

50 Years Ago

Another result of the Boer War has been a commission to revise the fighting tactics of the British army, chiefly to provide a method for open order fighting. A radical departure has been made from the present way, which seems to date from the day of Braddock's defeat. We did not have much opportunity to see the new tactics tried, for the orders had just been promulgated, but the formation and deployment seemed very much like our old Upton tactics. There was no using of signals, and the squad leaders caused too much noise and confusion during deployment.

As individuals, the British soldiers were far better than any others over there. They are well set up, smart looking, and get splendid training in the School of the Soldier, and they are learning how to shoot. After some long talks with Boer officers, their criticisms of the British crystallizes into the statement that the infantry during the first two years of the Boer War fired by volley, and that the individual did not know how to shoot. British officers were not well trained in finding the ranges. This applies particularly to the artillerymen. The British shrapnel did not have the proper scattering charge. Its effects were nil against troops behind breastworks. This same criticism might be made against our own shrapnel.

Notes on the German Maneuvers

LT. FRANK R. McCOY

25 Years Ago

In war one often sees one army retreating, another army pursuing. In such a case cavalry is specially suited as a delaying force. Occupying strong points such as villages, railroad embankments, river crossings, woods, etc., it can resist until the last moment, without fear of being cut off, since its horses provide a means of escape. By proper dispositions a small body of cavalry can thus deceive the enemy into believing it is confronted by a considerable force of infantry, thus forcing the enemy to deploy, delaying him in his advance. Close country, much cover, woods, hills, etc., are favorable for such resistance, since the horses can be concealed and surprises made possible. Wooded country was the terrain in which our cavalry forces operated during the Civil War, a war in which the proportion of cavalry to infantry increased every year.

It should not too often be impressed upon the young cavalry officer that it is in the cavalry more than in any other arm that the junior officer, the captain and the subaltern, gains an opportunity for independent action. Both the army that advances and the army which retires or stands fast have their fronts covered by a line of detachments, great and small, of cavalry. In the inevitable collisions which occur, squadron against squadron, troop against troop, platoon against platoon, all the conditions of war, of campaign, of battle are produced in miniature. The officer in command must know when to charge, when to fight on foot; when to attack, when to retreat, or to charge.

The Cavalryman and the Rifle

BRIGADIER GENERAL JAMES PARKER

10 Years Ago

The chief aim of infantry-tank cooperation is to effect simultaneous blows at enemy personnel, support points, and centers of resistance. Such blows can be planned in detail and organized in advance for only the first stage of a battle. Once the enemy front line defense has been broken through and the primary objectives achieved, problems of cooperation must then be solved on the spot in accord with the ever changing battle situation.

The infantry first tries to break-through enemy defenses and take up initial positions for attack as near the enemy front line as possible in order to strike short decisive blows in cooperation with the tanks. On favorable terrain, initial positions may be some 200 meters from enemy trenches. At times, when the general situation and terrain make early concentration along initial positions for attack either impossible or inadvisable, infantry will be brought up while the artillery barrage is still in progress and will be moved forward within a kilometer of the enemy lines.

Tanks must drive through battle formations of infantry while the latter is concentrated along initial positions for attack. This moment in the coordination scheme must be thought out carefully beforehand. Infantry cannot await armored vehicles in initial positions, and tanks in their turn cannot stop until the infantry is ready. The situation may be such that the infantry will be obliged to start the attack immediately after the march. Even in that case, however, it is important to launch the infantry attack simultaneously with the tank attack. The assault begins all along the line at an hour determined by the commanding general. Depending on the distance that they must cover, the tank detachments leave their initial positions at different times, but they attack simultaneously.

Tank-Infantry Attack

MAJOR GENERAL M. KOROLEV
Red Army

The second of a series of articles from Career Management Division intended to answer various queries concerning assignments—school opportunities—openings for special assignments —and diverse questions which officers assigned to the combat arms otherwise might have.

YOUR MILITARY SCHOOLING

OF vital interest to all Army officers, and to the Career Management Division of The Adjutant General's Office, is the program of military education. This follows two general patterns, one designed on a progressive basis to develop the overall potentialities of an officer to the maximum, and the other to provide specialist training in particular fields.

Specialist courses are conducted by the branch schools, and others such as the Army General School and the Army Language School, for the purpose of qualifying officers in a variety of fields: for example, communications, guided missiles, motors, administration, supply, and languages. The various courses are listed in the Army School Catalogue, Department of the Army Pamphlet 20-21, which is published annually. Attendance is by application or selection on a quota basis to meet the requirements of the Army in each particular field.

