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*a master of mobile warfare . . .*

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**With a Foreword by Captain B. H. Liddell Hart**

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# ARMOR

*The Magazine of Mobile Warfare*

Continuation of THE CAVALRY JOURNAL

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Volume LXI

JULY-AUGUST, 1952

No. 4

## CONTENTS

LETTERS TO THE EDITOR	3
RECONNOITERING	4
THE ATOMIC BACKGROUND	6
FROM THESE PAGES	13
THE PATTON 48	14
EDITORIAL	18
SUM & SUBSTANCE	20
By Lt. Col. Edward E. Cleveland, Capt. J. T. Raley, Capt. Frederick A. Plummer and Capt. Lloyd E. Smith, Jr.	
ARMOR'S NEW FORGE FOR LEADERS	28
By Lt. Col. Robert E. Hise, Jr.	
DEVELOPMENT OF JOINT OPERATIONS PLANS	28
By Colonel William H. Grosser	
BATTLEFIELD BUNKER BUSTING: A PICTORIAL FEATURE	32
TASK FORCE CHROME AT CHIP-YONG-NI	34
By Lieutenant Colonel George E. Pickett, Jr.	
OPERATION FLEABONE	38
By Captain Richard W. Struff	
AN OFFICER AND A GENTLEMAN	39
By Don E. Ryan	
ARMOR NOTES	43
THE 1952 ARMOR OFFICER CANDIDATE	46
By L. B. Kohlmeier	
FEDERAL RECRUITING AND DRAPING IN THE CIVIL WAR	51
By Dr. Francis Alfred Lord	
WHAT WOULD YOU DO?	58
THE BOOK SECTION	61
PANZER LEADER	61
A review by W. T. R. Fox	

ARMOR magazine is published under the auspices of the United States Armor Association, and is not an official publication. Contributions appearing herein do not necessarily reflect official thought or endorsement. Articles appearing in this publication represent the personal views of the author and are published to stimulate interest in, provoke thought on, and provide an open forum for discussion of military affairs.

Publication and Editorial offices: 1719 K Street, N.W., Washington 6, D. C. Copyright, 1952, by The United States Armor Association. Entered as second class matter at Washington, D. C., additional entry at Richmond, Virginia, under the Act of March 3, 1879, for mailing at special rate of postage in Section 34.40, Act of October 3, 1951. Terms: Domestic subscriptions, including AFO's, \$4.75 per year. Foreign, including Canada & Pan America, \$5.50 per year. All subscriptions payable in advance. Single copies, 85c.

# AMERICAN FOREIGN POLICY AND THE SEPARATION OF POWERS

by Daniel S. Cheever  
and  
H. Field Haviland, Jr.

A glance at today's headlines gives ample evidence that the weakest and most critical link in the process of making United States foreign policy is the relation between the White House and Capitol Hill. The authors of this book describe how, under our present constitutional and administrative setup, United States foreign policy is made; show, with pointed case histories, how the system has in the past failed to operate successfully; and make urgent and cogent recommendations for the revision of our present procedures so that the United States may achieve the dignity and efficiency in her foreign policy making that is required by her position as one of the two world powers. The division of authority between President and Congress on foreign-policy questions promises to be a major election issue this year.

\$3.75

## LETTERS to the EDITOR

### Armor Association ROTC Recognition

Dear Sir:

As an officer who received his regular commission via the ROTC Honor Graduate Program (University of Georgia, 1948) I'd like to congratulate ARMOR and the U. S. Armor Association for their inauguration of the Armor Association awards to outstanding senior cadets in Armor ROTC.

Why not go a step farther and set up some sort of program whereby the Armor Association would sponsor a trophy to be presented to the outstanding Armor ROTC unit on the basis of a yearly performance, both at summer camp and on the campus. I'd like to throw this out for some discussion to other ROTC officers. And if you should start such a program, count on me for the first contribution toward the trophy.

LIEUTENANT EUGENE M. DUTCHAK  
Hq., 2d Armored Cavalry Regiment  
APO 46

### Combat Recognition for Armor

Dear Sir:

While in Korea this organization was employed in close support of infantry units. In almost every case, equal hardship and danger were shared by infantrymen and tankers. As we look at the situation, all elements of a tank-infantry team should be on an equal status.

The infantryman has his Combat Badge to show for the effort he has expended, while the tanker, who was right up there with the foot soldier, has nothing. The men of this battalion keep asking "Why?" and this is probably the same in any other armored unit. We cannot supply them with the answer.

The demand for recognition as combat tankers is so great that B Company has submitted a suggested design for a

Combat Tanker's Badge. The drawing is by Corporal Pryor C. Mison, Jr.

We are forwarding the drawing to you in the hope that you may be able to supply us with an answer. Or you may be able to give some publicity to the fact that of the three combat arms of the U. S. Army, Infantry, Armor and Artillery, only the infantryman has a distinctive insignia to show he has been in combat.

Any aid that you may be able to give us in our crusade for recognition as "Combat Tankers" will be greatly appreciated.

Sincerely yours,  
LT. COL. VICTOR B. FOX  
CO, 70th Tank Battalion

APO 201



Badge with background field in yellow.

### Reserve Interest

Dear Sir:

I am very much interested in your association and the magazine that you publish. I read every issue, as it is placed on the magazine rack in the Unit Instructor's office, and find it filled with information along armor lines—information offered by no other publication known to me.

I am a Reservist assigned to a heavy tank company in the Organized Reserve Corps. I have been assigned to this company for three years, am now a platoon sergeant, but hope to receive my commission in the near future.

I am enclosing \$8.00 as advance payment for a two year subscription. I

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Advertising: ARMOR is the professional magazine of the United States Armor Association, a nonprofit, noncommercial educational publication. We DO NOT accept paid advertising. Such advertising as does appear in ARMOR is carefully selected by the Editor and concerns only those items which may be considered an adjunct to a professional career.

Manuscripts: All content of ARMOR is contributed without pay by those interested in furthering the professional qualification of members of the Armed Services. All manuscripts should be addressed to the Editorial Office, 1719 K Street, N.W., Washington 4, D. C.

Change of Address: All changes of address should be sent to the Editorial Office in time to arrive at least two weeks in advance of publication date of each issue, which is the 25th day of the odd month of the year: i.e., Jan. 25 for the Jan-Feb issue, Mar. 25 for the Mar-Apr issue, etc.

Index: See bottom of contents page.

trust that I am acceptable for membership in the Association.

Yours truly,  
SERGEANT JAMES W. NEWMAN  
4127 No. Commerce Street,  
Stockton, Calif.

### More on Night Firing

Dear Sir:

In answer to the letter of Lt. Long in the March-April issue of ARMOR, may I offer some comment on night firing. While a member of the Tank Company of 2d Battalion, 6th Armored Cavalry, I took part in night fire training similar to that suggested by Lt. Long.

The 3d Platoon and the Headquarters Tank Section were given a defense situation with the mission of covering bivouac area approaches from armor attack at night. 1st and 2d Platoons were given the mission to advance to contact, then set up a base of fire for infantry dismounted attack along an axis of advance aimed at the bivouac area.

Setting up range cards, using azimuth indicators and quadrants before dark, the defensive team had likely avenues well covered. When the attack team came in view (with noise and M26 back flash from exhaust as target location) the fire fight got under way, with 90mm blank ammo. After the initial planned barrage, targets were picked up by muzzle flash on both sides.

The following evening the sides were reversed. This was followed by service firing at targets picked out during daylight. Tank positions were staked, deflection readings, taken from aiming stakes with lights, were read on azimuth indicators, and elevation readings were recorded by setting direct fire sight with correct range hairline on the center of the mass and then reading the gunner's quadrant. Tanks were moved out of position and returned after dark to their stakes. Three rounds were fired—one center, one L 5 mils add 200, one R 5 drop 200. This gave an area coverage insuring a target hit. WP shots could be seen and evaluated immediately. HE shots were evaluated the following morning.

As a result of this training, our Tank Company can accomplish night fire missions. The necessary training time included 3 hours Instruction on Principles; 8 hours Preparation and Conduct Night Blank Fire (2 nights and 1 hour critique); 4 hours Preparation and Conduct Night HE & WP Fire; total, 16 hours. It pays big dividends.

None of these ideas are new. FM 17-12 covers the subject. However, it is up to junior Armor officers to use their initiative and imagination in training the men they will fight with. It is up to their superiors to allow the full play of that initiative, in training as in combat. It is this very flexibility and delegation which makes our branch effective—on the range and on the battlefield.

LIEUTENANT THOMAS W. STOCKTON  
U. S. MAAG Portugal  
Lisbon, Portugal

### Tanker Reaction

Dear Sir:

While reading the March-April issue of ARMOR I came across a little item that displeased me and I'm sure many other tankers. It was the News Notes coverage of the remarks of the British officer on our tanks and the Centurion in Korea.

I think he is a bit mistaken when he says our tanks are made for Hollywood, not fighting. I've been on an M26 tank for two and a half years, and even though it isn't the latest, I think it's a darn good piece of equipment. I've seen the Centurion, and I don't agree that it's so superior to the M46. I've followed the war in Korea through the Stars & Stripes, and it seems to me that our tanks are turning in a good job on the record.

I wonder what the British officer thinks of the M47 tank, our new medium. I've seen it, and at first look I was pleased, for right there many of us tankers felt we had our dream tank come true. (M47 mediums are in Europe—Ed.)

SERGEANT PHILIP R. KUKLA  
2d Armored Cavalry Regiment  
APO 46



## THE COVER

Seven years ago this July the first man-made atomic explosion rocked the desertland of New Mexico. Since that historic occasion, some thirty atomic instruments have been exploded by the United States, two in actual warfare, the remainder in tests at various proving grounds. ARMOR's cover spotlights a recent Nevada shoot in a series testing tactical application of atomic weapons for the modern battlefield.

# RED FLAG IN JAPAN: INTERNATIONAL COMMUNISM IN ACTION

by Rodger Swearingen  
and Paul Langer

This book tells the story of the Communist movement in Japan from its beginnings almost to this moment. The authors have gathered and correlated a mass of uniquely revealing materials: secret documents of the Imperial Japanese government; Communist Party literature, both official and unofficial; the revealing reminiscences of high-ranking Japanese Communist leaders who have left the Party; and data from Soviet and Chinese sources. Based on this material, the book gives a far more complete account of a Communist Party's underground activities than is available for any other country. At the same time, it presents the first comprehensive view of the operations of another highly secret organization, the Imperial Japanese government's Special Higher Police (the "Thought Police")—the Communist Party's bitter foe. There are also startling revelations about the Japanese Communists and the North Korean Communist offensive.

\$5.00

The average reader of this issue already will have looked over the front cover and turned to page 6 for the tie-in article. What will not be apparent there, is still another story that concerns this issue of ARMOR and our treatment of the atomic subject.

Many months ago we began mulling over a coverage of the obviously significant story of atomic weapons. About three months ago we reduced our thoughts to a coming issue and set down a prospectus. We tagged it to the July-August number (this issue you are reading) and set out to implement our ideas.

We visualized a treatment that would offer, first of all, a general coverage of the facts as released on our military atomic program to date—more or less of a roundup of the odds and ends to come from many sources over a long period of time. That would set the stage. Next we saw an article by an atomic scientist on the more technical background. In company with this we felt that an article by a branch member could put Armor in perspective in the picture. All of this, we thought, should be tied together by an editorial. And finally, the story should be topped out with a front cover to set it up.

With that program lined out, how did we fare?

Let's take the cover first. As you see, it is a full four-color-process photo cover. It is the first to appear on this magazine in its sixty-four years of publication.

A color cover takes time. We had to get it rolling early so that the engraver and the printer would have adequate time to handle it. After deciding that the shot should be color, should be of one of the Nevada tests, and ideally should show tanks in the foreground advancing into a blast area with the familiar mushroom blossoming in the background—after deciding this and doing

lots of digging we got as close to the ideal as possible, the present cover. The Marines, the Infantry and others had their ideal readily available in a good selection of shots. The one blast in which Armor took part in the tactical follow-up situation took place before dawn. We couldn't even fake it.

In designing the cover well in advance of the collection and preparation of the material that was to follow it inside, we had the problem of the limitation imposed in writing the cover caption. The major title, the date and price were easy, but what could be said that was specific and could relate to the inside when so many doubts exist on article content right up to the moment of closing an issue? It could only be general. It's the phrase you see on the cover.

With the cover designed and sent off to the engraver, we reviewed our approaches to article sources. On the scientific end we had gone to a wartime atomic scientist. He agreed to do an article.

On the branch end we had talked things over with a qualified officer presently assigned in the office of the Undersecretary of the Army. He was prepared to do an article.

In the line of getting a qualified person to do a roundup of the atomic story up to the moment, there were difficulties. People were too busy, security was touchy, perhaps some were passing the buck.

At that point we assembled some material, went out digging, tramped a beat around the Pentagon, the Atomic Energy Commission and the Capitol, pulled in more material, got permissions, then sat down on the Independence Day weekend. The result—the editorial story we call "The Atomic Background." What happened to the rest of the program?

We had the articles by the scientist and branch member. We wrote what we thought was a pretty fair editorial pulling the story together. All of this required clearance: and it is even yet in a security check that is time-consuming and extends far beyond our deadline. Whether we will be able to offer the material in a later issue is in doubt. At the present we are reduced to the cold record, which is ready for you when you turn the page.

And so a carefully planned issue just fell to pieces; failed to pan out despite planning and pushing and plenty of time to do the job. This is one of the headaches of magazine making, especially when it is in the military field where security enters the picture to such a great extent.

We had a similar case involving this present issue and its predecessor, the May-June number, on a tank story.

If you recall, we had a front cover and four inside pages, including two of pictures, on the new M47 medium tank. At the time that last issue was making up, the M47 break was an important one, of solid value to our branch. But . . . no one could tell us as we led up to that issue that the story on the M48 would be released in a matter of weeks, and before the next issue fell due. As a result, the M47 got a proportionally larger play than the M48, although the latter, a completely new tank, has greater significance to our branch than the M47, which is more a modification than an original tank.

Getting back to this issue, things were in the air as we pulled in to the deadline with an editorial and two articles redlined. The problem of balance of material remained, the standard slots for editorial features had to be held with some degree of continuity, and a total of sixty-four pages were to be filled.

The moment when an issue is closed and you sit

down to line out the page-up from one through sixty-four is interesting. You drop your conventional features in their usual places and then begin filling from front to rear with your major articles in the order of importance and in keeping with balance. You have the elements of uneven pages to articles; of those articles which should have a two-page open spread to lead off; and of having odd pages that must be filled to even out.

By that stage you will often have counted how many pages of material you have, and will have brought certain features along and let others ride for the next issue; or you may be in a tight fix for enough good material to make up a book.

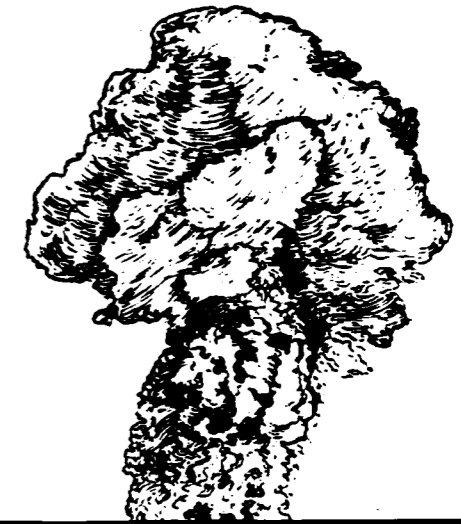
When, on the day before closing this issue, we knew the bad news on material touching upon security, we took stock once again. The total—sixty-two pages. Two short!

Reconnoitering was not figuring in the issue up to then. We had decided to leave it out, as the large number of editorial items in the issue had put the load on us. But we had specified page 6 on the front cover as the atomic story, and we had the page 4-5 slot open for a two-pager, and the space was not required elsewhere, so you are in on this background story of some trials and tribulations.

From your end it may not seem to be an issue that didn't work out as planned. Perhaps you see it as a normal issue although, come to think of it, there is no such thing. For our part, we're inclined to glance over to a copy of *Collier's* that reposes next to our desk with a large batch of material on the little old atom. The cover bills Dr. Ralph Lapp's story, "Too Many Secrets Spoil the Atom." We might add . . . "to say nothing of magazines."

The Editor

# The Atomic Background



Seven years ago this summer  
the first atomic bomb was set off.  
Numbers 2 and 3 were dropped in warfare.  
Today we find attention on tactical application.  
Here are some gleanings from the record on  
this critical weapon which is ever more  
significant to the ground soldier

## CALENDAR OF NUCLEAR DETONATIONS BY THE UNITED STATES

No.	Date	Place	Code Name
1.	July 16, 1945	Alamogordo, New Mexico	TRINITY
2.	August 6, 1945	<sup>1</sup> Hiroshima, Japan	.....
3.	August 9, 1945	<sup>2</sup> Nagasaki, Japan	.....
4.	July 1, 1946	Bikini	CROSSROADS
5.	July 25, 1946	Bikini	CROSSROADS
6.	Spring of 1948	<sup>3</sup> Eniwetok	SANDSTONE
7.	Spring of 1948	<sup>3</sup> Eniwetok	SANDSTONE
8.	Spring of 1948	<sup>3</sup> Eniwetok	SANDSTONE
9.	January 27, 1951	Las Vegas, Nevada	RANGER
10.	January 28, 1951	Las Vegas, Nevada	RANGER
11.	February 1, 1951	Las Vegas, Nevada	RANGER
12.	February 2, 1951	Las Vegas, Nevada	RANGER
13.	February 6, 1951	Las Vegas, Nevada	RANGER
14.	Spring of 1951	<sup>3</sup> Eniwetok	GREENHOUSE
15.	Spring of 1951	<sup>3</sup> Eniwetok	GREENHOUSE
16.	October 22, 1951	Las Vegas, Nevada	BUSTER-JANGLE
17.	October 28, 1951	Las Vegas, Nevada	BUSTER-JANGLE
18.	October 30, 1951	Las Vegas, Nevada	BUSTER-JANGLE
19.	November 1, 1951	Las Vegas, Nevada	BUSTER-JANGLE
20.	November 5, 1951	Las Vegas, Nevada	BUSTER-JANGLE
21.	November 19, 1951	Las Vegas, Nevada	BUSTER-JANGLE
22.	November 29, 1951	Las Vegas, Nevada	BUSTER-JANGLE
23.	April 1, 1952	Las Vegas, Nevada	TUMBLER-SNAPPER
24.	April 15, 1952	Las Vegas, Nevada	TUMBLER-SNAPPER
25.	April 22, 1952	Las Vegas, Nevada	TUMBLER-SNAPPER
26.	May 1, 1952	Las Vegas, Nevada	TUMBLER-SNAPPER
27.	May 7, 1952	Las Vegas, Nevada	TUMBLER-SNAPPER
28.	May 25, 1952	Las Vegas, Nevada	TUMBLER-SNAPPER
29.	June 1, 1952	Las Vegas, Nevada	TUMBLER-SNAPPER
30.	June 5, 1952	Las Vegas, Nevada	TUMBLER-SNAPPER

<sup>1</sup>Only atomic bombs used in actual warfare. Code names still classified.  
<sup>2</sup>Specific dates are classified. In Operation GREENHOUSE during April and May of 1951 it was announced that "tests" (plural) were held; therefore, two blasts are counted. The exact number of tests has never been announced.

### APPROPRIATIONS FOR EXPANSION OF ATOMIC PROGRAM

MR. DEAN. The members of the Atomic Energy Commission are appearing before you . . . [House Appropriations Subcommittee] in support of the President's request for \$3.2 billion of new obligational authority in 1953. All but \$267 million of this amount is needed to build new and additional facilities throughout the entire atomic energy production program. Having a total estimated cost of \$3.9 billion, the proposed expansion program would greatly increase the rate of raw material procurement, fissionable material production, and weapon stockpiling.

We are well aware of the fact that this is no ordinary budget request.

We know that it involves a very large sum of money—the largest single sum ever requested for the national atomic energy program.

We know, too, that it involves a very large construction effort that will inevitably make heavy demands upon many critical skills and materials that are in short supply.

And we know that it comes at a time when other defense expenditures are extremely high. . . .

And yet we have concluded that this request must be made. As a matter of fact, we strongly believe—on the basis of all the information we have had—that we would be grossly derelict in the discharge of our responsibility if we failed to make it, and if we failed to make it at this time. I say this for several reasons:

First, through studies by the Department of Defense we have been assured that a real military requirement exists for the weapons to be produced by this expansion and that they are vital to our national security in the event of all-out war.

Second, through discussions in the National Security Council, we have assured ourselves that this expansion is in keeping with our national interest and our national strategic planning.

Third, through a number of recent developments, we

have assured ourselves of a uranium ore supply sufficient to support an expansion of this magnitude.

Fourth, through studies made by our own people and by the Office of Defense Mobilization, we have been assured that an expansion of this magnitude can be undertaken and brought through to completion without adversely affecting the national economy.

In other words, we have the means for carrying out this expansion program, and the Nation has a real requirement for the weapons it will produce. It is with this firm knowledge that we make this request for funds.

The setting in which this request is made stems from recent revolutionary developments in the field of atomic weapons technology. Through these developments, the whole concept of how atomic weapons can be utilized in warfare has been radically revised.

No longer are these weapons looked upon only as devices to be used in an "Hiroshima-type" way against cities and industrial areas. It is now possible to have a complete "family" of atomic weapons, for use not only by strategic bombers, but by ground-support aircraft, armies and navies.

The Department of Defense is very much aware of this change in concept, and atomic weapons are being incorporated into the operational plans of all three of the armed services.