Of more general interest to all officers, however, is the career type of Army education which begins with the basic courses in the branch schools and extends on an increasingly selective basis to the Army War College which stands at the apex of the Army's military educational system for officers.

The newly commissioned second lieutenant attends the basic course at his branch school where he receives instruction intended to qualify him for duties appropriate to a company grade officer. The basic courses are approximately fifteen weeks in length. Regular Army officers and selected EAD officers commissioned in the Artillery, after a year of troop duty and before reaching four years of service, will attend the battery officer course of approximately 28 weeks' duration. Upon graduation they will be assigned to a different type artillery unit from the one in which they served their initial tour of troop duty.

After several years of troop duty and before accumulating twelve years of service every Regular Army officer, and an annual quota of Reserve officers, will attend the regular advanced courses of their arm or service. All other Reserve officers on extended active duty, and a percentage of Reserve Component officers not on active duty, will attend the associate advanced courses. At the advanced courses officers receive instruction peculiar to their arm or service intended to fit them for duties above the company or battery level. In addition, they receive generalized instruction to prepare them for staff assignments on higher levels.

Following the advanced courses of the branch schools, career education becomes competitive. The first school where attendance is on a selective basis is the Command and General Staff College, which conducts a Regular Course annually for Regular Army officers and two Associate Courses each year for Reserve Component officers. Each branch of the Army receives an annual quota based on mobilization requirements, in proportion to its authorized strength and prescribed mission. Based on current student quotas approximately 50% of all Regular Army officers will, at the appropriate time in their careers, be selected to attend the Command and General Staff College.

Above that college and at the top of the Army's education ladder is the Army War College. Since the authorized enrollment for the 1953-54 course is only 200 officers, it can be readily seen that attendance is on a highly selective basis. Graduation from the Army War College represents completion of the Army's formal education requirement for the assumption of high-level positions in the Army and the Department of Defense, and those which the Army might be called upon to fill with other governmental agencies.

Paralleling the Army's educational system are the joint colleges: the Armed Forces Staff College, Industrial College of the Armed Forces, and the National War College. These colleges are under the supervision of the Joint Chiefs of Staff and are attended by officers of all services. Due to the limited quotas available to the Army, attendance has been confined to Regular Army officers.

In addition to the colleges previously mentioned the Department of the Army accepts invitations annually for its officers to attend colleges of the Navy, Marine Corps, and Air Force as well as colleges of foreign nations. Quotas are limited and attendance is by competitive selection. Each of the foreign colleges is considered as being on a comparable level with one of our own colleges, and graduates are given the same consideration in selection for further schooling as graduates from the corresponding United States college. The foreign colleges presently extending invitations are listed below together with the comparable level United States college.

National War College or Army War College Level

British Imperial Defence College
Canadian National Defence College
French Ecole Superieure de Guerre

Armed Forces Staff College Level

United Kingdom Joint Services Staff College

Command and General Staff College Level

Australian Staff College
British Staff College
Canadian Staff College
French Ecole Major d'Etat
Indian Defence Services Staff College
Italian Army War College
Pakistan Staff College

Other schooling, above the branch level, of increasing importance is graduate level schooling in the physical and social sciences under the Army civil schooling program. A subsequent article will cover this program in detail.

In view of the number of inquiries received by the Career Management Division, it might be well to discuss what is meant by competitive selection. All officers of a branch, in the zone of consideration established by the prerequisites for attendance at a college, are considered competitively within each branch. In order to select, from the large number of officers in the zone of consideration, a limited number to fill the quota of a particular college, it is necessary that all officers in the zone of consideration be arranged in order of merit according to their existing records. Many factors are employed in developing such a list. These include command and staff experience; combat duty; experience on school staffs and faculties; previous military education; civilian components and assignments; duty with military missions as military attaché, and duty with joint staffs or other services; promotions, demotions, and disciplinary actions; efficiency ratings; and age and years of service.