This, quite naturally, has greatly increased the demand for atomic weapons—to an entirely different magnitude than it was a few years ago.

It is the purpose of this expansion to meet this demand, and to meet it as soon as possible.

We could, of course, meet this demand eventually with the facilities we now have on hand or are building. But we would meet it much later. This new expansion is designed to reach the minimum military stockpile requirement at least 4, and possibly 5 years earlier than would otherwise be the case—4 years in which I think we can be sure the Soviet Union will not be idle.—Gordon Dean, Chairman, Atomic Energy Commission, Before House Appropriations Subcommittee, June, 1952.

## MILITARY REQUIREMENTS IN ATOMIC EXPANSION

**GENERAL BRADLEY.** With your permission, Mr. Chairman, I should like to insert in the record an unclassified brief statement of the views of the Joint Chiefs of Staff and myself concerning the expansion of the Atomic Energy Commission facilities, the budget for which your committee now has under consideration.

We are well aware that this budget involves a very large sum of money and that implementation of the program will make heavy demands upon skilled labor and materials in short supply. This does not deter us from giving our wholehearted support to the expansion program being considered. I am not here to justify a budget. I am here to justify an expansion program.

The basis for this program is the military requirements of the Armed Forces. The basis for these military requirements is the prime objective of our military preparedness program, which is, with the assistance of friendly nations, to avert military aggression, or if it should come, to defeat such aggression.

Today we are engaged in an accelerated program to increase our atomic strength with the hope of promoting an enduring peace. Atomic weapons, because of their complexity, and the numbers and complexity of the plants necessary to manufacture their components, are characteristically the products of a nation with a mature industrial position. However, our industrial potential might be outweighed by a nation with a lesser industrial capacity which can, with a disproportionate effort in the atomic field, equal or surpass our own production. Our effort must be more productive than that of our probable enemy; if this requires an all-out effort on our part, then this is what we must do. But this program is by no means an all-out one. It is the result of a carefully calculated analysis of the role of atomic weapons in augmenting our military capacity to meet our minimum requirements in the shortest practicable time.

We place enormous reliance on atomic weapons to provide for our national security. Our present plans are based upon maximum exploitation of these weapons. These plans include the end products of the proposed expansion program. Failure to get this program, in its entirety, under way at the earliest possible moment, will have a seriously crippling effect on military plans and capability.—*General Omar N. Bradley at Hearings Before the House Appropriations Subcommittee, June, 1952.*

### SECURITY CLASSIFICATION AND THE ATOM

Our reliance upon our Atomic Wall to protect our atomic secrets has been shortsighted and costly. We have tried to achieve national security through a Mother Hubbard complex—by locking A-secrets inside thick steel cupboards. In the process, we failed to inquire into the anatomy of a secret, to see if there were, in fact, any secrets or to determine if they could be kept. This policy has not prevented the Soviets from producing the A-bomb, nor will it prevent the Soviets from producing more and better bombs. The lesson for us to learn is that you do not stay ahead of an enemy by stultifying secrecy, but only by a policy of dynamic achievement.

Should we fail to learn this lesson, our Atomic Wall may well prove as deceptive to us as the Maginot line proved to the French.—*Dr. Ralph E. Lapp in Collier's, July 5, 1952.*

### AUTHORITY TO USE THE A-BOMB

*Who can direct that atomic bombs be used militarily?*

Only the President has the power to authorize military use of the A-bomb. Strict procedures have been established to ensure that no lesser individual is in a position to order its use.—*Dr. Ralph E. Lapp in Collier's, February 16, 1952.*

### THE A-BOMB AND KOREA

*Why wasn't the A-bomb used in Korea?*

Fundamentally because there were no really good tar-

gets for it. North Korea did not present any appropriate strategic cities as targets, and the battle front stretched over many miles of mountainous terrain. Chinese Communists and North Koreans were strung out in valleys and on hillsides, very often well protected in deep shelters. It would have been a waste of atomic ammunition to use the A-bomb. Furthermore, it would have added fuel to the Communist propaganda fire about the American "aggressor."—*Dr. Ralph E. Lapp in Collier's, February 16, 1952.*

### A-BOMB EFFECT ON A DIVISION

*Can one A-bomb wipe out a whole enemy division?*

Theoretically, yes; practically, no. If the 10,800 soldiers comprising a Red Army rifle division were to be drawn up for parade-ground drill in close-order formation, then a single well-placed A-bomb would annihilate the entire division. Some congressmen, returning from the Nevada A-tests, have made fantastic statements about the tactical A-bomb, based largely upon a misconception of how soldiers are arranged on the battlefield. In practice, troops usually disperse over a wide front, with a single division assigned to hold five or six, or even more, miles of the front line. Under such conditions, remembering too that many troops hole up for protection, a single A-bomb would probably not destroy more than 15 per cent of the division. And even this is a liberal estimate.—*Dr. Ralph E. Lapp in Collier's, February 16, 1952.*

### THE ARMY'S ATOMIC DOCTRINE

Although it is too early to foresee the ultimate effects which atomic weapons will have on ground warfare, certain influences are already apparent. It is clear, for instance, that the threat of atomic weapons in future ground warfare will necessitate much greater dispersion of both attacking and defending forces. Great concentrations of troops and matériel, such as occurred in the Normandy invasion, would assuredly invite atomic attack.

In fact, tactics in an atomic war may include attempts to force an enemy to concentrate so that he will present a remunerative target for an atomic weapon. Meanwhile, other things being equal, atomic weapons could favor a defender who had the opportunity to build strong and dispersed defensive positions, particularly below the ground's surface.

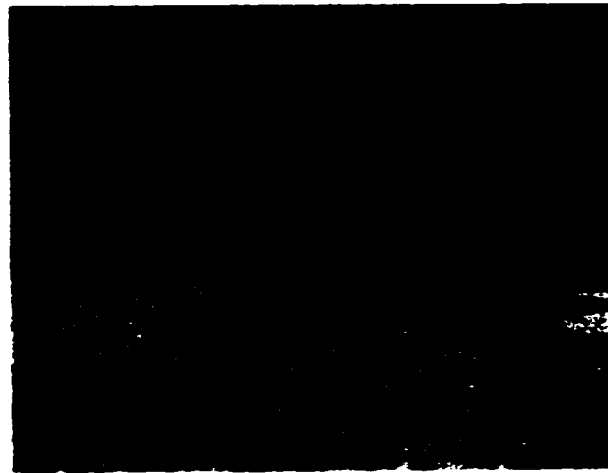
Compulsory dispersion of ground units to present unprofitable targets for atomic weapons would bring problems of control and communication. Dispersion of combat units and supply forces makes both more vulnerable to guerrilla attacks from enemy partisans. Troop organization to meet this type of warfare might take the form of small, but heavily armed and self-contained units. To cope with guerrilla attacks—such as we encountered in Korea—soldiers of the so-called rear echelon would have to be trained and equipped to defend themselves to an even greater extent than in the past.

The availability of tactical atomic weapons would place high premium on alert combat intelligence agencies. Many appropriate targets such as troops massing in the open for an attack, a river crossing, or an amphibious landing would be fleeting in nature. Aggressive patrolling, skillful and speedy interrogation of enemy prisoners, and the intelligent use of undercover agents would help identify and evaluate these targets in time to engage them with atomic weapons.

I have mentioned these concepts in general terms to give some indication of the thought your Army is giving to its role if a general war should ever come in the Atomic Age. Our doctrine is, of necessity, flexible and varies as new technical developments and weapons appear. But we are evolving this doctrine and publishing it in manuals, consistent with security consideration, to keep our soldiers abreast of atomic developments and to accustom them to including atomic weapons in their tactical thinking.—*Secretary of the Army Frank Pace, Jr., in a New York City Speech, May, 1952.*



An officer inspects an M24 tank for radiation following a Nevada test blast. Troops move into a blast area to inspect an M46 and 105mm piece for damage.



A Patton M46 tank is closely inspected by troops following a Nevada test shot. Armor and troops advance into a blast area on the heels of an atomic explosion.

## THE ATOMIC WEAPONS PICTURE

There is little doubt that the impact of atomic weapons will eventually bring significant changes in your Army's preparation in case of war to pursue its traditional mission of closing with and destroying a ground enemy. In the meantime, we seek to stock our arsenal with weapons rather than blueprints. As atomic weapons pass from blueprint to hardware, we are adding them to this arsenal. At the same time we are aggressively seeking to eliminate those weapons which may be safely regarded as replaced by this new hardware. Decisions on what weapons to replace are difficult at best, but we realize that such eliminations must be effected if we are to preserve the economic as well as the military security of this nation.

It is too early to determine, with any degree of accuracy, the influence which atomic weapons will have on the "cost factor" of our armed strength. We are satisfied that they will eventually provide a greater return in military power for the defense dollar than some of our conventional weapons now afford.

Since Hiroshima, we have made dramatic advances in creating a family of atomic weapons—each tailored to perform a specific mission with maximum effectiveness. These advances give great promise of peace and liberty to the Free World—unless the free peoples misinterpret them as a signal that they can shirk the distasteful burden of defense. If this should happen, the Atomic Age could become synonymous to future historians with the Age of Slavery.—Secretary of the Army Frank Pace, Jr., in a New York City Speech, May, 1952.

The use of atomic weapons on the battlefield is of tremendous importance to the Army. Our problem is involved in placing the fissionable materials relatively close to our own front lines under all weather conditions and sometimes on very fleeting targets of opportunity. This demands accuracy and dependability. That is why we have been developing an atomic artillery piece. It is a means of delivery which has been completely proven over many years and it is the first means of battlefield delivery under all weather conditions which we can get in the hands of troops. It is not the ultimate in Army weapons but it is an extremely effective weapon. Furthermore, it is very mobile under adverse cross-country conditions and is versatile in that it can shoot conventional as well as atomic shells.

Ultimately, as guided missiles are perfected, they will also aid in delivering fissionable materials by the Army in close support of Army forces. But the important factor is that we now have the gun and we want our field commander to have the capability of placing powerful atomic explosives safely and accurately close to our lines in darkness or in bad weather if it ever should become necessary. That is the reason for the emphasis on the artillery piece.—General J. Lawton Collins in a Speech at Los Angeles, California, May, 1952.

### DEVELOPMENT OF DELIVERING VEHICLES

Mr. THOMAS. Are the armed services relying exclusively upon the Atomic Energy Commission to develop

the atomic weapons? By that I mean the field pieces, the artillery pieces, and so forth and so on?

GENERAL BRADLEY. No, sir; we do not depend upon the Atomic Energy Commission for that.

Mr. THOMAS. What are the armed services doing in that field now?

GENERAL BRADLEY. Well, sir, General Loper or Mr. LeBaron, either one, can give you more up-to-date information on that than I can. . . .

GENERAL LOPER. As to the delivery vehicles, that is the job of the armed services. The vehicle used in that sense means the thing which gets it to its target. The vehicle takes the bundle of atomic energy for explosion. That is the job of the armed services.

In the artillery we have gone so far as to develop the . . . which has already been proof-tested, for which the Atomic Energy Commission has provided ammunition.

In the guided missile field, . . . which will carry atomic warheads. Again, the Atomic Energy Commission provides the warheads.

These missiles are not designed to carry that warhead exclusively. They can be adapted and used for the high explosives or other munitions, if desired, but their primary warhead will be an atomic warhead.—Generals Omar N Bradley and Herbert B. Loper in Hearings Before House Appropriations Subcommittee, June, 1952.

### THE ARMY'S ATOMIC GUN

We have the prototype of an atomic gun, and are training "atomic artillerymen" to use it. This newly developed atomic gun can give the ground commander tremendous fire power at his finger tips and directly under his control. Like conventional artillery, it would be especially effective in defending against attacking ground forces obliged to mass and expose themselves in an assault. Unlike an air-delivered atomic weapon, the atomic gun can function in all kinds of weather, night or day. It is essentially an artillery piece—but with immeasurably greater power than any artillery hitherto known. Carried on a platform suspended between two engine cabs at front and rear, this highly mobile atomic weapon can travel at a speed of about 35 miles per hour on highways. Weighing about 75 tons, it can cross bridges which Army engineers are already trained to build for present heavy divisional equipment. It can travel cross-country, fit into a landing ship designed for amphibious operations. It can fire with accuracy comparable to conventional artillery, and tests indicate it is much more accurate at long ranges.

In short, the atomic gun can, with the sureness of the traditional field artillery piece, hit its target under any weather conditions and give ground troops the kind of devastating close support never before available in warfare.—Secretary of the Army Frank Pace, Jr., in a New York City Speech, May, 1952.

### ARMOR AND THE ATOMIC BATTLEFIELD

The assignment of Army units to participate in atomic tests indicates the advances made in the development of atomic weapons and the focusing of attention upon tac-

tical application. In view of these developments, the moment certainly is at hand for a closer look at the ground combat picture as it concerns atomic warfare.

Considering all of the angles, there are certain conclusions to be drawn in reference to the battlefield. They are conclusions that hold great import for Armor.

The tactical use of atomic weapons will multiply the value of mobility in the combat zone. Mobility will be a primary means of protection, for dispersion will be ever more important should the enemy employ atomic weapons.

At the same time that mobility is essential for dispersion as a manner of tactical protection, so too will it be essential for the rapid concentration of units at decisive points. Mass employment must still be the basis for decision.

Armor is ideally suited for rapid dispersion and rapid concentration.

An atomic blast on the battlefield, of whatever proportion, will blanket a sizable area, an area much larger than that covered by our so-called conventional weapons. It will saturate an impact area, and will obviously require individual protective measures far advanced over those now in use.

We have followed the long series of atomic experiments applied to ships, submarines and planes. As the tests go forward in Nevada, we are seeing this application extended to ground equipment.

The assignment of Army units to the tests was accompanied by the explanation that these troops would set up a battalion position as executed on a battlefield, with foxholes, wire entanglements, and so on. It is said that equipment was placed in the position, including tanks and artillery.

Observer troops were permitted to move into the blast area to see the effects on the positions they had set up, and to examine vehicles. Damage to vehicles was reported as moderate, and the Army stated that "they still could have been used."

Armor appears to be the ideal basis from which to perfect the new defensive measures which will be required for survival on the atomic battlefield. It seems logical to assume that proper protection will be forthcoming only when ground personnel in the battle area are mounted in fully mobile armored vehicles whose characteristics include protection from blast, heat and radiation. Much of the framework exists right in our present vehicles.

Only a force mounted in vehicles combining mobility, properly developed atomic protection and inherent fire power will be able to survive on the atomic battlefield and carry the fight to the enemy. Fundamentally, Armor is such a force.—Editorial in ARMOR, November-December, 1951.

### TRAINING IN ATOMIC WEAPONS

We [are not] restricting our training in atomic weapons to the publication of manuals. For some time we have been sending Army officers and Army civilian specialists to a joint service school at Sandia Base, New Mexico, where they study the characteristics and use of atomic weapons. We are introducing courses in atomic

warfare in all Army schools—from the most basic to the most advanced. These courses include the solution of actual combat problems involving the use of atomic weapons. We intend beginning individual and unit training in atomic warfare in the near future.

In conducting our training in atomic weapons, we have considerable experience to draw on within the Army. Remember the Army has played a major role in the planning and development of the atomic bomb since its inception. The Army contributed both technical experience and organizational ability to the historic Manhattan Project which produced the first atomic bomb. And it was an Army engineer, General Groves, who headed and organized this great undertaking.

Starting with Exercise Southern Pine last August, we have included the simulated use of atomic weapons in all our major maneuvers. In March, I witnessed the simulated firing of an atomic gun during Exercise Longhorn in Texas, and I was impressed by the realistic manner in which our troops used this powerful new weapon to complement their conventional weapons.

To some of the soldiers who participated in Exercise Longhorn, an atomic weapon was more than a concept. They had attended Exercise Desert Rock held last November in Nevada, to show thousands of Army observers what an atomic weapon can do—and what it can't do—to ground troops deployed in combat. During Exercise Desert Rock, we conducted Attitude Assessment tests among our soldiers both before and after the atomic demonstration. Couched in GI, rather than scientific language, test findings included these typical comments: "The foxhole is still a wonderful invention!" "I would trust the atomic bomb as a tactical weapon." "You can't research the infantry out of business." The results of this test will be useful in the indoctrination of Army troops in future demonstrations.—Secretary of the Army Frank Pace, Jr., in a New York City Speech, May, 1952.

### TESTING AND TROOP INDOCTRINATION

Nothing was assumed at Exercise Desert Rock—when atomic power was proved a weapon of tactical warfare.

Only the substitution of sheep for soldiers in the close-up field positions and the safety and security measures enforced for the history-making test made the atom bomb explosion an experiment.

The huge explosion was that of a "typical atomic bomb." The field positions and Army equipment were standard. This was the test to prove the tactical value and use of a new weapon of warfare.

As explained to the more than 5,000 soldiers who had ringside seats, the mission was:

1. To indoctrinate the personnel on the tactical use of atomic weapons.
2. To test the psychological reactions of troops involved in such a test.
3. To accomplish tactical doctrine tests to the fullest extent possible.

It was further explained that the troops should derive considerable information from the test and that officials should learn much about the protective measures possible in connection with tactical use of such a weapon.

The soldiers were told that the bomb was "not unlike those dropped at Hiroshima or Nagasaki."

Before the big blast, a briefing officer told the nervous troops, "We can't believe a bomb which killed 100,000 people, but we can put it in its place."

The pre-explosion information talk paved the way for what followed. Soldiers learned for themselves what the bomb can and cannot do.

After the brilliant flash, the swirling dust, the rolling ground shock, and the ear-ringing boom, they were taken forward of their safe observation station to see what had happened on and under the ground in prepared field installations.

They learned that a foxhole would have offered them safety at an incredibly short distance from the center of the explosion, that radioactivity is not an all-inclusive danger, and that the ground would not be denied to use of ground troops a few minutes following the blast.

Security regulations surrounding many of the technical aspects of the test will not be relaxed but the troops were urged to disseminate as widely as possible those things which they observed and learned at Desert Rock.

Without giving away valuable secrets, the Army seeks to dispel the unjustified awe and fear of atomic energy—without minimizing its tremendous power and potentialities.—*Department of Army News Feature Release, November, 1951.*

More than 5,000 soldiers of the United States Army learned two important lessons from the atomic bomb tests recently completed in Nevada.

They learned first-hand from Exercise Desert Rock that atomic weapons can be used to tactical advantage, and they were convinced that they can protect themselves against atomic power.

Minutes after the terrific atomic explosion boiled its way skyward, infantrymen walked through the blast area—dispelling a widespread but erroneous belief that radioactivity would kill anyone entering the area. Scientists and some military men already knew this. The troops know it now and one of the biggest bugaboos of the atom bomb has disappeared.

Without minimizing the appalling effects of the world's most powerful weapon, the tests showed that soldiers properly concealed in foxholes would have been perfectly safe at an incredibly short distance from "ground zero"—the spot directly under the explosion.

On the day of the blast, soldiers had prepared typical battalion defensive positions—foxholes, revetments, barbed wire, machine gun and recoilless rifle emplacements, artillery positions, even communications switchboards. All the normal equipment of a battalion was there. Nearby were tanks, planes, jeeps, guns, individual equipment, and a few sheep, to represent living objects.

Soldiers were drawn back about seven miles from the point of ground zero. These included combat men from the Eleventh Airborne Division, a field artillery battalion, an engineer battalion, and a medical platoon. In addition, there were officers and enlisted men from all divisions in training, school staffs and faculties, replacement training centers, Army headquarters, Corps headquarters, and all other major Army commands. Repre-

sentatives also were there from the Navy, Air Force, and Marine Corps.

All were excited, some were apprehensive, and everyone looked forward to seeing complete devastation after the detonation of the bomb.

A loudspeaker blared last-minute instructions. Then the plane was sighted. Tension mounted as the troops were ordered to face the opposite direction from ground zero. Why face the other way? So they would not see the initial flash, become temporarily blinded and miss the rest of the spectacle.

On the PA system, an announcer counted off the seconds: "Bomb away!"

Seconds later, a blinding flash of white light—seen for hundreds of miles—outshone the brilliant desert sun.

"Turn!" came the order from the PA system. More than 5,000 men wheeled in their seats to stare at the fantastic sight. Above the desert floor the fireball had formed—breath-takingly bright. On the ground, a dust cloud climbed hundreds of yards and spread for miles in every direction.

Then the ground began to heave and sway. As the shock wave rolled past, the column rising above ground zero began to emit boiling blue and purple. Then the sound—a tremendous crack—snapped back the heads of the awed soldiers.

There were no shouts. Instead was heard a jumble of sounds from more than 5,000 throats. Finally one soldier said, "Well, at last I know where ground zero is." It was the first coherent statement heard.

Moments later, the gigantic pall had risen 20,000, then 30,000 feet into the sky. High winds caught it, and it began to drift toward the mountains. For two hours it continued to boil in a fantasy of color.

An Army helicopter from the command post thundered overhead, on its way to ground zero with testing instruments. The road began to fill with vehicles, loaded with evaluation teams with instruments. As they raced toward the blast center, they checked for radioactivity. The soldiers mounted their vehicles and joined in the race for ground zero.

Realization then began to hit the soldiers. They were in no danger from radioactivity. They could attack through such a blasted area in combat just as they were driving through it now. There was no danger.

Two miles from ground zero, the terrible effects of the explosion began to become apparent. Had there been buildings in the area, they would have been demolished.

Much closer to ground zero, vehicles and other equipment under cover were examined. They showed effects of burns, but damage was only moderate. They still could have been used.