It is recognized that the question uppermost in the minds of those who aspire to attending various schools concerns the methods of actual selection. Detailed explanations would be extremely difficult. The records of all officers in the eligible groups are scrutinized by mature and unbiased officers. The qualifications of each are checked off on work sheets. Great weight is given to command experience and demonstrated leadership. The broad pattern of an officer's experience is considered and the degree to which officers have met demands that would seem to index this future potential are evaluated with care. And of course the officer's overall efficiency index for the past five years of service, as determined from efficiency reports, carries great weight —but this is not the sole deciding factor. The method can be summed up as careful, unbiased selection based upon best available information, weighing carefully the qualifications and interests of the individual officer and the requirements of the Army. All officers can take comfort from the fact that political pressure has no weight whatsoever. The Career Management Division is always interested in receiving information as to the merits of different officers and when recommendations are submitted by senior officers they are of course evaluated with care. However, the final decision is based upon the officer's overall qualifications and his future value to the service.

IN THE NEXT ISSUE:
ROTATION
OF
ASSIGNMENTS

It is not necessary that an officer submit an application for attendance at one of the service colleges. Officers are considered by their arm or service automatically from the time they become eligible until they pass out of the zone of consideration. Moreover, selection is without regard to geographical location or assignment. However, officers desiring to attend Air, Navy or Foreign colleges in preference to an Army college, should indicate such a desire on their annual preference cards.

Eligibility prerequisites for the Army and Joint colleges may be found in SR 350-20-1, SR 350-195-1, and DA Pamphlet 20-21. Prerequisites for the Air, Navy, and Foreign colleges are similar to Army colleges of comparable level. Outstanding officers may be considered for selection for a service college although they do not meet all the prerequisites for that college. Whenever, in the opinion of the Career Management Branches, an officer is outstanding and places high competitively in all other respects, a waiver is considered for the prerequisite in which he is lacking. Thus, every effort is made to select those officers most qualified who possess the greatest potential value to the service.

Due to the limited quotas, a relatively few officers will attend the high level service colleges. It must be pointed out, however, that schooling is only one means of developing potential leaders. As in the past, a number of outstanding leaders will be developed from those who may not attend a service college but who, through on-the-job training and a diversity of career broadening assignments subsequent to school eligibility, indicate by actual performance of duty a potentiality for high level command and staff positions.

This last facet of career development deserves great emphasis. It is an obvious fact that all officers cannot expect to attend our top military schools and it is equally evident that some of those selected will not necessarily prove to be our ablest officers in time of emergency. Human qualifications are not susceptible to such accurate evaluation and as a result the next emergency will find many officers who were not selected for higher schooling, who may make their way into the select group of general officers who guide our Armies in time of war. The relatively recent past is complete proof of this statement. Not all of the large number of officers who had distinguished records and the advantage of high military schooling during World War II met the requirements for wartime general officer rank, while others without such training rose to some of the very highest positions of responsibility. One of these officers who were not selected for higher schooling is General James A. Van Fleet. His distinguished record of battle leadership and civil administration should be a comfort, inspiration, and guiding influence for many who now feel a sense of frustration for not having been selected to receive more advanced schooling.

ARMOR ASSOCIATION NOTES

SINCE the annual meeting of the United States Armor Association at The Armored Center, Fort Knox, on January 30th, two special meetings of the Executive Council have been held.

The first of these meetings was held on the 31st of March. A resolution was proposed by the Association. (This resolution appears elsewhere on this page.) It was circulated, late in May, to all other branch associations for their consideration. As indicated in the context, it was intended to invite attention to the advantages of an Army-wide overall organization, devoted to the interests of the Army of the United States.

It was not intended that this proposed organization take the place of any existing branch organization, all of which serve very specific purposes within their respective spheres.

Instead, it is felt that a combined effort of all branches, including not only the combat arms but also the technical and administrative services, could serve well to represent the Army with a dignity and strength otherwise impossible.

The sole purpose of this proposed organization is to enhance the prestige of the Army of the United States.

Changes in Membership Provisions

The second meeting was held on the 31st of July. At this meeting a discussion was held concerning the modification of the membership restrictions for the Association. A committee was established to investigate the matter further and to submit recommendations at the next meeting. Prior to final action, any change will have to be submitted to the membership for a vote in view of the fact that it involves a change to the constitution.

Overseas Council Advisory Boards

Owing to the return to the United States of Generals White and Read, it was necessary to appoint new chairmen for the Overseas Council Advisory Boards. Lieutenant General Bruce C. Clarke replaced Lieutenant General I. D. White in the Far East, and Major General L. L. Doan replaced Major General George W. Read, Jr. in Europe.

At present the members of the Council Advisory Boards are:

European Theater

Major General L. L. Doan, 2d Armored Division
Brigadier General Hamilton H. Howze, 2d Armored Division
Colonel Charles E. Brown, 19th Armored Cavalry Group
Colonel Raymond W. Curtis, 14th Armored Cavalry Regiment
Colonel Harold C. Duval, 6th Armored Cavalry Regiment
Colonel William E. Eckles, 2d Armored Cavalry Regiment

Far Eastern Theater

Lieutenant General Bruce C. Clarke, I Corps
Major General Arthur G. Trudeau, 7th Infantry Division
Major General Gordon B. Rogers, MAAG, Korea
Brigadier General John C. Macdonald, MAAG, Formosa
Brigadier General William J. Bradley, 1st Cavalry Division
Lieutenant Colonel Robert B. McRae, 89th Tank Battalion

The Annual Meeting of the United States Armor Association, will be held at Fort Knox, Kentucky, late in January, 1954. General Matthew B. Ridgway, Chief of Staff, United States Army, has been invited as the guest of honor and principal speaker.

Plans for Next Annual Meeting

The next meeting of the Executive Council will be held on October 2, in Washington, D. C., at which time plans will be made for the annual meeting to be held at Fort Knox.

RESOLUTION

WHEREAS the modern ground army is a carefully balanced force of many combat arms and technical services, and

WHEREAS cooperation and teamwork among the many combat arms and technical services form the basis for battlefield success, and

WHEREAS for many years the professional military associations of the respective combat arms and technical services have through the promotion of branch understanding, contributed substantially to the effectiveness of the army team, and

WHEREAS there exists no professional military association with periodical in which all members of the combat arms and technical services may meet on a common ground

NOW, THEREFORE, BE IT RESOLVED, that the United States Armor Association propose consideration of the formation of an Army-wide military association to operate in the general area outside of existing branch associations, with membership to be open to all military personnel, irrespective of branch, rank, or existing affiliation, and

BE IT FURTHER RESOLVED that the proposed association be organized, not to replace any of the existing branch associations, but to supplement them instead and thus contribute to further unification within the Army, and

BE IT FURTHER RESOLVED that the proposed association be in addition to and separate from the existing branch associations, representing the overall Army view and dedicated to the interests of our country's defense.

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Stilwell's Mission to China

STILWELL'S MISSION TO CHINA. By Charles F. Romanus and Riley Sunderland.

Reviewed by THEODORE H. WHITE

This correspondent has been following the United States Army at home, in Asia, and in Europe for some fifteen years—a period long enough to have inured him against any surprise at its multifarious activity. Certainly, no demonstration of its courage should startle him.

Rarely, however, have I observed an act of greater bravery performed by the United States Army than that of publishing, as one of its official histories, a book called *Stilwell's Mission to China* by Charles Romanus and Riley Sunderland.

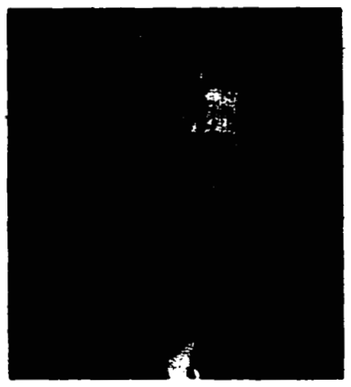
This book is much more than the usual army treatise on a theater, a campaign or a mission. It is more than a generous and long-overdue tribute to a great soldier. It is an honest, bare-handed examination of the most explosive subject of American foreign policy—our relations with China and the Generalissimo of the Chinese armies, Chiang K'ai-shek. In this political mine-field, on whose booby-traps so many distinguished American careers have been blown to bits, even the hardiest civilian writer proceeds with caution. The army's historians have, however, charged ahead uncovering documents, exposing scandal, revealing truth in the most hotly-debated area of American emotion as if completely unaware of and indifferent to the political peril or disturbance of their action.

The justification of this attitude is, of course, simple. Histories are written to tell the truth so that those who come after may learn and benefit. *Stilwell's Mission to China* is written

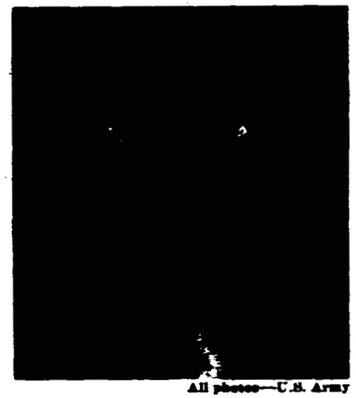
The Reviewer

Theodore H. White, European Correspondent for *The Reporter*, is Editor of *The Stilwell Diary* and co-author of *Thunder out of China*, a 1946 Book-of-the-Month Club selection. His latest book, entitled *Fire In The Ashes*, is a current Book-of-the-Month Club selection. It is the result of five years study in Europe.