No human being above ground could have lived in the first few seconds after the explosion. But below ground, or in pillboxes, the sheep were alive and unharmed—which meant that a soldier in similar positions also would have been safe.

The soldiers at Exercise Desert Rock learned that the atomic bomb can be highly effective in ground warfare—but the value of infantrymen has not changed. Properly trained, they can survive an atomic blast and still accomplish their mission.—*Department of Army News Feature Release, November, 1951.*

## FROM THESE PAGES

### 60 Years Ago

*The Carbine.* While the armies of continental countries, in the frantic race to anticipate their rivals in the possession of superior death dealing weapons, are adopting without adequate trial the magazine pattern, and finding when too late that repeating arms do not in all cases realize what is expected of them, we in the exercise of a wise conservatism, born partly no doubt of a thrifty sense of economy, have continued our faith in the Springfield pattern, the most simple and at the same time the most effective single leader of the age.

In the movements, which, according to this author, the magazine principle seeks to suppress, the advocates of the single-loader find their best argument, for no matter how short a time these movements may consume, they necessarily constitute a break in the operation of firing, during which the soldier's attention will, in a measure, be diverted from what is going on in his front; his excitement partially subdued, he will be more amenable to fire discipline, because more liable to hear the commands of his officers, and in every way better qualified to act coolly and intelligently than if armed with the magazine weapon, where the "pumping" of the cartridges and the pulling the trigger are movements so nearly alike, and occur so closely together, that, under the fever of excitement, induced by his surroundings, he is liable to forget which he is doing, and thus throw his shot away. The Springfield rifle can be deliberately aimed and fired ten times in a minute (experts accomplish even a higher rate), and while a properly constructed magazine gun, if it held that number of cartridges, would probably be able to fire them in one-half the time, it would have to "hustle" to do it, and when done, every shot would, in all likelihood, have been unaimed, injuring the enemy, if at all, by accident only, the chief result being noise.

*The Troop in the Field—Equipment.*

CAPT. CHARLES E. NORDSTROM

### 50 Years Ago

I have been requested by the Executive Council of the United States Cavalry Association to write, as the President of the Association, an introduction to the first number of the *Cavalry Journal*, which is shortly to be re-published. This re-publication is to be commenced by the enthusiastic decision of a majority of the members of the Association.

I write this introduction gladly, with the wish that I had the requisite ability to place the matter in the strongest light. It is not necessary for me to enter into the causes which account for the non-appearance of the *Journal* since December, 1899. The Spanish-American War and the dispersion of the Cavalry on its legitimate service during that war are ample reasons for the discontinuance of the publication.

The re-publication of the *Journal* seems to be a fitting occasion to impress on the Cavalry of the Army the necessity for renewed effort to make the *Journal* a fit representative of the increased and new element of the service.

The work done by the Cavalry in Cuba, Porto Rico and the Philippines during the Spanish War, both mounted and on foot, demonstrates an increased sphere of action and usefulness, and has taught us lessons which prove that the opinions formed by our former officers of cavalry were correct, and that cavalry can be educated to fight on foot as well as on horseback.

This lesson is impressed by the war between the English and the Boers in South Africa. It is our duty

to elaborate these lessons. The increase of the cavalry arm of the service and the proportion of cavalry strength in the Army serve to impress this lesson. Everything points to the greater importance of the Cavalry, as considered in modern warfare, and of its growing utility. The celerity of its movements, even though the character of the terrain may require its action on foot, is much to its advantage in modern wars.

We have now in this country the *United Service Journal*, representative more especially of the Infantry of the Army, the *Artillery Journal* and the *Cavalry Journal*. These are all necessary under the changed conditions of the Army. It had been proposed to abandon the publication of the *Cavalry Association Journal*, but I am glad to say the proposition has not been concurred in.

The good effect of an association like that which has been in existence and is now to be renewed with the publication of the *Journal* is bound to be of importance in the future.

Let every cavalry officer, though he may subscribe to and support to the extent of his ability the other publications, do his utmost for the *Cavalry Journal*, and I am sure that success will crown the effort.

I have my doubts as to the wisdom of establishing branches of the parent association at small posts. But at all posts let the officers write and send what they have written to the *Journal*, and let the editor select all or part of the production for publication. Let all exert themselves in the direction of success, and success is sure to follow.

*I have been told by more than one officer whose advancement in the Cavalry service has been marked, THAT MUCH OF THE SUCCESS WAS DUE TO THE INFLUENCE OF THE STUDIES INDUCED BY THE CAVALRY ASSOCIATION.*

*A Word from General Merritt.*

MAJ. GEN. WESLEY MERRITT  
President, U. S. Cavalry Assn.

### 25 Years Ago

It may be safely stated as an axiom that cavalry attacks to be successful must be supported by an intense and effective fire power. We must have an armament which may be used to diminish enemy fire and thus secure power of movement. This means automatic weapons capable of high rates of fire. Equally important is the necessity for rapid fire weapons in the defense, if cavalry is to hold ground until it can be taken over by less mobile troops. With the obvious necessity for fire power, cavalry is confronted with the principle that maximum fire power and maximum mobility are incompatible. If we load ourselves down with heavy armament our power of rapidity and ease of movement will be decreased—this is obvious. The problem therefore resolves itself into one which requires adequate fire power for probable cavalry missions, attained by weapons which will not decrease mobility. In discussing mobility it is apparent that the larger the unit the less its mobility, relatively speaking. Therefore, a heavy weapon with great fire power may be suitable for the division, but entirely inappropriate for the troop. Armament also has a direct relation to the probable missions of a unit in time of war. Since the machine rifle is a troop weapon, its characteristics as applied to that unit, as well as the probable combat missions of the troop, should be inquired into.

*The Machine Rifle.*

MAJOR JOHN T. McLANE



U. S. Army

## New Striking Power for the Mobile Arm

**T**HE first completely new medium tank to be developed since World War II—the Patton 48—now is in production at three plants and sizable deliveries are expected before the end of this year.

Developed by Army Ordnance and the Chrysler Corporation, the Patton 48—known during the development stage as the T48—was unveiled by Secretary of the Army Frank Pace, Jr., in ceremonies at the Chrysler Tank Plant at Newark, Delaware, on July 1.

Secretary Pace led the presentation ceremonies at the tank plant before approximately 1,000 guests, including high government and military officials, industry and civic leaders, representatives of the nation's press, and employees of the Tank Plant.

The Secretary of the Army noted the appropriate naming of the Patton 48 and related it to our long-term strength, emphasizing the need to produce our weapons as cheaply as possible while maintaining quality. He pointed up the valuable lead time resulting from this production, with critical machine tools now on

hand and plant capacity ready for any emergency.

Robert T. Keller, general manager of the tank plant, K. T. Keller, chairman of the board, and L. L. Colbert, president of Chrysler Corporation, also took part in the presentation ceremonies.

### Under Critical Eyes

Witnessing the christening was a large group of Army and government officials. Among the military guests were; General J. Lawton Collins, Army Chief of Staff; Lt. Gen. John R. Hodge, Chief of the Army Field Forces; Lt. Gen. Charles L. Bolte, Deputy Chief of Staff, Plans; Lt. Gen. Maxwell D. Taylor, Deputy Chief of Staff for Administration and Operations; Lt. Gen. Willis D. Crittenger, Commanding General, First Army; Lt. Gen. Edward H. Brooks, Commanding General, Second Army; Lt. Gen. Thomas B. Larkin, Asst. Chief of Staff, G-4 Logistics; Lt. Gen. A. C. McAniff, Asst. Chief of Staff G-1 Personnel; Major General E. L. Ford, Chief of Ordnance; Major General William A. Beiderlinden, Commanding Gen-

eral, Third Army; Major General Reuben Jenkins, Asst. Chief of Staff G-3.

A group of Patton 48's produced at the tank plant demonstrated their prowess over such obstacles as a 4-foot water hazard, a 3-foot vertical wall, an 8-foot trench, a "washboard" to show the superiority of the Patton 48 suspension system, a steep ditch to show the tank's performance on a sharp grade, and a zigzag maneuver course, with flags spaced 40 feet apart.

The Armor Association was well represented at the ceremonies. Present were Lt. Gen. Willis D. Crittenger, president; Lt. Gen. Edward H. Brooks and Maj. Gen. Ernest N. Harmon, honorary vice-presidents; Maj. Gen. I. D. White, Maj. Gen. John H. Collier and Colonel Welborn G. Dolvin, Council members; and Major William G. Bell, secretary-treasurer of the Association and editor of ARMOR. Several other Association members were among the spectators.

In addition to Chrysler, the Fisher Body Division of General Motors Corporation and the Ford Motor

ARMOR—July-August, 1952

*On July 1st the U. S. Army unveiled its first completely new medium tank since World War II. The story of this long-awaited tank follows hard on the heels of the acceptance of the medium M47 for troop distribution, has added impetus for the mobile arm.*



# the PATTON 48

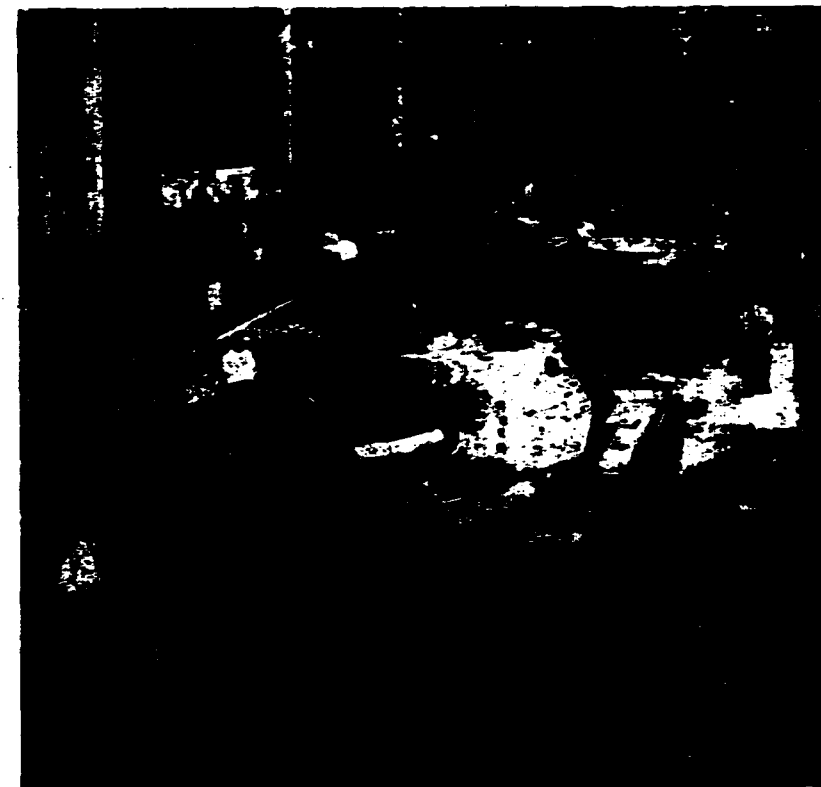
Company have been awarded contracts to build the fast, hard-hitting tank. Thus Army Ordnance has broadened its mobilization base to a total of five medium tank-building plants. Prior to letting contracts with these three companies only the Detroit Arsenal and American Locomotive Company were producing medium tanks.

The Patton 48, which mounts a 90-millimeter high velocity gun, two .50 caliber machine guns, and one .30 caliber machine gun, was christened at Newark by Mrs. George S. Patton, Jr., widow of the late general for whom the combat vehicle is named. She was accompanied by her son, Captain George S. Patton, a member of the Armor Branch.

The Patton 48 is in the 45-50-ton class. Its new design gives it a low silhouette, elliptical sides, elliptical turret, stronger and wider tracks, powerful engine, cross-drive transmission, and power steering.

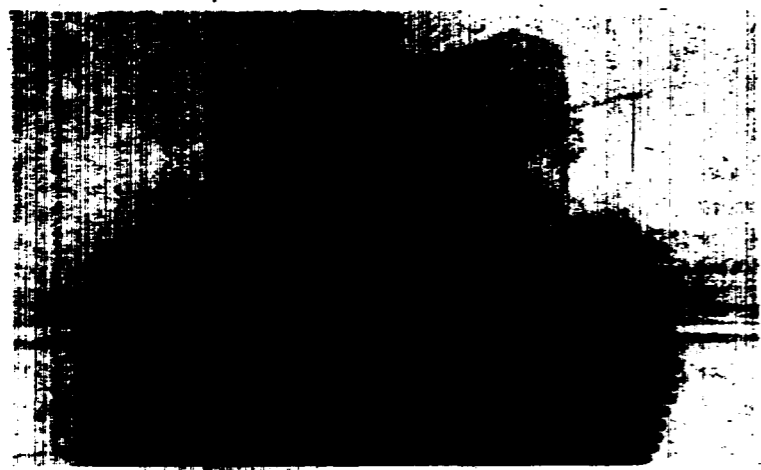
The new tank carries a crew of four, one less than needed to man previous models. They include a tank commander, driver, gunner, and leader.

ARMOR—July-August, 1952



The Chrysler Plant and T48 assembly line, indicative of America's strength.





U. S. Army

**VITAL STATISTICS ON THE PATTON 48**

**WEIGHT:** Between 45 and 50 tons combat loaded.

**DESIGN:** Elliptical configuration of one-piece cast hull and one-piece cast turret tends to deflect enemy shells.

**FIRE POWER:** 90mm gun with "quick change" gun tube, 2 coaxial machine guns (cal. .50 and cal. .30), cal. .50 machine gun mounted atop turret which can be loaded, aimed and fired from inside turret without exposing crew.

**POWER PACKAGE:** 810 horsepower, Ordnance-Continental V-12 air-cooled engine and Allison cross-drive transmission.

**RANGE FINDER:** Precision optical and mechanical system.

**CREW:** Four men—tank commander, driver, gunner, and loader.

**COMMUNICATIONS:** Two-way radio transmitting and receiving equipment; intra-tank phones; improved ground-to-tank phone system.

**FLOTATION:** Wider tracks adapt the T48 to muddy and swampy terrain.

**PRODUCERS:** Chrysler Corporation in Newark, Delaware; Fisher Body Division of General Motors Corporation in Grand Blanc, Michigan; Ford Motor Company in Livonia, Michigan.

**DELIVERIES:** Sizeable deliveries are expected before the end of 1952.

**FROM FIELD TO FACTORY IN TWELVE MONTHS**

The world's most modern tank plant, producing the world's most advanced medium tank, was completed in less than twelve months. Where a 240-acre tract of open field existed in January, 1951, a bustling plant, comprising more than a million square feet of floor space, was in operation when the year closed. The first pilot model Patton 48 tank was completed on December 14, 1951.

The Chrysler Delaware Tank Plant today consists of five principal buildings, as well as other facilities, including a one-mile test track, an incinerator building, gas houses, water storage tanks of 700,000 gallons and fuel and propane storage tanks.

The main manufacturing building, in which the fabricating of parts and assembly of tanks takes place, is a single story building of about 900,000 square feet of floor space—the equivalent of approximately 21 acres.

The sloping, elliptical sides of the tank make it extremely difficult for an enemy shell to get a "bite" and plough through the armor. Instead of penetrating, the shell would be more likely to glance off the sloping armor. This is the first time it has been possible for armor manufacturers to make a one-piece cast hull, and the hull-turret combination gives maximum protection for minimum weight.

The Patton 48 also carries a precision range finder which quickly calculates the distance to a target and gives the tank gunner an opportunity to fire before an enemy can calculate his position accurately. This greatly increases the possibility of the Patton 48's big gun getting a hit with the first shot.

Another new feature of the tank is a "quick change" gun tube, developed by Army Ordnance, which allows removal and replacement of a worn gun barrel in the field.

Atop the turret is an improved .50 caliber machine gun which, for the first time, can be aimed, fired, and reloaded from inside the tank without having a crew member expose himself to enemy fire.

The power plant of the Patton 48 is an improved version of the Ordnance-Continental air-cooled engine, already proved in battle in Korea. It is an 810-horsepower V-12 engine.

The wider, stronger tracks disperse the weight of the tank over a greater area and give it more flotation on soft ground or mud.

Cross drive and power steering practically eliminate driver fatigue. The big tank handles almost as easily as a new automobile.

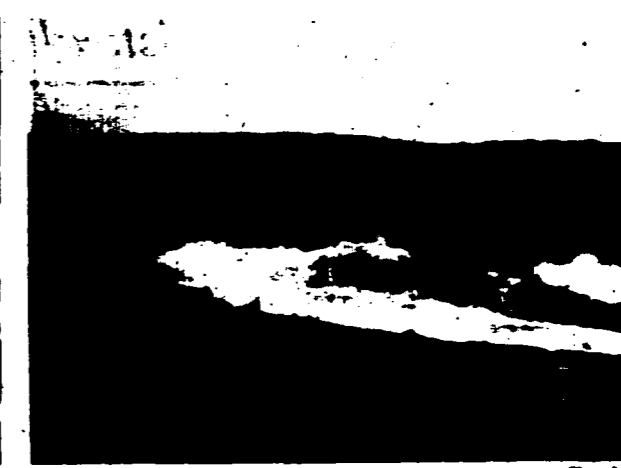
Immediately following the official unveiling of the Patton 48 Tank at the Chrysler Delaware Tank Arsenal, Army and Chrysler Corporation officials signed the formal contract turning production at the Detroit Tank Arsenal over to Chrysler Corporation.

Chrysler Corporation built and operated the Detroit Tank Arsenal during World War II and turned out 25,000 tanks there.

On May 19, 1952, Chrysler Corporation and the Ordnance Corps of the United States Army signed a contract to work out the details of Chrysler Corporation's taking over this assignment again.



U. S. Army  
Mrs. George S. Patton, Jr., speaking at the ceremony after christening the medium named in honor of Gen. Patton.



Chrysler  
Shedding water like a surfacing submarine, the T48 emerges from a plunge that shows waterproof qualities.



Chrysler  
Tracks tell the story—that the new tank is capable of pivoting within its own length, a key feature in maneuvering.



Chrysler  
One of the tests of maneuverability is that of crossing an eight-foot trench. The T48 can negotiate some bad terrain.



U. S. Army  
On a washboard the turret and gun ride smoothly, indicating the advantage to the gunner of scoring first rounds.



U. S. Army  
The steamroller power of the tank is shown in the shearing of four telephone poles set in tandem—like match sticks.

Armor had what might now be considered a meager beginning during World War I. Then followed a rather active "childhood" until just prior to World War II, so far as development of characteristics, techniques, tactics, logistics and strategy was concerned. Here in the United States it was not until the period leading up to the last global conflict that armor really came into its own. Concepts were established. Design was initiated. Armament and armor made great strides. Tactics and strategy were tried and proven at all echelons of command by thousands of American tankers. Logistics was perfected. Armor grew in size and strength until sixteen of the ninety American divisions organized for World War II were armored.

These armored divisions knifed their way across France and Germany, providing the necessary spearhead for the ground offensive. Also in support of various elements of the ground troops were armored cavalry groups, separate tank battalions and other mechanized elements, all forged in the great American arsenal. It is interesting to note that all sixteen of the armored divisions, fully equipped, were present in Europe at the time of the cessation of hostilities there, together with fifty-one airborne or infantry divisions. Over there the mobility, fire power and shock action of armor, particularly the armored division, all of which lent flexibility to the battlefield, struck a new note in modern battle.

The term "armor" is meant to include not only the tank, but also reconnaissance units, armored infantry, armored artillery, armored engineers and the service units required to keep this potent team rolling in battle.

In ground warfare, Armor has grown to a position of importance in the great team of those combat arms which meet the enemy face to face. It would be foolhardy to believe that Armor, or any arm or weapon, for that matter, is self-sufficient. However, the mobile, armor-protected fire power of a tank which provided the World War II commander with a means of making a fast-moving, decisive blow with a minimum cost in casualties, dictates that Armor must presently continue to maintain its position of importance on the battlefield. One need only remember the bogged-down trench warfare of World War I to emphasize this point of view.

The arm of mobility, armor-protected fire power, and decisive shock action provides on the modern battlefield the means by which an Army Commander, supported by the other combat arms, can hope to achieve the ultimate objective in battle—the destruction of the enemy's will to fight. Armor brings within the commander's reach decisive objectives through its ability to move and shoot. The American type Field Army may contain a total of over 3300 tanks. It has been said that this Army could well be called an Armored Army.

In the United States we should capitalize on our industrial and technological advantages rather than depend entirely upon mass manpower. In particular should we capitalize on our predominant position in industry in the spheres of aviation, electronics, and in the automotive field which has produced for us a total of more than 52 million registered motor vehicles in the United States. We Americans, in order to take full advantage of what we have, must organize and train our military forces to make the most of these technological developments in which we lead the world. Our ability to produce the mechanical means of warfare and to employ them effectively in combat is a characteristically American asset which no nation dare discount. In this American industrial supremacy and the mechanical-mindedness of our youth lies a factor of our strength that outweighs mere mass manpower. The use of a sizable amount of armor on the battlefield is a furtherance of that basic American concept to fully utilize our technological supremacy to reduce battlefield casualties.

Since it is in this technological sphere that we stand unchallenged, it is on this level that we should be prepared to meet any potential enemy—a level where the advantages are ours—rather than on a mass manpower level. Our manpower is too precious to match a potential enemy man for man. Instead, we must strive to give our combat soldiers the very best machines and equipment that can be built, so their chances for survival on the battlefield are the best. The finger of logic thus again points to armor.

In the United States the entire concept of armor from its earliest days up through the present and into the visible future is as American as an ice cream soda or golf on Sunday. It conforms to the American principle of moving in fast, taking a chance, and getting the job done. Armor is an arm of decision—an arm of opportunity. It was so recognized in World War II.

In the aftermath of war, armor more or less dropped out of public sight. Tanks are costly and other developments took the center of the stage. Many will remember that it was only a few years ago that all sorts of super-weapons were predicted which would soon relegate the tank into the limbo of the past.

In Korea the tank once more proved its worth. And again, for the second time in a decade, the need to produce new tanks was evidenced. Once more American industry rallied to the support of the Armed Forces, and today American tanks are again coming off the assembly lines.

The new light gun tank, the T41E1, is well under way in production. This tank is being modified to incorporate recommendations made by tankers recently returned from the battlefields of Korea.

The medium gun tank has proven itself on past battlefields to be the work horse of armor. Within the last year, two medium gun tanks have started off the assembly lines, destined to take a prominent place in our long line of United States tanks. These are the M47 and M48 medium gun tanks, both weighing just under 50 tons, and mounting a 90mm gun. We have quality in both, and it is reasonable to hope that it will not be too long before they will be in the hands of the using troops in adequate numbers.

In regard to the slower, harder-hitting member of the tank family, the Army is conscious of the desirability of developing a heavy gun tank in moderate numbers. This heavy gun tank can be put into such production as may be indicated.

Today in the United States better tanks are being produced than ever before. They are better designed, they are harder-hitting, they are better powered, they are more maneuverable, and the chances for that important first-round-hit are better than ever before. These tanks—the light, medium, and heavy gun tanks—which America can produce in sufficient numbers and variety to meet any requirements, are the backbone of our armor program. That program, after a number of vicissitudes, is well under way.

The modern tank, product of research, development, and hard practical experience, promises to be with us for some time to come. Armor in strength, incorporating all the technological advances which our industrial supremacy can provide, will make a decisive contribution to victory in any major conflict in the foreseeable future.

Insofar as ground forces are concerned, Armor, properly supported, is today one of the most decisive combat arms the battlefield has ever known. The leadership of this characteristically American arm has got to be good. There can be no dead hand at the throttle.

# 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.

Combined arms teamwork is the key to success in ground warfare. This has been proven on the battlefield in Korea, to which ARMOR turns once again for a firsthand look at one segment of the ground team. The spotlight is on the artillery as battalion and battery commanders of an armored artillery unit discuss **MOBILE ARTILLERY IN THE TEAM.**

The writer of the following served with the 5th Infantry Division Artillery in World War II. He has been in Korea for the past 22 months and has served with the 3rd Infantry Division and U.S. I Corps. For the past five months he has commanded the 92nd Armored Field Artillery Battalion.

The battalion which I presently command has been in action in Korea since September, 1950. It was committed to Korea with elements of the 7th Infantry Division in the Inchon landing. It later took part in the landings with U.S. X Corps in northeast Korea. The unit was withdrawn with that force and later assigned to I Corps for a brief period, after which it was assigned to IX Corps where it is currently in general support of a front-line division.

During the 21 months this unit has been in Korea, it has supported practically every UN division. This has been accomplished because we are able to move rapidly—shoot from roadside positions—and communicate over long distances by means of organic radio.

Tactical mobility is paramount in support of any rapidly moving situation. This battalion has provided fire power and shock action in support of nearly every type of offensive operation and has also been quite useful as a "fanny fender" in support of rear-guard action. The battalion, on occasion, has been called upon to act as a fire brigade, dashing from one division to another along the corps front, providing covering fires

during the relief of other artillery units.

Events have proved that SP artillery has more tactical mobility than any equivalent towed artillery unit in that we can move off the road and have the first round off in less than five minutes; and go from firing to march column in less than ten minutes. On several occasions we have been unable to reach enemy artillery and mortar positions which were harassing our front-line troops. In these cases, we displaced two sections laterally and forward and were able to bring effective fire from a different quarter, destroying the enemy positions.

The technique of employment of self-propelled artillery follows the same pattern taught at the Artillery School; however, each situation determines the tactics. Emphasis is placed on prior planning and coordinating with supported units.

During the present static situation



Lt. Col. Cleveland U.S. Army

in Korea, alternate positions are the rule rather than the exception. Each battery has one or more alternate positions and fires from these at least twice weekly. This not only tends to confuse the enemy as to our strength and location, but also gives the armored artillerymen continuous training.

The morale of these armored artillerymen is sky-high. We have no problems. The men are cocky, love their gun and enjoy working with the tanks. There appears to be that same spirit so prevalent in the Armored Force—that of a fast-moving, hard-hitting outfit with a terrific wallop.

In response to the enemy's sneak tactics, the armored battalion's perimeter must literally be a ring of steel. With the absence of counterbattery fire and aided by air superiority, the ideal battalion perimeter becomes an impregnable line of defense. In this case, the armored artillery battalion can maneuver its 18 guns and fight as tanks in the final defense of the perimeter. With its 35 armored personnel carriers, fifty .50 cal. machine guns, forty .30 cal. guns, thirty-five 3.5 rockets and hundreds of submachine guns and carbines, the SP battalion is "hell on wheels."

There is no doubt that SP artillery is the "artillery of the future." This much has been revealed in Korea, where in repeated instances, towed units have become immobilized and overrun whereas armored units have for the most part, fought off repeated attacks and successfully withdrawn from fire when necessary.

Lt. Col. Edward K. Cleveland

ARMOR—July-August, 1952

The writer of the following served in the Pacific during World War II with the 98th Infantry Division. He returned to active duty in January, 1951 with the 31st "Dicie" Division. In Korea since September 1951, he has commanded Battery "C" of the 92nd Armored Field Artillery for the past seven months.

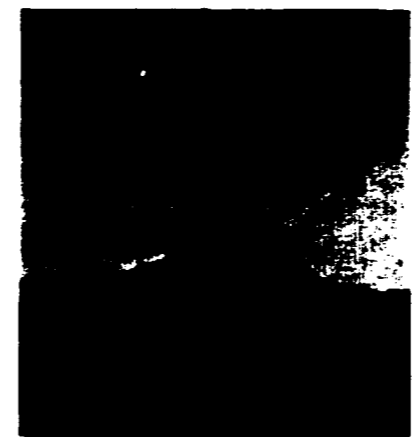
In the never-ending search to find the best and most practical weapons and equipment with which to wage a successful war or campaign, I believe it well worthwhile to consider the important role that armored artillery has played in Korea.

First, let us look at an armored artillery battery and see just how it is put together and what makes it tick.

In the firing battery we have six self-propelled 155mm howitzers capable of doing anything that a towed 155mm can do, except high-angle firing. We have in one compact unit—howitzer and motor carriage combined—a weapon of medium caliber capable of operating at high speed over rugged terrain; of firing either direct or indirect fire; of supporting rapidly moving armored vehicles or the slower moving infantry; and in company with other units of the battery, of defending the battery from either ground or air attack without help from outside sources.

Can a towed artillery battery do these things and at the same time continue to carry out its primary mission? In my opinion it cannot.

Missions of the armored artillery units in Korea have been many. No task have they found too great and



Capt. Raley U.S. Army

ARMOR—July-August, 1952

at no time, as far as I know, have they failed.

Climbing steep mountain trails to positions from which they place direct fire upon enemy bunkers, emplacements and communications; or accompanying rapidly moving task forces, whether in pursuit or on a raid, are not unusual for armored artillery units in Korea.

Making rapid displacements from one sector of the front to another for the purpose of covering while other units are being replaced on the line has been a common occurrence. The fact that an armored battery can move into position and start firing almost immediately and then move out from that position just as rapidly, has made it an ideal unit to move forward, from which direct, indirect or assault fire can be used more effectively. A 155mm self-propelled battery can move into position and place direct fire on a target in less than two minutes. A like unit can move into position and start delivering indirect fire within five minutes.

The question is usually brought up as to the width of traverse of the 155mm SP. Here in Korea we have more or less forgotten there was ever anything said about the approximate 600 mils of traverse on the SP. We know now that there is for the SP 6400 mils of traverse that may be obtained in less time than it takes to say, "Armored artillery has proven itself in Korea."

Let me describe here a typical displacement of a 155mm armored battery that might have taken place at any time since the first armored units arrived in Korea. The battery commander receives the word to "March-Order" to a new position previously designated and moves out with his party of five vehicles including two jeeps, one ¾-ton truck and two half-tracks. Fifteen minutes later the BC receives a call from the Battery Exec that the battery is ready to move; that is, it is loaded with basic load of ammo and ready to pull out of position. When the battery commander is ready for the battery to proceed he gives the word and the battery moves out following the Exec.

Half-tracks are distributed throughout the firing battery and machine guns are manned. The BC enters the new position and posts initial

security with the two half-tracks and part of the detail personnel who accompanied him in the advance party. By the time the battery arrives, the area is secure enough to allow the battery to enter and within five minutes thereafter the battery is ready to start a registration of a "will adjust" mission. Upon entering the position, each half-track drops its ammo trailer at the howitzer and proceeds immediately to its position on the perimeter.

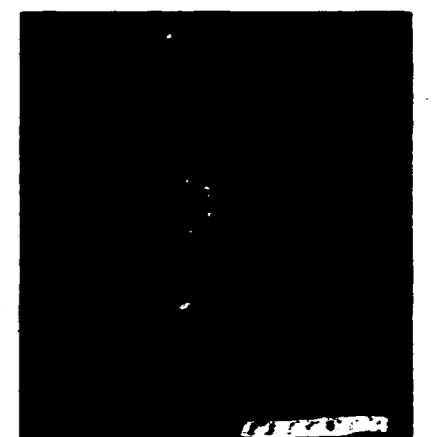
Do you, the reader, think that a towed battery can compare with this?

CAPT. J. T. RALEY

The writer of the following fought with the 104th Infantry Division throughout its campaign in Europe, in World War II. Recalled to active duty in June, 1951, he served with the 91st AFA at Fort Hood. He has commanded "A" Battery of the 92nd Armored Field Artillery Battalion since April, 1952.

Do you like to shoot hard and move fast? Combine the mobility and speed of armor, throw in the accuracy and shock of artillery, and you CAN hit hard and move fast. That is armored artillery in a nutshell.

The biggest attraction of self-propelled artillery is speed—not only on the road, but in the firing position. This makes our terrific fire power available anywhere—any time. While en route to another position,



Capt. Plummer U.S. Army

21

for instance, we can receive a fire mission and within five minutes, the tanks are off the road and "blasting" away at the enemy.

When the 92nd AFA Battalion with which I am currently serving was shipped to this theater shortly after the outbreak of hostilities, there arose a great deal of skepticism of its capabilities in the rugged type terrain that Korea offered. Skepticism soon turned to amazement as we proved, just as the tankers did, that we could operate in this mountainous terrain.

We have been called upon to do many things. On several occasions, SPs have been driven right to the MLR and fired in direct support of infantry, knocking out enemy bunkers and emplacements. This little detail has been referred to by armored artillerymen in Korea as "bunker busting."

To give you an example of our maneuverability, I will relate an incident that occurred recently when we covered a towed unit that was preparing to move out. Before I went up, I received a call from Battalion S-3 giving me three numbers—1500, 6200 and 1800. All that meant was the base piece moved out at 1500 hours, we were able to lay on compass 6200, and the rest of the battery was to move out at 1800 hours. The move covered some five miles. We had our base piece in position and reported "ready to fire" at 1525 hours. By 2000 hours the battery was in position, perimeter defense established, bunkers were dug and tents erected, hot coffee and doughnuts had been served to the troops and we were in the process of firing harassing and interdiction missions.

As soon as we got our base piece in position, the towed artillery unit moved out. There was very little time lost in this operation and we were able to successfully cover their displacement. While coffee was being served, a sergeant of the towed outfit walked up and thanked us for the coffee and said: "In the time you took to accomplish all of this, we would just normally be getting our guns out of position."

Among artillerymen who have not yet obtained this "self-propelled state of mind" there exists the question of high-angle fire. To many it seems that this is one disadvantage of self-propelled artillery. It is true that we

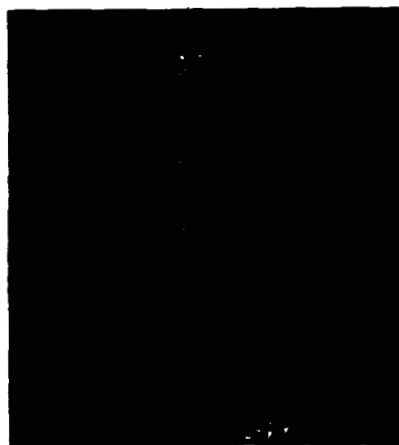
can't elevate our tubes as high as towed pieces, but we can elevate our tanks, merely by placing them on a slope or small incline.

For my part, I'll take SP artillery every time.

CAPT. FREDERICK A. PLUMMER

*The writer of the following served as forward observer and recon officer in the Pacific during World War II, on Guadalcanal, New Guinea and in the Philippines. Called back into active service in March, 1951, he has commanded "B" Battery of the 92nd Armored Field Artillery for the past five months.*

I have served with horse-drawn, mule pack, 105mm truck-drawn, and



Capt. Smith U.S. Army

155mm tractor-drawn artillery, and I am now commanding a battery of armored self-propelled 155mm Howitzers. I am prejudiced to the armored artillery.

In my opinion, the armored artillery piece has many advantages over the towed artillery piece. For one thing the armored is more mobile. To "march order," you simply crank up the tank, drive out and raise the trail spade. It is not necessary to wait for a prime mover to be driven up from the motor park, or to lower the piece from the firing-jack, or dig out trail spades that have been frozen into the ground, as quite frequently happens in a Korean winter. Mov-

ing into position is also a simple matter. Just drop the spade and back up. If the ground is too solid to force the spade in by backing up, the first round will seat it securely.

Going into position and preparing to fire rapidly is further expedited by the electrical elevating mechanism. This device is also a great help in ramming. The tube can be lowered to a convenient ramming position very rapidly and raised again with the same speed by a "flick of the wrist."

The towed artillery has one advantage. It is more suitable for high-angle fire than the armored. But this has been no disadvantage to our armored pieces in Korea, for we have been quite capable of accomplishing our missions without high-angle fire.

In the rugged, mountainous terrain that is general to Korea, our armored artillery units have traversed treacherous mountain passes on ice-covered roads at night without mishap. I know of one tractor-drawn unit that lost five vehicles in daylight on the same pass we crossed under the same icy conditions in the dark of night.

With our tanks, we are able to cross terrain that is impossible with truck-drawn artillery.

The .50 cal. and .30 cal. guns within an armored battery make us a "tough nut to crack," whether on the road or in firing position.

As for maintenance problems in an armored artillery unit, we run into practically the same problems that confront the tankers. Our maintenance problems are fewer than those of a towed outfit because of our smaller number of vehicles. To date, we have never had to evacuate a tank beyond the service battery. The battalion initially shipped overseas with twelve 155s and some six months later received an additional six guns as replacements. Actually, we did not need them because our "old" 155s were still pounding away.

In my opinion, the 155mm armored artillery battalion could very efficiently replace the light battalions of a division, and heavier self-propelled artillery could replace the drawn medium battalions. The armored artillery piece is a marvelous and versatile machine.

CAPT. LLOYD E. SMITH, JR.

ARMOR—July-August, 1952



Photos by Weln Studio

## Armor's New Forge for Leaders

by LIEUTENANT COLONEL ROBERT B. RIGG

*"I learned more in the six hours out on the course than I have learned in six weeks of basic training."*

HERE is something disturbing about a flaming tank hull even if you are not inside of it. Private V. L. Bowen had seen those smoking M-4 hulls and burning half-tracks on Hill 730; he had later eased his tank through a double row of dragon teeth upon which hung two other flaming tanks. His nostrils caught the acrid smell of burning rubber and oil as his eyes also re-

LIEUTENANT COLONEL ROBERT B. RIGG has commanded the 2nd Armored Engineer Battalion (carrying unit for the Leader's Course) since January. He is author of *Red China's Fighting Hordes* and a frequent contributor to this magazine.

ARMOR—July-August, 1952

viewed the twisted human forms, the PW's with upraised hands and concealed grenades, the logs and land mines of a road block, and lastly, the shell of a burning village with its pall of dark smoke. The explosions were over, but Private Bowen\* was filled with some vivid memories when on 18 April 1952 he wrote "The field problem was good. But the problem came too quick, if that happened in combat like that a tank crew would all crack up, or else get killed."

In all of his sixteen weeks of basic

\*The actual name of the soldier is a matter of official record, but he is given a pseudonym here.

training Private Bowen and his 54 fellow soldiers had never faced such realism as they did in the new Tank Leader's Reaction Test Course constructed and put into operation at the 23d Armored Engineer Battalion, 3d Armored Division, Ft. Knox, Kentucky, in April 1952. Nine men failed this combat course on its opening day, but others had these remarks to make:

"Tank Reaction Test. Wow! What a nightmare! I think it is the next thing to combat!"

"This definitely instilled confidence and a sense of responsibility in each man."

"I think that the tank reaction course was the best for gaining self-confidence. That is really the only chance I had to make decisions of my own . . ."

"I consider myself better prepared to enter combat than I did five weeks ago . . . the Tank Reaction Trial has helped me learn most of what I do know . . ."

Another Leaders' Course student said, "I think that you can just picture yourself in combat and you know that you will have to make a decision on your own and in a hurry, and it showed different situations that would require you to make them."

At Armor's only Leaders' Course the officers and men have built a battlefield complete with a fortified zone, shot-up tanks, dummies of the dead, and a small village, part of which is smashed up and burned each week as they thrust 60 to 90 future tank leaders into its explosive maw where the raw TNT is anything but spared! This course is purposely rough and designedly tough.

Few men enjoy this course, but the great majority admit benefit from its lessons. It is primarily a "test under stress," a competitive test of leadership. All of the men's scores go on record in Washington, D. C.

Here is what happens. A tank crew is given a field order which tells the crew that it means the lead tank of the leading tank section in an advance guard. The mission is clearly one of "Go." The course has twelve situations on it designed to stop or delay the tank. The crew mounts the tank which "buttons up" and leaves the LD. Climbing up a small hill the tank passes a convoy of burning, destroyed vehicles. Here is a soldier warning to the tank commander! He should heed it; for the split second his tank lurches over the hillcrest, an enemy tank (500 yards distant) lets go with a blast of gunfire. The commander of the tank crew under test sees the flash, and before he can finish his own fire order he is rocked by a nearby explosion (of TNT). Both tanks fire blanks from the main gun and MGs, but controlled explosive charges simulate the landing of shells. In this tank versus tank engagement (as in the other eleven situations) the tank commander is numerically graded on his:

1. Estimate of the situation

2. Speed of decision
3. Fire command
4. Adherence to mission
5. Reporting to higher HQ
6. Tactical security
7. Aggressiveness.

The limited state of training (total: 20 weeks) of these selected (leadership) men under test, prevents the use of live ammunition on this course. But the tank commander has no rest and little is left to his imagination. He is soon faced with a dirty foreign civilian (politics unspecified) who offers to surrender some Aggressor soldiers. Again a quick decision must be made because a dozen up-handed PWs straggle forth from a forest. There are several approved solutions here, but shooting them is not one. However, the tank leader must reckon with each situation in terms of his mission. Here he must not be delayed by the PWs; yet at the same time he must watch his security and not permit the PWs to muscle in too close to his tank. A grenade in a hatch gets a low mark for the careless tank commander!

#### Trouble at Smith-Skaya

The tank moves on. Trouble is just starting. "Which way to Smith-Skaya?" A confusing road intersection and a broken directional sign loom up. Several common sense decisions can be made here after which the tank is free to move ahead. The tank is on its way again but this time it is low on ammo. The commander knows his men could stand a little chow. An abandoned supply dump gives promise—but care and sound judgment are needed in this situation. There are some Oriental tricks planted here. The careless can become "casualties," and an erring tank commander can lose his grasp on leadership by a foolish decision on this situation. The dump is booby trapped!

Giant logs. Road block, and what else? "Search the area by fire!" A few "hostiles" give way, but there is always another obstacle. This time, land mines. "Blast 'em with the main gun!" Induced detonation. The more deliberate tank commanders order a crew member out to clear a path through the minefield. A marker is quickly placed on the mines and a radio report is made. The advance guard moves on with confidence.

This last static obstacle should warn that life ahead can be deadly. The next trap trips those who cannot watch the flanks, for an Aggressor tank ranges to one flank of the course. About 70 percent of the leadership students under test miss this one, and the Red tank catches them square in the rear. In combat a tank so spotted and shot would be a funeral pyre, and we bring such lessons home in the critique. Here the surprised tank commander twists in the turret to rotate it almost 3200 mils. If the crew is fast enough it will get off one shot before the hostile tank ducks into defilade. On each test tank there is always an officer or NCO grader whose one job is to observe the action and grade the tank commander on a check list.

A few hundred yards later a new panorama unveils itself: it is when the tank commander catches a glimpse of the snaggle-toothed pillbox fortified area, that he feels there is a bit too much thrown at him. Here some of the men tend mentally to give up, and it is necessary to do a bit of forceful driving. Actually the tank is halted in hull or hill defilade; the commander is apprised of a new situation, and he is given this fresh mission by the grader:

"Your advance is momentarily halted by the fortified area before you. This has been reconnoitered by infantry and engineers and you have shared in this reconnaissance, the results of which are on this sketch map."

At this point the tank commander studies the situation which lies before him. He is designated the commander of a small *assault team*: one actual tank section, an infantry squad and an engineer section. Both the machine and human elements of this team are physically present. He needs no imagination to visualize the hostile situation before him.

"You are one of several assault teams in this sector. Your objective is that hill straight ahead. Give your orders and instructions, then go into action!"