The Authors



Charles F. Romanus, noted historian, and co-author of the book, Stilwell's Mission to China, served as an Historical officer in the China-Burma-India Theater during World War II. He is presently in the Historical Section of the Quartermaster General, Department of the Army.



All photos—U.S. Army

Riley Sunderland, noted historian, and co-author of Stilwell's Mission to China, served in the Historical Section, Headquarters US Army in India. He is presently a member of the writing staff of the European Section, Office of the Chief of Military History, Department of the Army.

Stilwell with his trademark, the old campaign hat, arrives at Chungking airport.

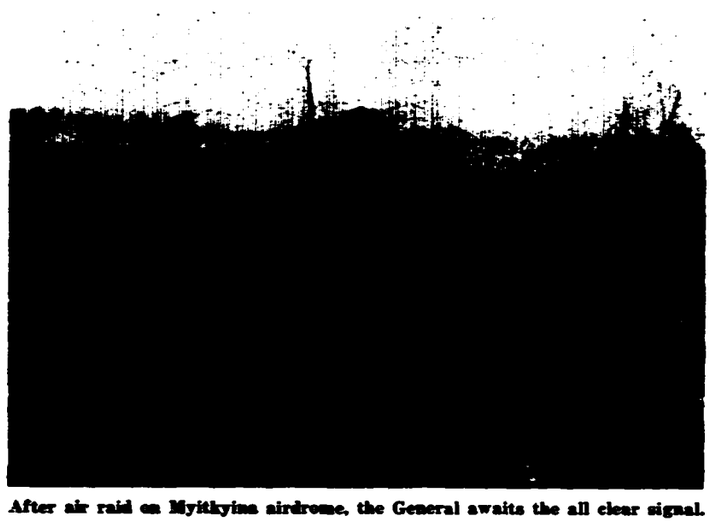
not to entertain, or to curry favor, but simply to illuminate the chief problem the United States Army faces in the future. The best definition of this problem is probably that of General Alfred M. Gruenther, SACEUR at SHAPE, who declared offhand one day "there are only two kinds of wars—Indian wars and coalition wars. All wars of the future are coalition wars and we have to learn how to fight them." In learning how to seek Allies in coalition, hold them, and fight effectively by their side, we have, by now, solved the problem of coalition in Europe by such enormous structures as SHAPE and NATO. We have not yet solved the problem in Asia. And any soldier whose career brings him to decision and action in the Orient might well begin his search for a solution with a study of the Romanus-Sunderland work.

The story of *Stilwell's Mission to China*, though heavily detailed and documented with complex scholarly precision, is, essentially, a simple one. It is the story of how the United States sent Joseph Stilwell to shake alive the vast, pulpy mass of Chinese soldiery under Chiang K'ai-shek, "to improve its combat efficiency." Strategically, Stilwell's mission was to create a supply system across India in order to support an effective Chinese army which might win back the continental land mass the Japanese occupied, and provide a platform on the China coast for sea and airborne assault on the Japanese homeland.

As is proper and demanded by the record, the authors begin their story not on that day in February, 1942 when Joseph Stilwell left Washington for Asia, but early in 1940 when the United States first began to seek the re-vitalization of the Chinese armies as a counterweight to Japan in the Orient.

For a year and a half before Stilwell set out for China on his grand mission, long before Pearl Harbor, the United States had been wrestling with the problem of equipping and training the Chinese armies. All the elements of the problem that were later to plague Stilwell and cause American politics to boil were already present. There was the simple, technical Chinese ignorance of modern war—their insistence, for example, on American delivery of tanks which could not possibly traverse the light bridges of China and Burma. There was the irrational element of face, the refusal of the Chinese to accept standard American rifles which they desperately needed because they would lose "face" if they did not get the new Garands of which the U. S. Army was critically short itself. There was the discovery of the great graft system, then flourishing about the Burma Road, China's lifeline, clogged with private cargo, profiteering, and official racketeering and red tape. There was, finally, the flair of the Chinese nationalists for Washington intrigue, and their discovery that the Army of the United States could be circumvented in political maneuver in the White House, the Congress and the press.