The infantry and engineer commanders receive their orders and move forward. We have not loaded this problem with the complexities of technique and tactics. Sometimes the leaders under test mutter and fumble amid indecision, but the officer in-

structor (grader) puts an assault team *plus* into action so that the students will *learn*, even if they fail to solve the situation. The test emphasis is always on speed of decision, adherence to mission, estimate of the situation, aggressiveness, and so on, not on the soldier's knowledge of tactics. Smoke grenades simulating WP shells blanket the enemy pillboxes. Friendly infantry and the engineers advance; the tank section fires from hull defilade. The dragon teeth are breached in one spot by the engineers. The infantrymen advance further. Then one tank, supported by the other as a base of fire, advances into the attack. If nothing else, the tank crew under test has participated in a combat demonstration.

The day's sweat is not over for the students until the village of *Smith-Skaya* is taken under fire and assaulted. *Smith-Skaya* is the grim little torn-up place which we build up in order to burn down. The "local citizens" did not like their Red mayor so he hangs from a crosstree, but Aggressors scramble about the town's torn innards to make life unpleasant and noisy for those who would choose to enter. *Smith-Skaya* is real in a shell-like sort of way, with a barber shop but no barbers, a looted drug store, and laundry still fluttering on the clotheslines.

The tankers under test join up with some friendly infantrymen just before they crest a hill to view the pleasant little panorama of a small lake reflecting the smoking ruins of this town. The tank commander has this infantry under his control; he has resumed his original mission of advance guard and here he must clear his way through the village. This situation is simply designed to give him passing acquaintance with town targets and a brush with street fighting.

In the approach to *Smith-Skaya* the standard mistake occurs every week, for some embryo tankers never seem to learn that hull defilade is the pleasant pose in which to pause before an objective of strength unknown. From the hill the wise tank commanders heave a few shots into the higher town structures and then send the infantry ahead to scout the village out. However, some student leaders have to be told to get their tanks off the skyline while the infantrymen measure the town's temper. Here again

ARMOR—July-August, 1952



The tank leader's decision is put into effect as infantrymen cover engineers preparing to blast a path through dragon teeth in the fortified enemy position.

the lessons are not all in the critique, for when a tank wants to play sitting duck there is a healthy charge of TNT nearby to remind careless tank commanders that sky-lining a hill is for trees. They usually back up after one "shell" lands, and they are not too politely told that white crosses can be fine monuments to poor leadership, stupid decisions and carelessness.

When the infantry waves the tankers into the town the armor men sometimes assume that the day's work is done. However, at the entrance to the village the infantry habitually "freeze" in place and won't move unless the tank commander urges it forward. Here is one of the many points the tank leader is graded on. He must also specify the proper ammunition in relation to various targets. Range estimation must not be too far off. Does he "fight his crew"? These points the grader checks off amid the ensuing fire fights where the Aggressors scream, yell, fire and fall back.

Captain Thomas Pardue, in direct charge of the course, is a stickler for realism and he makes his Aggressors carry out their roles to the extent of "dying" with groans. Master Sergeant Charles L. Bullock, "Commandant of the Enemy" at *Smith-Skaya*, gives his Aggressors no rest between tanks for after each armored vehicle smashes through a hull-high barricade he and his men erect a new one out of ammunition boxes in about seven min-

utes. Then Sergeant Bullock and his "hostiles" mount the buildings and point their rifles and MGs out of the windows for the next tank. Two men throw a few more timbers into the fire of the stone house which is maintained in a permanent state of "burning down." These are small touches, but they add up to a combined effect of war grimness and combat ruin.

Just how are the students faring on this test? A day never passes without at least one tank bypassing the road block and exploding the not too well hidden mines near it. One tank crewman said he went through several situations without hearing the commander's orders, then he discovered he had forgotten to plug in his headset. "Some men get scared, but they put forth a strong effort," said PFC Di Venceze when he completed the course. A Korean veteran, Sergeant Joyce says, "The course often exceeds combat experience. In combat you would only run into part of the many situations in a short time whereas (here) you are confronted with a large number. . . ." "It is confusing" says Private Parker. So is combat, we say!

"This course gives every man the 'baptism of fire' feeling," remarked Sergeant First Class Ralph F. Kreps, one of the instructors. "Some men show nervousness and some, when faced with rapidly changing situa-

tions, freeze." An example of the nervousness was evidenced when one tank "got down" its own dismounted bow gunner who was investigating an abandoned Korean bunker.

At the conclusion of the run over the Reaction Test Course a thorough critique is conducted in front of a giant map board which outlines the following situations the tank faced:

- Crashed Aggressor airplane
- A hostile tank
- Enemy civilian and prisoners
- Broken road sign (or bridge)
- Enemy supply dump
- Friendly tank in need of help
- Road block and mine field
- Enemy tank and infantry
- Abandoned Korean bunker (CP)
- Fortified area
- Defended village
- Defended street corner.

Lieutenants Dennis H. Hunter and Donald E. Hansen alternate in the conduct of this critique while the grader who rode the tank adds his points at the end. Each student meets three situations as a tank commander

and then faces nine other situations as a crewman. The ideal would be to have each soldier act as a tank commander for twelve situations but this is too costly and impractical. Each man does encounter a situation wherein, as tank commander, he takes the enemy under fire. The tanks leave the starting point on a prescribed schedule, 15 minutes apart. Six tanks run the course all day long with a 15 minute halt at the end of each run for maintenance check and cleaning of the gun. Following this the men are given four practical tests on crew drill, maintenance, bore sighting and communications by Sergeants James H. Hines and Ralph F. Kreps. There are 60 points to be achieved on these concurrent tests while the Reaction Test course presents a possible of 140 points, for a total of 200 in all.

This battlefield is open for business to students in their fourth week of leadership training and these men are tested as they run the course in tanks. In the fifth week the same class mans

the course as friendly infantry and Aggressors, thus securing added training and also seeing the mistakes of a new class of tankers.

*The Scoring System is Specific.* Each NCO or officer grader who rides a test tank scores the tank commander by a check sheet designed to insure uniform grading. For example, on the first tank versus tank engagement the grader checks off the commander's action under seven general headings (see chart on this page).

The above example shows that the tank leader came close to "maxing" this one situation. However, under FIRE COMMAND we note that the leader estimated his range incorrectly so he lost four points. Under REPORT he did report something on his situation to higher HQ gaining four points but he was not specific as to what, when, where, so he lost three points. Within SECURITY, he fired both shots from the same position so he dropped another four points. The failure to get off a shot within 40 seconds cost three points under MISSION. (This is an exceedingly generous allotment of time but only about 35 percent of the crews make it within 40 seconds, reflecting well the urgent need for more practical work and crew training.)

The graders of the students earn their pay for they spend the day clutching the turrets of lurching tanks and marking the score sheets amid the smoke and smack of "battle." They are experienced men like Sergeant Earl D. Martin, for example, who is a tank combat veteran of both World War II and the Korean Conflict.

Appropriate prizes for the winning tank commander, and the tank crew, are awarded at the class graduation ceremony. The highest score to date has been 180 out of a possible 200. The scores average 134 points. All scores are recorded on the Department of the Army's AGO PRT-847 form, but as this standard form is designed for infantry leadership tests some modifications and changes have been made in it. Brig. Gen. Raymond E. S. Williamson, CG of the 3d Armored Division, has made recommendations to the Department of the Army to have this form altered to fit Armor. The matter is now under study in Washington.

Armor's Leadership Course operates



A tank smashes into the enemy village of Smith-Shaya, where the tank commander must engage a variety of targets, select ammo and control infantry.

under an Army Training Program that prescribes the subjects and hours of training within the five weeks of instruction. This program is well laid out but it is still too academic in actual application. The author has taken up this matter with Lt. Colonel Gordon E. Murch, his successor, who is endeavoring to implement the program in terms of more field work. The main limitation to date is not the ATP itself, but the lack of tanks, armored reconnaissance vehicles, and related NCO crewman fully trained to teach.

#### Salvage Does It

*Operation Scavenger Built the Course:* "If it isn't nailed down, or in the CG's yard, then use it!" This was the motto that launched the construction of the tank Reaction Test Course from salvage materials. By a vigorous and mighty search of the post area and particularly the salvage yard, Leaders' Course men turned up about 35 tons of odd material ranging from scrap lumber to fire plugs. After Sergeant Bullock and his men carried away stone by stone the foundation of an ancient and abandoned farmhouse on the reservation, the word went around Fort Knox to "count the buildings each day." Except for the nails, the entire combat course was constructed from salvage materials at a saving of thousands of taxpayer dollars. It has been estimated that the combat course would have cost up to

\$17,000.00 if new materials and civilian contract labor had been employed. Lieutenant John C. Smith turned architect, engineer and builder to manage the construction of the course on the principle that "Never has so much been built with so little."

#### Cost Consciousness

His raids on the Post salvage yard were early morning forays designed to beat the usual shopping crowd which plumbed the depths of scrap lumber, cracked commodes, rotten rubber, and twisted iron. One day Lieutenant Charles E. Campbell unloaded a wrecked airplane in the battalion area after the writer specified he wanted a crashed MIG on the course. Two days later G-4 representatives in hot pursuit of the wrecked plane visited the battalion and sought to "fly away" the carcass, saying it was to be sold for scrap. Lieutenant Robert D. Wilcox, the battalion supply officer, never one to be outdone on matters administrative and legal, cracked the regulations and came up with the saving quote that the "material in question was still Government usable." The red tape artists are still trying to unsnarl the argument while the airplane with its converted tail assembly does well for a crashed and burning MIG. This plane has bred another problem: twice, passers-by have reported the display as an actual crash on the reservation.

In the fortified area the dragon teeth are made of wood and painted white. The pillboxes are constructed out of sheets of corrugated metal wrapped around posts driven in the ground. Logs and metal sheets are placed on top to roof the defensive shelters. An exact replica of a log-type Korean bunker is elsewhere on the course and every week this installation is searched by fire. Some 23 dummies of enemy dead were made out of Class X clothing, the guts of these "situations" being old newspapers, memos, obsolete bulletins and such paper work. More Aggressor dummies will be made as soon as more circulars, etc., become obsolete! Some of these dummies are so realistic that Sergeant Bullock found himself yelling at one of the inert figures to "get up and get moving." Bullock has been kidded ever since as to why he didn't prefer court-martial charges.

The local scrap metal drive came in competition with our quest for old tank hulls. However, Brig. Gen. John T. Cole, Assistant Division Commander, and Lt. Col. Marshal B. Allen, the G-4, came to the defense of our mission and we secured a variety of old tank hulls and halftracks for the course where we now retain a good many tons of metal in "strategic reserve," while using it for training realism besides.

#### Summary

The words of the men who have been trained on this Reaction Test Course are evidence of the fact that we cannot give our soldiers too much practical field training. These new American soldiers are hungry for more field practice with the tools of their trade. They earnestly desire more practical training, especially within their basic training. It is my studied conviction that the present ATP for Armor basic training involves too many classroom hours and many subjects too distant from the missions of shoot and fight. This matter of ATP balance is now under study by Colonel Raymond W. Curtis, Chief of Staff of the 3d Armored Division.

Only by putting our soldiers through realistic training, with actual reconstructions of battlefields loaded with explosives, smoke, ruins, etc., can we properly condition them and eliminate some of their fears of the combat that may be ahead.

1. DECISION: Did he decide? X (7)\* Quickly \_\_\_ (4) Slowly \_\_\_ (2) Very Slowly
2. ESTIMATE: Was his tank prepared to meet the enemy on the hill? X (7) Yes \_\_\_ (0) No
3. FIRE COMMAND: Was His:
  - Ammo correct (shot) X (4) Yes \_\_\_ (0) No
  - Range reasonable \_\_\_ (4) Yes X (0) No
  - Adjustment correct? X (6) Yes \_\_\_ (0) No
4. MISSION: Was he intent on destruction of enemy?
  - X (4) \_\_\_ (0) No
  - Did he get off first shot within 40 seconds of being fired on? 0 (3) Yes X (0) No
5. REPORT: Did he make a report? X (4) Yes \_\_\_ (0) No
  - \_\_\_ (1) What \_\_\_ (1) When \_\_\_ (1) Where
6. SECURITY: Did he:
  - Try to fire when moving? X (3) Yes \_\_\_ (0) No
  - Order tank into new position for the second shot? \_\_\_ (4) Yes X (0) No
7. AGGRESSIVENESS: Did he "fight" his crew X (5) Yes \_\_\_ (0) No
  - Did he order his driver to do anything? X (2) Yes \_\_\_ (0) No

ACTUAL SCORE 42

(POSSIBLE SCORE 56)

\*Number in parenthesis equals score for each point or question.

# Development of Joint Operations Plans

by COLONEL WILLIAM H. GREAR

HERE was a time not long ago when joint planning got only lip service. That time was as recent as Pearl Harbor. During World War II and the period following, great strides have been made to correct this condition. Training officers in the techniques of planning for Joint Operations has become a major effort in the Armed Services. Among the foremost in this effort is the Armed Forces Staff College, where techniques in the development of joint plans are stressed.

Planning for operations involving joint forces is not different from planning for other military action, such as that for an armored force, except for the consideration of a vastly greater variety and number of units and the voluminous detail involved. The sequence of procedure is the same. The members of planning staffs will usually have to take diverse courses in forming the plan and in assembling the data for it. It is about these diverse courses that this article is written. It should be kept in mind that a plan for an operation, whether joint or unilateral, is the blueprint for the action during the operation. It is made for the operational commanders.

The steps in the development of a Joint Operations Plan are discussed in a logical sequence in the paragraphs that follow. It is hoped that the reader will note this sequence and will realize its application to any military planning. Only the highlights of planning are discussed; the detail is left to the imagination as it is too voluminous for purposes of this discussion.

COLONEL WILLIAM H. GREAR is a member of the faculty of the Armed Forces Staff College at Norfolk, Virginia.

Usually, members of a planning staff are familiar with the situation prior to the beginning of planning. Such a condition is desirable. However, many plans are developed, and satisfactorily so, by staffs hastily thrown together. In any event, the Commander's Estimate of the Situation, in the preparation of which he is assisted by his staff, and his decision are prerequisites to the planning. The plan follows as the link between the decision and the action. In the plan appears the word picture of what is to be done and who compose the main forces.

For the sake of uniformity, the familiar five paragraph form is used. This form, shown below, is universal in the Services and is the document from which the subordinate commanders, regardless of service, obtain their instructions. Consequently, the first objective of planning staff members is to make the joint plan a completely usable document.

The plan must be simple and un-

derstandable. It must be concise but complete. It should contain a word picture of the operation as viewed by the Joint Force Commander. In keeping with the requirement of conciseness and completeness, the plan proper must highlight the intended operation, leaving the myriad of details to be carefully arranged in attached annexes.

The sequence of subjects in the Form for the Plan does not depict the sequence of their development. A chart of Steps in Preparation of the Plan indicates an arrangement of topics depicting a logical sequence of steps and procedures. In the right column are listed the paragraphs in the form wherein are placed the data developed by procedures listed in the left column. This depicts that which is known as the "spadework" in the development of the plan. The steps mentioned and many others must be carefully examined and executed.

It must be remembered that several of the steps indicated usually

## STEPS IN PREPARATION OF THE PLAN PLACE IN OPERATION PLAN FORM

1. Understand Mission	Paragraph 2
2. Develop Assumptions	Paragraph 1 c
3. Determine Operations for Subordinate Elements (Component Operations)	.....
4. Determine Tasks To Be Performed by Subordinate Elements to Accomplish Operations	.....
5. Organize Forces into Task Organization	Task Organization
6. Assign Tasks to Subordinate Elements	Paragraphs 3 and 4
7. Solve Command and Control Problems	Paragraph 5
8. Compile Information and Complete Form	Paragraphs 1 a and 1 b
9. Complete Supporting Documents and Assemble	Relate to Paragraphs of the Plan

proceed simultaneously, at least in part. The steps will be discussed in the order in which they appear above.

Before work can proceed very far in the development of the Plan, there must be a clear statement of the mission and a complete understanding of it (Step 1). The mission of a Joint Force is "a concise declaration or announcement of action to be taken during the course of the operation by the overall command." It includes the purpose. The missions of subordinate commanders spring from this mission and are found in Paragraph 3 of the Plan.

Upon occasion, the commander of the Joint Force must deduce his mission from his knowledge of his superior's general plan and from the situation. However, the mission is usually given by higher authority. It is the guiding light throughout both the planning and the operational phases of the operation. It is constant and can have but one interpretation. Each element of a joint command has for itself a mission subordinate but related to the overall mission of the Joint Force, and its accomplishment goes toward the accomplishment of that overall mission.

Because plans for joint operations are usually designed for use at a distant date in the future, it is essential that members of the planning staffs visualize these future conditions and plan accordingly. Many essential facts will not be known. The solution to vital problems which cannot be based on fact must often be based on assumptions (Step 2). But just what is an assumption? It can be said to denote a condition or a situation which is expected to exist or to develop during the time of the operation.

Assumptions are not guesses or conjectures; they are statements of situations visualized as a result of knowledge of certain facts and conditions that must exist in order that the plan will be workable. For the proper determination of assumptions, the best in judgment and experience is required.

After statements of assumptions are firm, they are considered statements of fact for planning purposes. New situations, not visualized in original assumptions, may require new estimates; new estimates may require changes in the decision. A change in decision, of necessity, causes changes in the plan (and, incidentally, added labor for the planner). It is evident, therefore, that the assumptions must be based on firm ground. Assumptions restrict a plan and limit the field of action. They should be few in number, they should be worded to describe conditions that are expected to exist, and, of course, they must be accurate.

Once the mission and the assumptions are clearly stated, then the planning proper can get under way.

Early in the planning stage, the commander, assisted by his planning staff, draws his concept of the operation that is to follow. This concept is a brief, concise summary of how the commander visualizes the operation. It is based on facts and on conditions expected to obtain at the time of the operation. It is invaluable to staffs and to subordinate commanders in that it assists in crystallizing the ideas of how the operation is expected to develop and progress. The concept is formally written only at the top levels of command and then only when the complexity of the operation requires extensive coordinating action on the part of several echelons of command. Otherwise, it is usually informally prepared. Whether formal or informal, the concept is always considered by a staff and is used by a commander as a basis for briefing his staff and his subordinate commanders. It may be said to be a kind of outline for the plan. Of course, it must be sound from a logistical point of view as well as from that concerning communications.

The concept usually contains statements delineating:

- The mission.
- Designation of major units of the force.
- The mounting points of major units.
- Phases of preliminary operations.
- The supporting operations.
- The scheme of attack.
- The extent of tactical exploitation.
- The development of the objective.
- Coordination with other major commands.
- Command relationships.

All members of the planning staff should become familiar with the concept at the earliest possible date.

Even though the plan fixes the activities of elements of the force, it must provide and permit flexibility of action. A plan without elasticity to provide for unseen situations is like a ship with a fixed rudder. In the plans for and the instructions to the subordinate commanders, as much leeway as possible is permitted for them to apply their own methods.

Step 3 concerns the determination of operations for subordinate elements.

### FORM FOR THE PLAN

#### Heading

#### Body

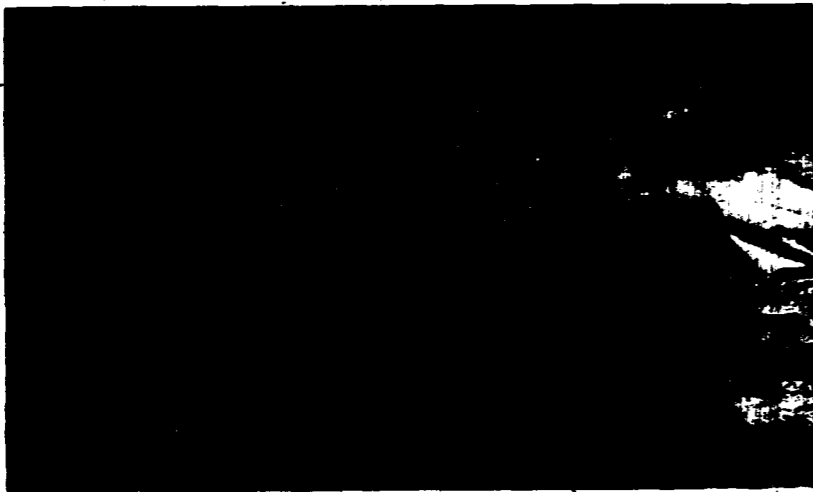
#### Task Organization

- General Situation:
  - Enemy Forces:
  - Friendly Forces:
  - Assumptions:
- Mission:
- Tasks for Subordinate Units:
- Administrative and Logistical Matters:
- Command and Signal Matters:

#### Annexes:

#### Signature

#### Distribution:



Joint operations involve air, sea . . .

U. S. Navy

ments. These are sometimes called component operations or, as the word indicates, parts of the whole operation. Each of these operations is conducted by an element or elements of the overall command and the successful accomplishment of each supports the successful accomplishment of the entire operation. It might be well to cite an example: In an amphibious operation, each subordinate element performs specifically defined tasks or component operations. Some of these tasks may be listed as follows:

- a. Procurement of the required intelligence, i.e., the E.E.I.
- b. Movement and deployment of the forces.
- c. The protection of our own forces.
- d. Interdiction of hostile interference.
- e. The isolation of the objective area.
- f. The gaining of the objective.
- g. The provision for logistical support.

These may be, and usually are, a number of others.

Each of these component operations must be carefully analyzed as to its true implication regarding necessary forces to accomplish the operation, the time to accomplish it, and the best timing (Step 4).

If the task under a. above, procurement of intelligence, be used as an example, the analysis discloses the required tasks, some of which follow:

- a. The gathering of information about the water over which the amphibious force will move in approaching the objective.

- b. The examination of water lying off the beaches as to whether or not it is mined or contains underwater obstacles.
- c. The determination of condition of beaches.
- d. The examination of tide and its changes.
- e. Determination of condition of the beaches above the high-water mark.
- f. Determination and plotting of defensive constructions or emplacements behind the beach.

In other words, it is mandatory that all intelligence concerning the beaches and the area near the beaches be gained.

Next, the planning staffs determine forces that are considered best able to perform the tasks. In the above example, photo-reconnaissance, submarines and underwater demolition teams may be utilized to gain the required intelligence. Natives can be interrogated if available. All maps, charts and other data available are studied. Should the forces best suited for the action not be available, best use is planned for forces at hand.

During this period of the planning, phases are carefully considered and delineated. For example, the planning phase usually precedes most of the operational activity. Of importance is the training and rehearsal phase. Mounting is a time-consuming element preceding the operation. Movement to the objective and pre-landing operations occupy periods of time prior to the attack and the capture of the objective. Consolidation

and base development usually occupy specific periods of time and may be considered phases.

Phases and the component operations to be accomplished by subordinate elements tie in closely and on many occasions, overlap each other. This relation is logical and should be coordinated by planning groups.

In this development of a joint operations plan, we have now arrived at Step 5, which is the organization of the forces. Already, during the consideration of the factors already discussed, planning staffs consider the forces that are being made available for the coming operation. They carefully list the divisions and supporting units, the air elements and naval elements. Then, in reality, several task forces are created and molded into the whole. On occasion, when an entirely new force is being organized, it is not difficult to fit the units into a functional organization modeled to perform the specific tasks that must be accomplished. On other occasions, when an organization already exists, there is prevalent a tendency to fit the tasks to the existing organization. This must be avoided. When there is already a set organization, that organization should be changed to one best fitted to do the job. Planners may find it best to completely reorganize along functional lines.

The task organization is completed only after a careful analysis of component operations for subordinate elements of the force, the determination and the analysis of tasks to accomplish each of these operations, and an analysis of the phases. As the planning progresses, and as the analysis results in firm conclusions as to the tasks to be performed, the allotment of forces to perform these tasks becomes firm. After much juggling, the forces are arranged into the task organization tailored to fit the tasks.

Paragraph 3 of the Plan is now ready for final preparation (See Step 6). In Paragraph 3 of the Plan, the assignment of tasks to each subordinate element should follow in the order in which those elements appear in the formal task organization. It should be remembered that only the major subordinate elements of the command have tasks assigned them in Paragraph 3 of the Plan. The breakdown of the many duties

falling to the lesser elements is usually included in an annex which is appended to the Plan.

It is important that commanders of subordinate elements of the force be brought into conference by the planners in order to gain each commander's ideas of capabilities and limitations of his command and his ideas as to how best to accomplish his particular mission. Planning groups gain the undying gratitude of subordinate commanders when, by counseling with them, agreements are reached between the planning officers and these same commanders who are going to fight the battles. Quite often, commanders can assist greatly in the development of the plan, both as to idea and actual work. By being brought into the planning stages, commanders gain for themselves a great amount of information to stand them in good stead in the execution of their roles in the operation.

It must be remembered also that the subordinate commanders within a command have to make plans for their commands. When they are kept abreast of the planning within the major headquarters, they are able, by the method of concurrent planning, to have their staffs complete the orders for their subordinate commands almost as soon as the major command completes its plan and orders.

Just as subordinate commanders should be kept abreast of the planning at the top headquarters, all echelons of the planning staff should be kept up to date on the thinking

by the Force Commander and the principal members of his planning staffs. The planners of tactical employment must not plan without completely integrating their plans with those of the logistics planners. Top priority is given to the coordination of supply matters. Communications requirements receive the same attention.

The Seventh Step in the development of a joint plan is the solution of command and control problems. In unilateral operations, these seldom offer any difficulty. However, in joint operations, because of the variety of the forces involved, command and control matters nearly always present complex problems. These matters must be set forth clearly in the plan. If shifts in command are scheduled during an operation, these shifts must be stated exactly. There must never be any question as to who is in command. The complexities of the command and control arrangements may often warrant the inclusion of a separate annex to the plan. Unfortunately, there is no fixed form or format for command relationships. These relationships are determined only after considering the forces involved, the personalities of their commanders, the mission and the situation.

By this time in the planning, the plan itself should be fairly well formed. The information annexes and other documents which support the plan are nearing process of completion (Step 8). Since it is desirable to have the most factual and up-to-date data in the plan, that informa-

tion contained in Paragraph 1 is written only just before the plan is completed. All statements are concise and brief.

The subparagraph of Paragraph 1 that has to do with the listing of enemy forces should contain a concise and carefully worded synopsis of the enemy situation. Generous reference should be made to the Intelligence Annex, one of which usually accompanies an Operation Plan. The next subparagraph concerning friendly forces is important because herein are shown the friendly forces, not parts of the task organization, which may play an important or major part in the impending operation. When the mission of friendly forces closely ties in with the forces listed in the Task Organization, and complexities result therefrom, a separate Annex concerning information of these friendly forces and of their tasks is usually warranted.

The last or Ninth Step in the development of the plan is that of assembling and properly distributing in the annexes, all the material, information and instructions.

All through the planning process, a continuous check is conducted to test for feasibility in all matters. Members of the planning staffs should never lose sight of the fact that they are preparing a document which is a compilation of orders and instructions for the field commanders. In its final form, the plan and the annexes should be simple and concise, but complete. If the omission of any particular item detracts from the clarity of the plan or an annex, it should be included. The watchword is brevity with clarity.

The plan with its annexes is then distributed to subordinate commanders and other interested agencies. The plan becomes a true directive, with the force of a directive or an order, upon receipt of instructions from higher authority, to execute the action set forth therein.

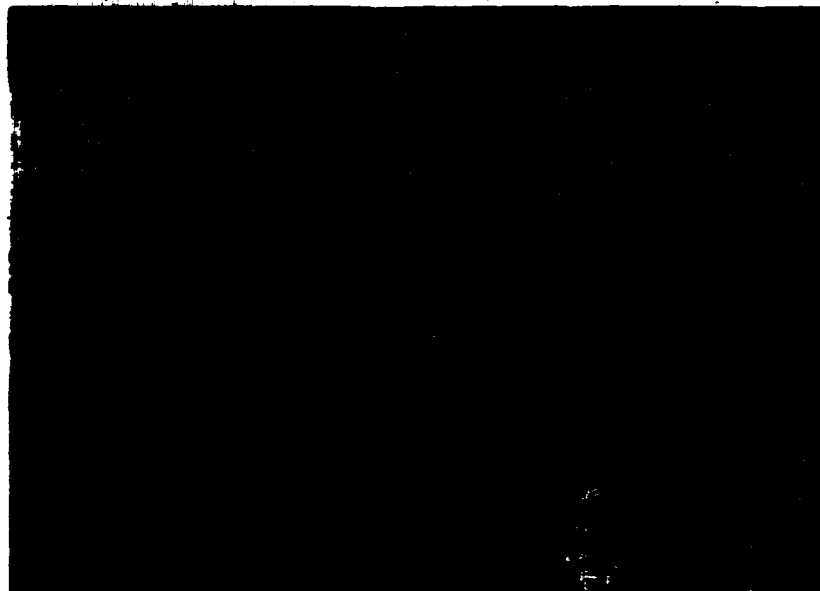
The success of the Joint Operation rests in a large measure on the excellence of the plan, and the quality of the plan is enhanced if a logical and time-saving procedure such as that described herein is followed during its development. The plan is the blueprint for the military action and, although battles are not won with paper, a good plan greatly assists the battle leader.



. . . and land in the planning stages.

British Official





Lt. Sigurd Eason briefs his tank commanders on targets for today—bunkers, gun emplacements, observation posts—enemy positions spotted by infantry.



Pulling out! Sergeants Escala, P...ler, Westerhausen and Meek follow their platoon leader out of the... on the day's bunker-busting job.



The platoon leader's tank noses down the road toward the initial point. Friendly mortars are laying down smoke to screen tanks moving into no-man's land.

**IN KOREA**

U. S. Army Photos

# Battlefield Bunker Busting

Reports out of Korea over the course of many months have identified such places as the *Punchbowl*, the *Iron Triangle*, *Heartbreak Ridge* and the *T-Bone*. To the initiated, these signify mountains, and mountain positions and operations. Carrying things to their conclusion, the result is *bunkers*. The photo story on these pages portrays a bunker-busting operation by the Tank Company of the 31st Infantry Regiment of the 7th Infantry Division. Combat Photographer Pvt. Vincent Bonadonna recorded this recent tank action.

In position under the enemy's nose, the tanks begin firing on selected targets while the platoon leader marks new ones with tracer fire from the .50 caliber.



The platoon leader observes the tank strike with his binoculars. Smoke can be seen rising from the... indicating success of the action.



The platoon moves back to friendly lines after having carried out its mission, one of the tasks that tanks are performing as part of the ground team in Korea.



# Task Force CROMBEZ at CHIP'YONG-NI

*Penetrating mountainous terrain held by a versatile enemy is an operation that requires planning, teamwork and aggressive action. Here is the story of a task force rescue mission that was successfully executed despite lack of ideal composition—a fully mounted armor team able to put all elements on the objective*

**C**HIPYONG-NI is only a little mud hut village in Korea; but during the second week in February 1951, it was the "Bastogne" of the Eighth Army front. As you will remember, February 1951 was the month when the Communists were still trying to destroy the UN forces in Korea, but these UN forces had decided that

LT. COL. GEORGE B. PICKETT, JR., served with the 11th Armored Division in Europe in World War II and was Armor Officer of IX Corps in Korea for some 15 months before assuming his present assignment with the Security Advisory Section of Far East Command in Japan.

they'd had enough pushing around. The 2d Infantry Division spent January and February absorbing and breaking up the Communist efforts to destroy X Corps in the Wonju-Chip'yong areas. By 13 February, the 23d Infantry Regiment of the 2d Division, with a UN battalion attached, was surrounded at the important road center of Chip'yong-ni. It appeared that this force would be overrun momentarily and destroyed. To complicate the situation, X Corps had no unit it could spare to break

by **LIEUTENANT COLONEL GEORGE B. PICKETT, JR.**

through to relieve it. In order to remedy the situation, IX Corps was directed to send a force over into the X Corps sector and relieve the beleaguered Chip'yong-ni garrison as rapidly as possible.

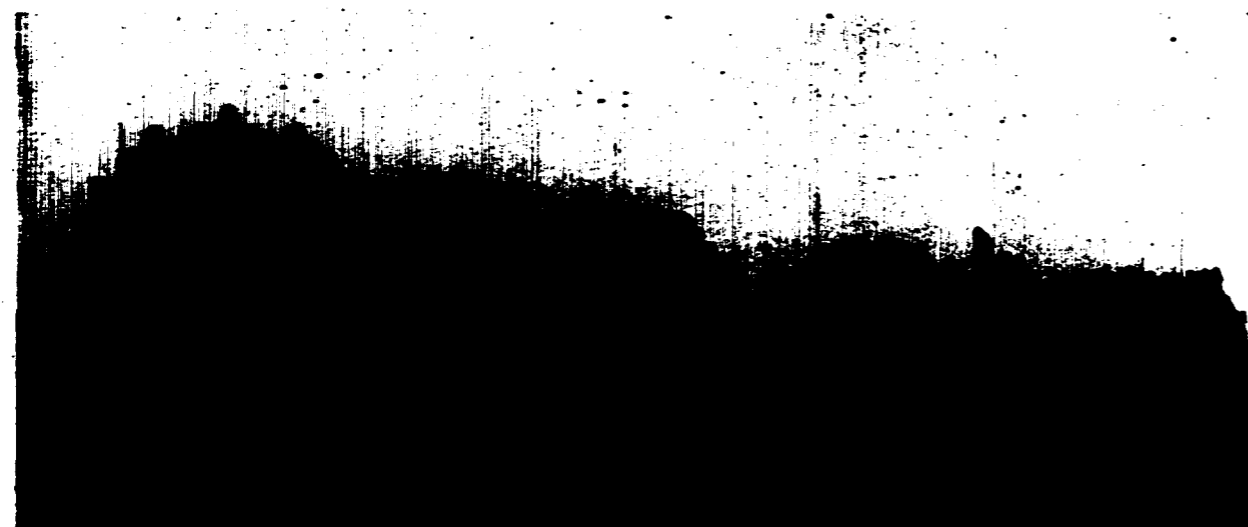
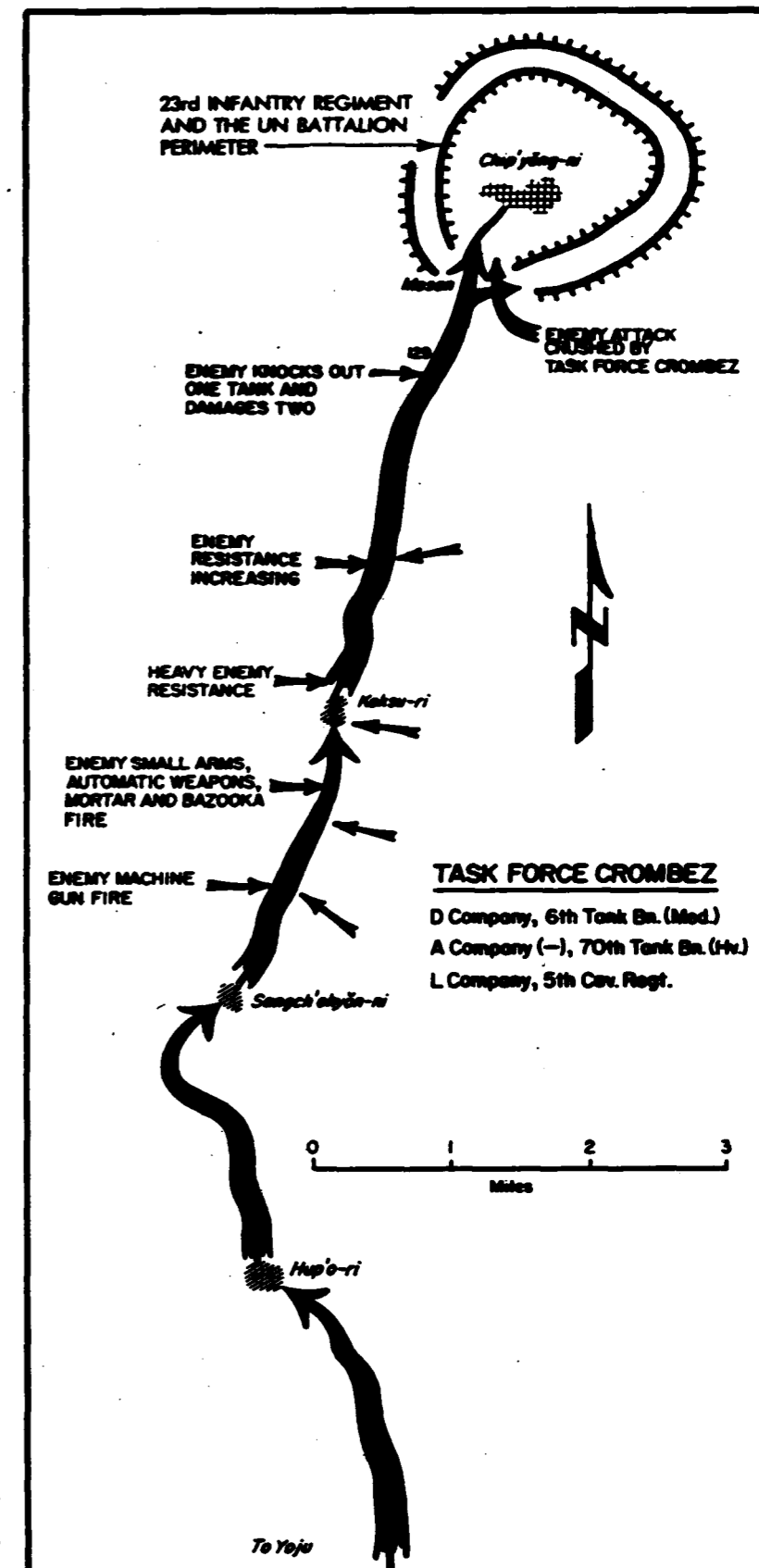
On 14 February the 5th Cavalry Regiment was located in Yoju, on the west bank of the Han River, in IX Corps reserve. As soon as the mission of relieving the Chip'yong-ni garrison was received from Eighth Army, Major General Bryant E. Moore, the Corps Commander,

alerted the regimental commander, Colonel Crombez, by telephone at 1500 to be prepared to go to the relief of the force surrounded at Chip'yong-ni. He further directed Colonel Crombez to start planning the operation along the Koku-ri axis. The Corps Commander telephoned Colonel Crombez again at 1700 and informed him to proceed immediately on the relief mission.

The 5th Cavalry RCT made a night march from its assembly area at Yoju to the vicinity of Hup'o-ri. On the morning of 15 February 1951, the 1st Battalion and later the 2d Battalion were committed north toward Koku-ri in an effort to drive through to Chip'yong-ni, a distance of about seven miles. By 1100, the regimental commander realized that the enemy offered too much opposition for the infantry battalions to be able to reach Chip'yong-ni before dark. Feeling that the entire route to Chip'yong-ni was heavily defended by enemy forces, he decided that only an armor task force would be able to penetrate the enemy-held territory in time. Thereupon, he began to plan and organize Task Force "Crombez." In addition, he decided that supply trucks and ambulances, being assembled to accompany the 5th Cavalry Regiment to resupply the 23d Infantry Regiment and evacuate its wounded, would not be able to accompany the armor column.

At 1500, 5th Cavalry Regimental Commander decided not to wait for the supply trucks and the ambulances, arriving from the south, but to proceed to Chip'yong-ni with the armor task force. He planned to radio back and have the Commanding Officer of the 3d Battalion lead in the supply vehicles and the ambulances when the road had been cleared and was safe for the unarmored wheeled vehicles.

The task force consisted of the following elements: Company D, 6th Tank Battalion (13 M46 tanks); Company A (minus two platoons), 70th Tank Battalion (10 M4A3E8 tanks); and Company L, 5th Cavalry Regiment. The riflemen of Company L were instructed to ride on the tanks except the tanks of the leading platoon. They were instructed, further, to remain mounted at all times unless forced off by fire or to protect



U. S. Army  
Pursuing the task force in friendly territory with infantry mounting the tanks; not an assault formation, but transport.

the tanks from fanatic enemy tank hunters. Company D, 6th Tank Battalion, was placed in the lead. Four engineers from Company A, 8th Engineer Combat Battalion, were placed on the second tank in the column to clear any mines encountered.

Before the task force departed, Col. Crombez established radio contact with the Commanding Officer of the 23d Infantry, informing him that the TF was proceeding, but without the supply trains. The 23d's commander requested that he come, "trains or no trains." Colonel Crombez then requested air strikes before his departure, and also requested that liaison planes cover his advance and maintain contact with the advancing column to relay information of the enemy observed along the route of advance. At 1545, Task Force Crombez, with Colonel Crombez in the fifth tank, departed from a point 500 yards northeast of the road junction in the vicinity of Sangch'ohyon-ni.

The task force, with the tanks at intervals of 50 yards, proceeded 1.8 miles when long range small arms and automatic weapons fire was received from both sides of the road and also from the right rear. At this time, about 30 riflemen were forced off the tanks and took cover in the ditches. The TF commander directed the column to continue the advance.

As the lead tanks made the sharp



U. S. Army  
Col. Marcel G. Crombez, Task Force commander, planning the operation.

bend into Koksuri, enemy fire increased in intensity from the high ground west of the town as well as from the ridges to the east. The enemy could be seen clearly; machine gun fire and tank gun fire killed many of them. Not counting the attacking force against Chip'yong-ni, Colonel Crombez estimated there were at least 2000 Reds opposing the two infantry battalions that were attacking up the high ridges along the road. Except for die-hard antitank crews, rocket launcher teams, and satchel and pole charge groups, the enemy was emplaced on the high ridges.

Immediately after the column

passed through Koksuri, about 100 additional riflemen were forced from the tanks, but the TF commander, feeling that the success of the task force depended on a rapid advance, directed the tanks to continue.

North of Koksuri, the road passed through the valley, following the hillside on the left closely, until the high ground or summit, where it then angled over along the hills on the east. As the tanks approached the summit in the pass near Benchmark 129, close teamwork among the tanks was particularly necessary since the enemy was located at the top of the cliffs, directly overlooking the task force column. Enemy fire intensified, and rocket launchers were fired and satchel charges thrown from the heights. At the summit of the pass, 5.25 miles from the point of departure, the leading tank was hit by a rocket, wounding everyone in the turret. However, the tank was not disabled. The fourth tank was struck in the turret by a rocket that exploded the ammunition in the ready racks, set it on fire, and killed all three men in the turret. The driver gunned the motor and moved the tank off the road to clear the advance of the remaining tanks. Since the enemy fire was so intense along the road, the TF commander decided that wheeled vehicles would be unable to pass. He radioed the regimental operations officer to delay the trains and ambulances until he gave the order personally for their forward movement.