By January of 1942, when the United States was already in the war, the situation in Asia had become so grave that drastic measures were needed. Jointly, Secretary of the



After air raid on Myitkyina airdrome, the General awaits the all clear signal.

Army, Henry L. Stimson, and Chief of Staff George C. Marshall, decided that the war in the Orient was so critical as to warrant the transfer of General Joseph Stilwell (already assigned to prepare and command the North African invasion) to be Chief of Staff to Chiang K'ai-shek and Chief of all U. S. Armed Forces in China-Burma-India. His mission was to pull together the war effort on the Asian mainland, or, as his blunt diary records "get various factions together and grab command and in general give 'em the works."

The main narrative of the Romanus-Sunderland book falls, thereafter, into three natural sections.

First, is the account of the Burma campaign of 1942 and the evolution of strategy in the year and a half that followed. This account is chiefly valuable for the light it throws on Stilwell's qualities as a tactician and field soldier, superb qualities doomed to be wasted as was so much other talent in the swamplands of Asian politics.

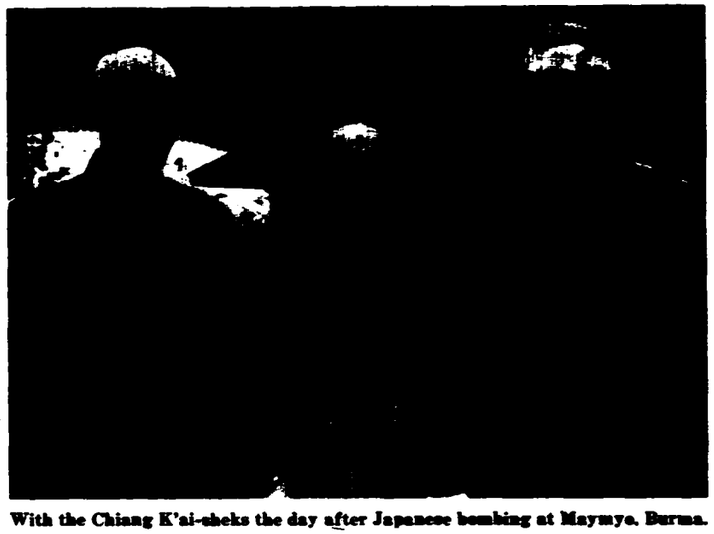
Next comes the chronicle of Stilwell's effort to wrestle his reluctant coalition partners—the British and the Chinese—into offensive action.

Here, in this section, the authors, with access to all the army's documents, offer a picture of Chinese Nationalist life and morals which is all the more devastating for the dry and wooden exactitude with which it is set down. To make a Chinese Army out of the sick and hungry peasant conscripts that Chiang offered him after endless delays, Stilwell found himself plunged deep in Chinese politics. He found, for example, that General Lo Cho-ying (one of Chiang's favorites) sent to command the new Chinese Army being trained and equipped by Americans in India wanted 450,000 silver rupees (his soldiers' payroll) paid in a lump sum to him each month, "the customary procedure," as the authors drily point out, "which permitted large amounts to stay in the commanders' pockets." When Stilwell insisted that the 270,000 rupees (all that was actually required in soldiers' pay) be paid directly to the soldiers themselves, Lo was infuriated and had to be relieved and returned to China.

All down the line, Stilwell's subordinates found themselves caught in the same racketeering system, a compound of cupidity and China's endless poverty. Scores of facts—some humorous, some grim, some tragic—are fitted into a mosaic picture of the Chinese war effort. Chinese officers tried to shake down civilian contractors working on American projects. On several occasions truck drivers on American-supplied trucks drained the brake-fluid to sell in the black market. On some American building projects in China it was necessary to count the nails issued to carpenters and account for every one driven in. American officers attempted to teach the Chinese modern artillery fire methods at an artillery training center: they found the pack-animals in wretchedly poor condition. Says the Army report on the situation "The Chinese are very reluctant to graze their animals for fear of losing both animals and soldiers through desertion."

To one who, like this correspondent, served in the war area at the time, some of the facts first published now

Stilwell looks across parapet of General Merrill's command post at Myitkyina.