Shortly before 1700, the Task Force had almost reached the defensive perimeter of the 23d Infantry RCT. Stopping in the vicinity of the road junction near Masan, the tanks cleaned out the area to the right of the road by heavy and concentrated fire. Enemy troops, attempting to escape up the draws, bunched up in groups of as many as 50 to 100 and were destroyed by HE rounds. This fire hit the enemy in the flank as he was making an attack on the Chip'yong-ni perimeter itself. The Task Force had struck the CCF, attacking the 23d Infantry Regiment, at a most advantageous moment, since the 23d Infantry was at that moment making a counterattack to regain a 155mm howitzer battery position that had been overrun. A tank platoon of the 23d Infantry met the leading tanks

of the Task Force at the perimeter. Contact was made at approximately 1700 after a 6.2-mile advance.

When the Task Force entered Chip'yong-ni, 23 infantrymen and the four engineer soldiers were still aboard the tanks. Of these, 13 were lightly wounded, and one died of wounds that evening. The infantrymen, forced from the tanks before reaching Chip'yong-ni, made their way back to the regiment, approximately 100 returning to the original point of departure that night.

At 0900 on 16 February, the scheduled time for return to the regiment, the TF commander informed his assembled task force that the return to the regiment would be postponed because of the weather. A light snow was falling, and visibility at times was less than one hundred yards, neutralizing friendly air support. The weather cleared up at 1100, and the task force was reassembled.

At 1215 the Task Force started back. The TF Commander asked the CO of the 23d Infantry to place a heavy 4.2 mortar concentration on the pass as the task force approached. On the return trip, not a single enemy was seen nor was a single shot fired. The Task Force made contact with the First and Second battalions of the 5th Cavalry at 1245. At the time, the First Battalion was mopping up the ridges in the vicinity of Kokch'on while the 2d Battalion was mopping up the ridges in the vicinity of Hill 143.

The fact that no enemy forces opposed the Task Force on its return indicated that the CCF had been crushed and decisively beaten; they suffered an estimated 500 killed. The enemy had been forced to break off his attempts to destroy the 23d Infantry and the attached battalion and to prevent relief from reaching Chip'yong-ni.

#### Evaluation

Tank-borne infantry cannot be expected to do the job of armored infantry. The Chip'yong-ni action was definitely a mission for a combat command or an armor group. If the TF commander had been required to fight in Chip'yong-ni he would have needed his infantry. An armored infantry company mounted in armored personnel carriers would have arrived in Chip'yong-ni ready to fight, besides



U. S. Army  
"An armored infantry company mounted in armored infantry carriers would have arrived in Chip'yong-ni ready to fight, besides reducing infantry losses."

reducing infantry losses perhaps 80 per cent.

The relief of the 23d Infantry was an ideal job for a reinforced tank battalion, with armored infantry in support. It assisted in proving false the generalization that Korea is not tank country. Component elements of an armored division or an entire armored division could be used in Korea.

The terrain from Koksuri to Chip'yong-ni would not have accommodated an entire armored division. However, a combat command or an armored group, attacking with a reinforced tank battalion (containing a minimum of one company of armored infantry) in the lead, followed by a reinforced armored infantry battalion (containing at least one tank com-

pany), could have performed the mission with only a small fraction of the loss and would have been able to continue the attack in the Chip'yong-ni area after the link-up.

Communication, maintenance, and re-supply facilities in the average infantry regiment are not adequate to support for continuous operation the number of tanks the 5th Cavalry Regiment had at the time. The operation at Chip'yong-ni was successful because the objective area was a defended perimeter of friendly forces.

It is difficult to fire from the deck of a moving tank. The practice of tanks carrying infantrymen through enemy territory where the riflemen must fight constitutes not an assault formation but a method of transportation. However, in this situation the TF commander had no alternative due to the lack of armored personnel carriers. A tankdozer normally should be a part of like task forces for use against physical obstructions and roadblocks; but once again none was available to the TF commander.

#### Lessons Learned

1. Tank-borne infantry cannot perform the armored infantry role. Infantry units employed as part of an armored task force for deep penetrations into the enemy rear must be provided with armored personnel carriers.

[The proposed House reductions in the military budget] would eliminate 1,250 of the armored infantry vehicle, T-18, which would mean that only one third of the active Army could be equipped, and production lines would have to be closed down. This action would upset the balance which we have been striving to maintain in our procurement program and would seriously affect the Army's mobility and impair the vital teamwork which is so essential to the success of armor-infantry operations.—Gen. Collins before the Senate Appropriations Subcommittee.



U. S. Army  
"The task force . . . proceeded 1.8 miles when long range small arms and automatic weapons fire was received . . . Riflemen were forced off the tanks . . ."

2. A tankhunter should be included as a part of all large armored task forces in Korea.

3. The OCF antitank doctrine calls for the maximum use of tankhunter teams employing rocket launchers, pole charges, satchel charges, and Bangalore torpedoes.

4. Effective tank-infantry communications and methods of target designation from infantry to tanks must be prearranged and understood by all elements.

5. Any armored column containing a company or more of tanks should be supported by a tank recovery vehicle.

6. The shock action of tanks is extremely effective on the Reds. Although the OCF tankhunter teams were fanatical in their reaction to the initial advance, the OCF made no effort to interfere with the return of the column but were content to stay out of sight of the tankers.

7. The "tigerization" of tanks is not as effective a psychological hazard to the OCF as previously anticipated. Both tanks destroyed by the enemy were "tigerized."

8. Tank units can penetrate rapidly deep into an enemy position but cannot be accompanied by standard infantry. This situation requires the tank units to give up objectives that could be held if the infantry could accompany the tanks at the same rate of speed and with armor protection. Small provisional armored infantry units can be formed, when time permits, by utilizing half tracks and M39 utility vehicles from armored FA battalions to mount available standard infantry elements.

#### Summary

The action at Chip'yong-ni demonstrated the flexibility in the tempo of advance available to the commander of a modern combined arms team. If infantry action, supported by tanks, is too slow, he can change his pace to tank action, supported by infantry, in order to accomplish his mission. The action by Tank Force Commander at Chip'yong-ni will become one of the epic actions of the Korean conflict. It reflects highly upon all involved and shows the courage, initiative, and determination of our fighting men when the chips are down.

## OPERATION FLEABORNE

by CAPTAIN RICHARD W. STREFF

The air-lift of a small-sized unit by liaison type aircraft to establish a bridgehead was successfully conducted at Fort Hood, Texas during Exercise Long Horn, the joint, large-scale maneuver held there in March and April 1952.

Thinking that during the exploitations phase of Exercise Long Horn it would be possible to air transport quickly by liaison aircraft under the cover of darkness, a company of armored infantry personnel to positions behind the Aggressor lines, with the mission to seize and hold some key objective or cut lines of communication, Maj. Gen. Bruce C. Clarke, commanding the 1st Armored Division, planned and executed such a "Fleaborne" Operation behind his own front lines during the field exercise. General Clarke was assisted in the planning by Captain B. C. Walters of the First Armored Division Aviation Section.

General Clarke employed fourteen liaison planes to transport the personnel and portable equipment of Company "B," 701st Armored Infantry Battalion to the "objective" area. During the afternoon preceding the nighttime operation, the fourteen pilots and the personnel of Company "B" commanded by Captain Bowden were briefed.

At 1915 hours a plane with a control officer equipped with an SCR 509 radio and twelve NX290/CV lanterns landed in the "objective" area. The plane immediately returned to its base field, an emergency air strip marked with twelve road flares. By 2000 hours the objective landing strip was marked with lanterns and ground to air communications was established. At that time fourteen planes, each with one armored-infantryman with equipment, took off in succession from the base air strip for the "objective" area. As the planes landed, the troops rapidly dismounted to take up positions and the planes took off immediately to continue the shuttle runs.

The loading and unloading of troops and equipment and the control of aircraft were well organized at both air strips, making for a smooth, rapid surprise vertical envelopment.

The first men to land isolated the landing field by establishing road blocks. As more members of Company "B," 701st AIB arrived, the defense was strengthened and expanded. The second platoon landed and then struck out to successfully seize a commanding terrain feature. After arrival of the final platoon, the company was made ready to move out on foot to seize an objective. The mission of the company was accomplished by 2330 hours and nighttime defensive positions were established to secure the "objective" until a link-up by armor elements could be effected early the next morning.

In 3 hours and 10 minutes the fourteen liaison planes made 268 landings and take-offs from these emergency landing strips without incident. Each plane flew nine or ten round trips. All equipment was flown in on the laps of the air-lifted personnel. Aerial resupply could have been accomplished by the utilization of the bomb racks mounted on the liaison planes and the necessary air drop containers organic to the unit.

The entire operation was most successful. It was excellent training for the pilots and for the personnel of Company "B," 701st AIB, every one of whom volunteered for this "Fleaborne" training.

To be successful, an operation of this type would of necessity have to be quickly followed by an attack effecting a link-up. Such an operation is truly indicative of the fighting potential of any unit if only the commander fully realizes what is at his disposal and then employs these forces and elements with determination, force, speed and imagination!

## An Officer and a Gentleman

by DEAN E. RYMAN

**D**URING the Spring of 1806, Congress sharply revised American policy concerning other than commendable behavior by commissioned officers of the land forces. Tolerance for their objectionable though non-criminal actions had theretofore been customary, unless the undesirable conduct amounted to what was then called "behaving in a scandalous and infamous manner." But the new century brought a new rule, one that was soon commonly described as "a higher code termed honor"—an obligation to ever act and speak as "an officer and a gentleman."

The amended law did not make refinement and good breeding compulsory. It did not declare that a military leader, in order to be deemed a gentleman, must always be gracious, considerate, and respectful. Some who are deficient in these tokens of gentility (to equals and subordinates, at least) are often excellent administrators or capable of arousing their followers to accomplish great deeds against discouraging odds. There has always been room for rough ashlar among warriors.

As used in the 83rd Article of the code enacted in 1806, as well as in the laws whereby its mandate has been perpetuated—AW 61 of 1874 and AW 95 in each of the succeeding Articles of War—the word "gentleman" signified a man of honor. All commissioned members of the Army were expected to be individuals conspicuous for unwavering adherence to the truth and for remaining undaunted by disturbing consequences to themselves arising from doing their duty as they saw it. They were to be

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noted for conduct untainted with moral turpitude and for sincerity and impartiality in thoughts, words, and actions on all occasions. Every officer, in addition to possessing physical courage, was to be constantly loyal to his country and all for which it stands, as well as imbued with the boldness of spirit and strength of mind that bring about fidelity to all one's own responsibilities, public or private, whether they are imposed by others or undertaken of his own volition.

Since a time whereof the memory of living men and their fathers runneth not to the contrary, the deportment of all commissioned leaders of the Army—and later, the separate Air Force—when on active duty, regardless of component, has been thus measured. A similar rule for evaluating the behavior of officers of the Navy and its related services has long prevailed. Neither the extent of a particular individual's military training or experience, nor the probable length of his tenure of a commission or of an active duty status, has been given any weight. All such persons together were considered a single group, segregated from the enlisted men of the armed forces as by a veil beyond which the latter did not pass; even as one of blue and purple and scarlet (of fine twined linen and cunning work) isolated the repository of the Ark of the Covenant. And as in those far-distant days, from all authorized to enter the thus reserved place there has been demanded during many decades compliance with a more exacting pattern for behavior than that to which the excluded persons were required to conform.

Respect for this policy—in the final analysis—has been secured by drumming out of the ancient and honorable profession of arms those who flouted its "higher code termed honor." In relatively recent years, this drumming-out has been only figura-

tive: effected by publishing military orders which declared the offenders' dishonorable separations and the reasons therefor. But virtual certainty of such action by competent authority, plus knowledge that former comrades would then deem further association with the culprits scandalous, has been a penalty usually more dreaded than the retribution visited upon Nadab and Abihu. For generation after generation, it was the law—and the practice—that "any officer or cadet who is convicted of conduct unbecoming an officer and a gentleman shall be dismissed from the service."

At the head of the once commissioned rogues thereby driven into the wilderness, and numerically superior to all other groups of the banished ones, are the non-felonious liars who made untrue statements, oral or written, whether to a superior or to others in the service—particularly to an immediate commander, when the purpose of such comments, or the fairly probable result thereof, was to thus affect the official action or liability of the persons addressed. Hard upon their heels march the dismissed officers who departed seriously from the truth when they spoke or wrote privately; and those who kept their lips closed when honor-bound to reveal the truth. Among the knaves whose condemned mendacity was of a private character are the slinking whisperers spreading "half truths" relative to their comrades, statements which (standing alone) are literally true but mean something quite different from what the whole truth—known to the speaker or writer—would signify. It has usually mattered not whether an affirmatively evil purpose characterized the utterances or writings of persons in any of these groups or whether they conversed, wrote, or remained silent with gross disregard for the consequences to others. For our fellowship, as Whittier expressed it, "when

faith is lost and honor dies, the man is dead."

In this Legion of Dishonor are also phantoms of ex-officers who disregarded other obligations implicit in the holding of a commissioned status, as distinguished from the status of merely being hired. A clear majority of them are persons to whom compliance with the letter of the law, rather than with its spirit, was enough; though interspersed here and there can be seen individuals whose proven conduct is undeniably criminal under almost universally accepted standards, even tainted with moral turpitude as well. The behavior of most of those who put too much weight on the letter of the law was usually neither expressly lawless, nor clearly infamous or scandalous, nor morally intolerable, but their fellows declared it so grossly unfitting and unworthy, not merely inconsistent with good taste and propriety, as to demand their expulsion.

#### Legion of Dishonor

Some of them did not strictly eschew immorality, many failed to avoid actions inconsistent with complete honesty; others did not loyally support their superiors, were indifferent to the latter's known wishes that had been stated otherwise than by direct orders; and quite a number exercised discretionary authority oppressively or claimed the privileges of officers under circumstances when that was not warranted. Among the confirmed infringers of the 95th Article of War, are cheating during professional examinations, requiring excessive toil or very arduous duty of other men for especially long periods when there is no military necessity, wearing the insignia of an unearned rank or an unearned honor merely to impress observers, securing credit lawfully but so often as to force a conclusion that grossly inadequate consideration has been given to how the debts can be paid, scoring a promise to avoid strong drink or houses of prostitution, and being notoriously compassionate with military personnel of lower rank. Others who have been booted out as bounders include those who dealt off the bottom of the deck in a penny-ante game, who seriously miscounted their strokes in a golf tournament, who verbally abused enlisted men held in

formation, who participated in a wager for a sum manifestly beyond that which a bettor could afford to lose, who secretly altered a military record pertaining to themselves with no purpose other than to avoid unpleasant comment, who used profane or vulgar language to chaste women or about them, or who read another's private letters without his permission or a direction by competent authority.

There are still others, though this does not seem an appropriate occasion for a complete roll call, even by groups, of all whom their comrades have expelled because they were not men of honor. If you would know more of what was deemed to be "conduct unbecoming an officer and a gentleman" before June of 1951, consult Colonel Winthrop's too often dusty volume or the official rulings of the several armed forces. But bear in mind, should the knowledge thus obtained shock you at first, that the proscription enacted in 1806 was liberally construed for a century and a half with a view to safeguarding the reputation of all military leaders. Thousands of officers had hundreds of opportunities—often tempting—to overlook the "higher code termed honor." You need not hang your heads in shame for the shortcomings of the members of our profession as a whole.

The sponsors of the Uniform Code of Military Justice did not contemplate a material change. Their proposed 133rd Article read: "Any officer, cadet or midshipman who is convicted of conduct unbecoming an officer and a gentleman shall be dismissed from the service." Like the law to be thereby replaced (AW 95 of 1948), the proposed new one weighed against "conduct unbecoming an officer and a gentleman," assuming the significance of those words to be well understood, and prescribed a dismissal—neither more nor less—upon conviction.

That new Article would have created no criminal offense; it would not have authorized imposition of a punitive loss of liberty or property. An effective means was to be provided whereby commissioned members of all the armed forces who would not conform to the canons of ethics their fellows deemed obligatory could be ousted whenever—for one reason or

another—employment of a different disciplinary method would likely bring about some punishment other than a dishonorable separation; just as lawyers and doctors drive out their shysters and quacks, even when the latter cannot be jailed or fined. My own Military Justice mentors, speaking of the 1916 version some thirty-odd years ago, described it to me in unforgettable language as "a device for plucking a tainted apple from the barrel, lest its putridity spread." The plan contemplated early in 1950 was to continue that scheme as it had stood since 1806; but when the new code was finally enacted our erstwhile familiar "shall be dismissed from the service" had become "shall be punished as a court-martial may direct."

#### What Is Punishable?

Unlike its predecessors, this new law is indubitably penal. Since an offender's liberty and property may be taken from him by the express authorization contained in Article 133 UCMJ, it follows that under familiar rules for interpreting criminal statutes this altered mandate must be construed strictly against the United States, and in favor of each alleged violator, whenever the problem before the court is whether a specified action by him constitutes "conduct unbecoming an officer and a gentleman." Congress has made no statement concerning what misbehavior is now within the scope of the last quoted words; it has not expressly authorized any person to declare what is thus prohibited; nor have our national lawmakers provided a standard for guidance of the President, should he determine that, either as the Commander in Chief or under Article 36a UCMJ, he ought to disclose to the armed forces what words and actions are punishable under the new law.

For many of the actions which I have listed as violations of the 95th Article of War, and for many not specifically mentioned, the consensus of American opinion has been during many decades that dismissal alone is the only appropriate and just retribution. Have we been mistaken for a century and a half? Is it believable that Congress deliberately authorized jail terms and fines for such misconduct; and without even a debate concerning the need for a change? If the

national legislators did not so intend, which actions condemned by the older law are also punishable under the new one? Who determines those that are to be so considered, the President not having done so even if he has the authority? Pause thoughtfully before you decide that Congress has delegated such power to courts-martial, temporarily assembled groups who must not be even scolded when they make a mistake. Look at the new code's elaborate provisions for original, appellate, and ultimate reviews, if you would know how much Congress trusts the tribunals of the armed forces to reach proper conclusions.

A greatly abhorred tyrant, so the story runs, habitually phrased his edicts in words of unclear purport—that more of his subjects might inadvertently incur the punishments he liked to inflict. Did our Congress adopt that course? If not, how may this new statute be reconciled with the long sanctioned rule that no American (not even a "brass hat") need ever fear a punitive loss of either liberty or property until he has disregarded a plain warning to do or say (or refrain from doing or saying) clearly indicated acts or words under readily identifiable circumstances? These questions cannot be answered until the Court of Military Appeals has considered at least a few alleged violations of the new version of the 1806 mandate. Meanwhile, many sober-minded observers are fearful that Article 133 UCMJ is so impregnated with the Caligulan curse as to be incapable of any lawful enforcement at all.

#### A Sacred Trust

But suppose for the moment that their fears are unfounded or greatly exaggerated; that the Court of Military Appeals does find a way to sustain this new Article in whole or in part. There will still remain—*un fait accompli*—the legislative determination that dismissal for "conduct unbecoming an officer and a gentleman" is no longer mandatory. That merits the serious consideration of every wearer of the uniform in our armed forces.

In the past, officers' bars, stripes, leaves, eagles, and stars have seldom been entrusted to men incapable of disciplining themselves or undisposed

to do so. It has been the rule that an officer could be convicted only once: after such an event he would not be an officer. The moment a mistaken choice as to the holder of a commission has been discovered—conduct on his part that was uncommendable and too serious for a summarily ordered penalty—the offender has been hustled out of the service with scant ceremony. Now, though such a person is neither worth the higher pay he draws nor fairly entitled to the privileges he enjoys, he may be tried again and again—as often as he offends. Each time he may be punished as lightly as the members of the court-martial may choose, however guilty, and he may long remain a thorn in the side of the armed force that once accepted him: in fact, until he is eliminated by administrative methods, with many of the honors and rewards that accrue to those who serve faithfully and well.

Speculation here and now concerning the immediate cause of the unhealthy situation seems profitless. This is not an appropriate forum for such an inquiry. But if it is due to something other than a heedless blunder, some serious thinking about a possible underlying reason therefor

#### The Questions Involved

Undoubtedly there are Americans (some in officers' uniforms, I fear) to whom dismissal from a commissioned status is not a crushing retribution which cancels cherished aspirations and makes further existence seem futile. Are there many of them? Perhaps an enactment of Article 133 UCMJ, in the words chosen when the sponsors of the new code first wrote it, would not have accomplished the purpose initially declared by Congress in 1806—to which there has been continued adherence, as far as the books of the law disclose? Possibly we no longer believe that to be a sound policy, and perhaps keeping such a statute on the books would have been mere hypocrisy? Mayhap the character of our people (including their armed forces?) has so deteriorated that the enactment—as proposed—would have proven but a dead letter law?

It could be that we have once more, as before 1806, become a nation prone to tolerate behavior which is cheap and shoddy—"unbecoming

an officer and a gentleman?" If so, is that a direct result of the global conflict which has lately spattered out, with no one unquestionably the victor? Possibly, on the other hand, it is the slow but inevitable outgrowth of national tendencies during the Roaring Twenties, when we habitually scoffed at nearly every standard theretofore deemed obligatory—in and out of the military establishment? Perhaps our national lawmakers, and the sponsors of our new code, were wise to recognize existing conditions and to so word the new law as to put it in harmony therewith?

I ask these questions, but do not answer them: for doing so, and then acting as the answers suggest, is an inescapable responsibility of those still on active duty as officers. I am but reading from a script near a plainly indicated cue-line: "The old man exits."

#### The Higher Code

Possibly I am unduly disturbed; but I submit that although Article 133 UCMJ renders lip-service to "a higher code termed honor," commissioned personnel of the armed forces can no longer be considered a group apart, can no longer be fairly deemed bound to comply with a more exacting pattern for behavior than that to which others must conform. Congress has taken an action against which Mr. Justice Nott warned so many years ago: "the standards of the service" have "come down to the requirements of a criminal code." The sun has been darkened, and the veil is rent in the midst. To our lawmakers, the reason for the fate of Nadab and Abihu has lost its significance; the tale is to them just a bit of folk lore inappropriate for modern times. Will the armed forces, thus invited, now grow heedless of all our ancient landmarks?