With the Chiang K'ai-sheks the day after Japanese bombing at Maymyo, Burma.

are heartbreaking. Such, for example, is the revelation that during the eight months from July 1942, to February 1943, when American boys were dying flying old transport C47s across the great Himalayan spurs called the Hump, nearly one-tenth of the supposedly essential war supplies they were ferrying consisted of bales of Chinese paper currency, printed in America on demand, to keep Chinese inflation going on crisp, crinkly new banknotes.

The authors record, though with lesser detail, Stilwell's problems with the British and the tedium, inertia, and red tape of the Indian colonial system that clogged his supply lines and paralyzed his preparations for attack. It should be noted, to the authors' credit, that all these facts are set down cold in this book, without malice or bitterness, as much in pity as in devotion to the task of informing America.

The last and most dramatic section of the book concerns itself with the conflict over strategy between General Stilwell and his nominal subordinate General Claire Chennault. This conflict centered on the familiar clash between the advocates of air power and ground forces. Chennault claimed that his heroic handful of planes, banded in the China Air Task Force, were the only American striking force close enough to Japan's vitals to hurt. Further, he claimed that, given enough supply, his Task Force could so cripple Japanese shipping lanes with sea-sweeps off the China Coast as to cause all the Japanese Empire to fall apart. Stilwell insisted that if Chennault's raiders—based in East China—ever began to hurt the Japanese seriously the Japanese would react in a massive land campaign to wipe out all the airbases within range of the coast, and that the Chinese ground forces were incapable of stopping such a push. The hub of the struggle revolved about the Hump's limited air-transport allocations. Both Chennault and Stilwell required the same supplies for their strategy—the limited air-cargo hauled over the Hump. If sufficient equipment and training supplies were apportioned to regalvanize the Chinese armies, not enough would be left to fuel and arm Chennault's planes. On the other hand, if sufficient quantities were apportioned to give Chennault his chance, not enough would be left to support the Chinese ground forces against the Japanese attack the planes would provoke.

This argument was common knowledge in the C-B-I theater at the time and was honestly, if heatedly, debated by dedicated men. Both the Chennault and Stilwell theses could be sustained by valid argument. What was unknown then and is here revealed for the first time are the full details of the method by which Chennault won his victory over Stilwell. With the support of the Chinese

Pausing for a breather, the General chats with E.M. on North Burma front.

At the C.P. of the 77th Infantry Division during an inspection trip on Okinawa.

government against Stilwell, and with the aid of personal friends in Washington, Chennault, by 1943, had come into direct communication with the White House. Indeed, by early 1943, President Roosevelt had invited Chennault to write and communicate with him directly, by-passing not only Stilwell, but Marshall and Stimson as well. In such a situation, Stilwell's effective command of his own theater was impossible and, at this point, in the fall of 1943 the authors end their history of Stilwell's mission.

It is regrettable, but understandable, that the authors should have chosen this period to bring *Stilwell's Mission to China* to a close. The dramatic events that followed in 1944 in China are so intricately involved in contemporary politics that not for many years will we be able to review them dispassionately. Great success was to follow in 1944 as Stilwell forged the crack Chinese armies which drove the Japanese out of northern Burma and proved, as we have learned since to our sorrow, how well the Chinese can fight when efficiently led. Great disaster was to follow, too, as Chennault's planes stepped up their raids on Japanese shipping and provoked the massive Japanese East-China campaign which cost us all our coastal bases as Stilwell had predicted. And, finally, personal tragedy was to cap Stilwell's mission when, in October 1944, he was relieved of command and sent home because of his prophetic conclusion that China would ultimately fall under Communist and Russian leadership in the future unless the U. S. immediately forced Chiang to reform or replaced him with other Chinese leadership more able to serve Allied ends.

All these historic events of 1944 are excluded by the arbitrary ending of this book. But their background and sources are so clearly detailed and illuminated in the Romanus-Sunderland work that no serious student of the Far Eastern war or politics will, in the future, be able to hold an opinion without having read *Stilwell's Mission to China*. The United States Army's Historical Section is to be congratulated for its contribution to learning.

There is no moral or conclusion at the end of this volume, for history when it is best written lets every reader make his own judgment. The lay reader will probably end this book with the inescapable lesson that wars and coalitions are not matters of military technique alone. He will learn that the greatest military talents can come to naught unless they are supported by wise and effective political leadership. He will learn that no soldier, however brilliant and dynamic, can succeed unless great civilian statesmanship offers him reciprocal wisdom and loyalty.

The lessons of history should never be forgotten.

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