Two facts still remain, however, both quite beyond the power of anyone to alter. Only officers who are able and willing to discipline themselves—to ever act and speak as becomes "an officer and a gentleman," can maintain discipline over others; and nought but a Pyrrhic triumph can be secured by any command when discipline falters. None of the armed forces can afford to retain any commissioned officer who is not thoroughly so convinced.

**Tanks and Infantry Blast Red Positions In 9-Hour Feroz**

By the Associated Press  
SEOUL, Sunday, June 2.—All Red tanks and Infantry blasted

## ARMOR NOTES

**Red Tanks and Troops Attack in East Korea; Assault in West Ends**

By the Associated Press  
SEOUL, Korea, June 19.—The Communists assaulted two United Nations positions in East-Central Korea today after dropping at

is necessary to mental alertness and to prompt action.

Maj. Gen. I. D. White, commander of The Armored Center and Armored School, also extended his congratulations to the graduating officers. General White pointed out that the 1951-52 class was the first to receive instruction in our new tanks with their new fire control system, radios and armament.

### Army Develops Heavy Duty Flatcars

The first of several hundred huge railway flatcars developed by the Army Transportation Corps are now rolling off production lines and are already being put to use in moving the Army's new M47 medium tanks and other heavy military equipment.

One of the first considerations of the Department of the Army in the development of large pieces of ordnance such as tanks and heavy artillery, is the transportation characteristics of the equipment concerned. Obviously, military equipment weighing upwards of 60 or more tons would be of no value to the service if it could not be transported over the highways or railroads from the factory to the using arm or port of embarkation.

These considerations are necessary at the earliest practicable stage: clearance restrictions, weight limitations on both rail and highway bridges and capacities of carrying equipment are some of the factors that must be carefully weighed long before a heavy piece of ordnance comes off the assembly line.

About a year and a half ago it became obvious to the Transportation Corps that consideration would have to be given to procurement of special heavy duty flatcars to carry the big tanks then being developed by the Ordnance Corps. Clearance engineers in the Office of the Chief of Transportation made special studies of the problem, including equipment available to the commercial carriers and special clearance studies to determine the basic dimensional characteristics of cars which would have to be constructed if not available in sufficient quantity from the railroads.

Because of the always high demand for flatcars by all shippers, both military and commercial, and because of the limited number of cars available, consultation was held with representatives of the Association of American Railroads. This was in keeping with the Army's policy not to compete with commercial carriers if the carriers could supply the necessary equipment. It was determined advisable to supplement the railroad ownership of heavy duty flatcars with specially constructed cars to be owned by the Army. This would then insure that the transportation requirements of the tank program would be met. After this initial research and determination was accomplished by the Transportation Corps, necessary procurement action was taken.

Recently the first of these cars to be used in the tank-shipping program rolled into the yards at the Hampton Roads Port of Embarkation.

The new 54-foot car was loaded with two M47 tanks, which heretofore were loaded but one to a car. The tanks weigh 93,000 pounds each, very nearly the capacity of the cars which are rated at 200,000 pounds; this is approximately double that of the average commercial type flatcar.

The new flatcars are of unusually heavy design weighing 110,000 pounds when empty, have six wheel trucks instead of the usual four to distribute the loads, and are designed for high speed operation, which means they can be coupled to passenger trains. For this reason, they are equipped with signal and steam lines. The cars have high beds because of special clearance requirements and are over ten feet wide.

### Air Force Tank Kills in Korea

A report by the U. S. Air Force on 24 months of operations in Korea lists 1,134 tanks destroyed by the USAF,

and 121 by attached units, for a total tank kill of 1,255.

### Belgium Receives M47 Tanks

The arrival from the United States of an initial consignment of ten Patton M47 tanks for the Belgian Army was celebrated at Antwerp on June 28th with a brief ceremony at quayside. The Patton M47 with its rubber caterpillar tracks—a feature about which many officers expressed their admiration—is an improved version of the Patton M46.

United States military officers attached to the embassy and high-ranking Belgian defense officers attended the ceremony. A Belgian infantry detachment was drawn up on quayside and a military band played as the tanks were unloaded from the Belgian cargo boat *Scoenstrasse*.

These ten tanks were the first of their type to be delivered to any European country scheduled to receive aid under the Mutual Security Agency program, though some were supplied to the United States Army in Germany a short while ago.

### Generals White and Collier in Command Shifts

Major General I. D. White, Commanding General of The Armored Center and School for the past year, will leave Fort Knox in August for duty in the Far East Command.

Gen. White will be succeeded by Maj. Gen. John H. Collier, now Inspector of Armor in the Office of the Chief of Army Field Forces.

Gen. White's assignment will be announced by the Far East Command. Gen. Collier's successor had not been named at press time. Both officers are members of the Executive Council of the U. S. Armor Association.

### Armored School Assistant Commandant

Brig. Gen. Robert Lee Howze, Jr., assumed the position of assistant commandant of The Armored School upon his arrival at Fort Knox on June 12. He came to The Armored Center from the Caribbean Command, where he had been chief of staff since February 26, 1951, with headquarters at Quarry Heights, Canal Zone.

General Howze replaced Col. Thomas D. Roberts who was reassigned as a member of the Joint Army Military Advisory Group in London, England.

The new assistant commandant is an experienced armor leader. During World War II he served with the 8th Armored Division as chief of staff and in 1944 and '45 in Europe commanded the 36th Armored Infantry Regiment of 3d Armored Division. He is a Class of 1925 graduate of West Point.

Col. Thomas D. Roberts, who has seen 16,028 students finish the many and varied courses at The Armored School during his tour as Assistant Commandant, left Fort Knox 7 June for his new duties.

A recognized authority on armor doctrine and tactics, Col. Roberts had served The Armored School since November, 1948, when he was assigned as Director of Instruction. In July, 1950, he moved to the position of Assistant Commandant, to install the importance

of armor tactics and associated subjects into the lives of Army personnel of all ranks, from private to the field grades.

### Armor Career Management Chief

Col. William J. Bradley, Chief of the Armor Section of the Career Management Group since mid-1949, has been ordered to the Far East Command for assignment.

Col. Bradley has been succeeded by Col. Charles E. Dissinger, who has been Chief of the Plans Section of Career Management Division for the past year.

Col. Bradley is a member of the Executive Council of the U. S. Armor Association.

### Detroit Trains Men On New Tanks

A long-range training program to prepare members of the armed forces in the operation and maintenance problems of the latest family of combat and cargo vehicles before the new items reach the field was launched at Detroit recently.

An initial group of 13 civilian and military instructors and supervisors from Army installations throughout the country started studying the new features of the M47 medium tank, now in mass production. The Ordnance New Vehicle Maintenance School, which opened at Fort Wayne June 9, is under the supervision of the Detroit Ordnance Tank-Automotive Center.

Due to the urgency and importance of training on this vastly improved tank, the first class started in incomplete classrooms with only the bare essentials, two months after the program was formulated.

Upon completion of this course the student-technicians will return to their installations to set up training programs for the men who will shortly begin servicing and driving this tank.

Although the first group is small in size, it is the forerunner of many classes to follow. An average of 5,000 men per year are expected to attend the courses covering the entire new line of track and wheel vehicles, many still secret, which are now in the final stages

of design or nearing mass production.

Among the more than 35 new models which will be studied by the technicians, supervisors and shop foremen, are the new T48 medium tank, T41 light tank, T43 heavy tank, Otter and a complete new line of cargo trucks ranging from the new 4-ton jeep to huge 15-ton monsters.

Earlier courses were held at Detroit Arsenal, Lima Ordnance Depot, Atlanta Ordnance Depot, and in several industrial plants. The only courses still in operation are at Atlanta, on a small scale. Lack of suitable space or facilities prevented permanent schools of the scope desired at any of these places.

Not only will the Army benefit from this program but representatives of all the armed forces will soon be attending the school for training on the latest motorized equipment.

North Atlantic Treaty Organization members will also receive instruction so that the maximum use will be obtained from equipment that they will receive under our present aid program.

### Gen. Hodge Addresses Advanced Class

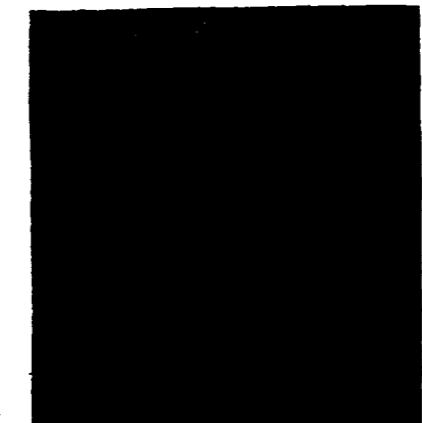
Lt. Gen. John R. Hodge, who succeeded Gen. Mark W. Clark on May 8, 1952 as Chief of Army Field Forces, addressed the Armored School's Advanced Class 1952 graduation during one of his first inspection trips as AFF chief.

General Hodge told the 221 graduating officers on June 6, "Our most important duty is to train young Americans to survive in combat to keep our country free." Recognizing the 29 students from 18 friendly foreign nations, he commented that our "fighting team now is becoming an international team." And the U. S. Army school system is part of the team program, he said.

General Hodge told the graduates that as long as they remain officers of the Army they will never finish studying. He advised them to keep physically fit. Many officers, he said, failed during World War II and in Korea because they were not in good physical condition. This, General Hodge said,



In August Maj. Gen. I. D. White will turn over command of the Armored Center and School to Maj. Gen. John H. Collier. Gen. White goes to Far East Command.



Brig. Gen. Robert L. Howze has assumed the post of Assistant Commandant of the Armored School, replacing Col. Thomas D. Roberts, who goes to London.



U. S. Army (1933)

## WORLD WAR I TANK CORPS HEAD PASSES AWAY

With the passing of Brig. Gen. Samuel Dickerson Rockenbach there is ended an era that saw the beginning of armored warfare. Gen. Rockenbach was commander of the Army's Tank Corps in combat in France in 1918 there were in the United States Army under him two battalions of light tanks, directly commanded by George S. Patton (then Captain), and one battalion of heavy tanks.

Gen. Rockenbach was an inspiring leader and a farsighted pioneer of the tank. The tankers of the small American force were never surprised to see him on the field where our tanks were engaged with the Germans. These engagements were the small beginning that set the pace and established the tradition of armored warfare in the United States Army.

Patton's dash across Europe in World War II had its genesis in the bold devoted service of the old Tank Corps.

Gen. Rockenbach had but few tanks in the American Army and they were a vital necessity in the drive at the Argonne Forest toward Metz. He used the men and tanks to utter exhaustion and depletion. Some tank companies suffered over 90% casualties. At one time in the Argonne drive there were less than twenty-five operative light tanks available for combat.

The first breakthrough of tanks was under his command at St. Mihiel, when three light tanks personally led by Lieutenant McClure of Richmond, Va., from "A" Company of the 326th (later the 344th) Tank Battalion, broke through at Ville en Woivre and hit the Hindenburg line about the 14th of September, 1918, capturing a battery of artillery and returning to their unit with the breechblocks of two of the field pieces.

He was a fearless and farsighted leader. All honor to him.

The survivors of World War I tanks salute him, for under his command the early armored history was made, and the high standards of dedicated performance set for our Armored Service, which has made American armor a bulwark of strength in times of peril.—Burt G. HANBY H. SIMONS, RET.

### Civilian Component Training at Knox

Summer camp training for Armor civilian component units is in full operation at The Armored Center and will continue through August.

Following the departure of Military Academy upperclassmen on their combined arms tour, nearly 700 members of college ROTC units arrived at Fort Knox on June 21 for a six-week training period to be concluded on August 2. During the period July 6-20, approximately 2000 West Virginia National Guardsmen will train here. Approximately the same number from the Kentucky National Guard are scheduled for August 17-31 and various ORC units will be in training from July 6 through August 31. The ORC units include the 83rd Infantry Division which will occupy the summer camp during August 3-17.

General White at an orientation read a letter concerning particularly the ROTC cadets from 2nd Army Commander Lt. Gen. Edward H. Brooks. General Brooks wrote:

"The source of the bulk of our officer corps in the future will be the ROTC. The initial impressions which these young men receive at their educational institutions and on the posts where they get their summer training will be lasting, will shape in large measure their attitude toward the Army as a whole, and will be highly influential in their final development as Army officers."

Twenty-two colleges and universities are represented at the ROTC summer camp. Seventy-two of the cadets are students at Clemson University, 69 at Arizona, Norwich 67, Georgia 67, Texas A&M 54, New Mexico Military Institute 54, Michigan State 53, Ohio State 49, Massachusetts 36, VMI 32, Middle Tennessee State 29, Auburn 27, Illinois 24, Oklahoma Military Academy 24, Furman 8, Indiana 2, and one each from Kansas, Kent State, Clarkson Tech, Delaware, Wyoming and Carnegie Tech.

### BB Gun for Subcaliber Firing

The adoption of the "BB guns" as subcaliber devices on the tanks and tank trainer at the University of Arizona has been successful in giving ROTC cadets practical training as tank commanders and gunners in the Tank Gunnery course.

During the preliminary stage of the Tank Gunnery course it was felt that while the ROTC cadets were acquiring "book learning" of fire commands and the duties of tank commander and gunner they were not getting the "feel" that only practical application brings. The terrain boards were not achieving desired results. Actual firing with conventional subcaliber devices was out of the question because of the ammunition problem and the absence of a range.

The BB gun has many advantages.

ARMOR—July-August, 1952

It is inexpensive. Ammunition is no problem.

### West Point First Classmen Visit Fort Knox

The eyes of West Point's First Classmen were on Armor. In their annual combined-arms tour of military installations, cadets watched the mighty combat branch in action at its Fort Knox home and sized up opportunities that would be offered them as career officers in Armor.

It was a crowded four days the 507 First Classmen spent at The Armored Center in May. From the moment they poured down the ramps of the seven giant C-124 planes that brought them to Knox from Wright-Patterson Air Base in Dayton, Ohio, they were swept up in a rush of activity designed to make armor a vital part of their military thinking.

Maj. Gen. I. D. White's welcoming remarks stated the case squarely: "The American armored division is probably the greatest combined-arms team ever assembled and organized." But, he pointed out, for its efficient employment it must be transported and supported by the other great members of the armed forces team—the Navy and Air Force.

"Here at The Armored Center we teach and preach the doctrine of coordination and cooperation of the combined arms," said the commanding general.

Describing armor as "the great offensive combat arm of decision," General White told the cadets:

"You have heard, read about, and seen many means and weapons for overcoming enemy armor. Except for the tank—they fall into the category 'for defensive use only.' The offensive

requires the employment of tank versus tank."

### Tank Conference

Improvements and changes in the design and construction of the "Tanks of Tomorrow" were discussed in detail by over 100 top military and civilian technical specialists, engineers and tacticians during a two-day conference held in Detroit on 8 and 9 May.

Due to the lack of sufficient conference space at Detroit Arsenal, the meetings were held at the Chrysler Central Engineering Building in Highland Park. Col. Glenn C. Wilhide, commander of the Detroit Arsenal and host to the conference, made the opening address.

The views and needs of the using services were discussed with Army Ordnance officials during the first day. Scale models of proposed tanks were inspected and a full scale mock-up of a new, prospective, light tank was examined.

The meeting closed with a visit to the General Motors Proving Ground at Pontiac on 9 May.

Among the many distinguished visitors were: Maj. Gen. I. D. White, Commanding The Armored Center, and Maj. Gen. R. W. Beasley, Army Field Forces; Maj. Gen. W. D. Maris, Office of the Army General Staff; Brig. Gen. G. S. Meloy, Jr., Infantry School; Brig. Gen. Carroll H. Deitrick, commander of the Detroit Ordnance Tank-Automotive Center; Brig. Gordon-Hall, British Army and J. N. Davis, Office, Assistant Secretary of the Army.

Others present included: Colonels E. M. Clarke, W. S. Triplet, W. G. Dolvin, R. R. Robins, H. H. D. Heiberg, S. G. Brown, J. F. Thortin, R. E. Rayle, C. J. Rinker, W. J. Crowe,

R. Z. Czinn, W. P. Withers, R. H. Grander, D. A. McPherson, Charles B. Ewing, A. G. Chubb, A. G. Sengner, J. M. Henderson, L. A. Hammock and W. A. Call.

### Chrysler Corporation Names Executive in Tank Operations

The management team assigned by Chrysler Corporation to the preparatory contract for taking over tank production at the Detroit Arsenal has started work and Robert T. Keller has been designated General Manager of Tank Manufacturing Operations for Chrysler in both Delaware and Detroit. Mr. Keller is general manager of the Chrysler Tank Plant at Newark, Delaware, and now will have responsibility for both programs.

### 1st Armored Division Reunion

The Fifth Annual Reunion of the First Armored Division Association will be held at the Hotel William Penn, Pittsburgh, Penna., from Friday, August 29, to Sunday, August 31. Among those invited to attend are Generals Orlando Ward, Paul Robinett and Ernest Harmon. Information may be secured from William R. C. Ford, 1707 Oliver Building, Pittsburgh, 22, Pa.

### 5th Armored Division Reunion

Veterans of the Fifth Armored Division will hold their sixth annual convention on the Labor Day weekend in New York City. Sponsored by the New York Metropolitan Chapter of the Fifth Armored Division Association, the convention will take place August 29 to 31 at the Hotel New Yorker.

Major General Lunsford E. Oliver (retired), who commanded the division from its training period until the close of the war, when the division was poised on the Elbe River, less than 50 miles from Berlin, will be a speaker at the annual dinner to take place on the closing day of the convention.

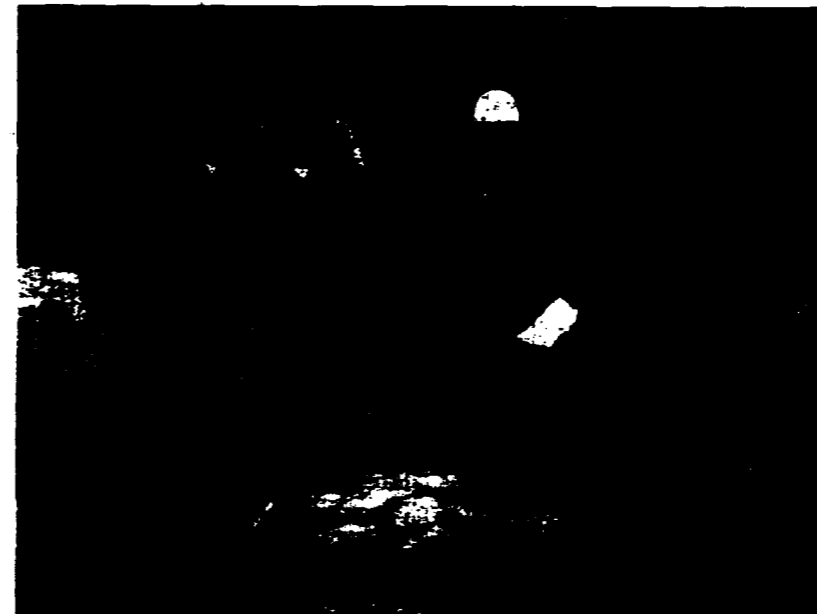
A representative of the Grand Duchy of Luxembourg, which was liberated by the division in September of 1944, is also expected to address the dinner.

The three-day event will open with a dinner on Friday, August 29, with Al Germ of Cleveland, association president, presiding. A feature of the August 30 program will be a luncheon. The business meeting will take place on the afternoon of August 31, to be followed by the dinner and a dance.

James Fitzgibbons, 141 Halliday Street, Jersey City 4, N. J., is the convention chairman.

### 10th Armored Division Reunion

The First National Convention of the 10th Armored Division Association will be held at the Park Sheraton Hotel in New York City from August 30th to September 1st. For reservations and information, address J. Edwin Grace, 172 Larch Road, Cambridge, Mass.



At Fort Hood, Texas, the 1st Armored Division has provided great assistance to the ROTC students of Texas A & M. Armor students were able to participate in running the Tank Crew Proficiency Course, received valuable critiquing.

ARMOR—July-August, 1952



U.S. Army Photos

HEIL HITLER

## The 1952 Armor Officer Candidate

*Armor's Officer Candidate School at Fort Knox is turning out leaders for the mobile arm. As a source of opportunity in the branch, it is one element that contributes to branch appeal. Commanders should fill quotas from within the branch if we are to attract the personnel base to insure the future of Armor*

**T**HE Armored School's proving ground for enlisted men who want to become officers is again in full strength operation. The reactivated Armor Officer Candidate Detachment, for the first time since 1946, is enabling qualified enlisted personnel to assume officer status as second lieutenants of Armor—although the World War II predecessors of the 1952 graduates did not have the privilege of wearing the distinctive insignia of the new basic branch.

The arrival of Armor as a co-equal branch with Infantry and Artillery also precluded for the 1952 candidates the problems, the unanswered questions and the duplication that existed in the wartime operation of not only the OCS of the brand-new Armored Force, but also the Mechanized Cavalry and Tank Destroyer

L. M. KOHLMEIER is a member of the Public Information Office staff of The Armored Center, Fort Knox, Ky.

by L. M. KOHLMEIER, JR.

OCS's. Armor officer candidate training has not changed though in being a demanding routine designed to pressure the candidate to reveal his fitness and motivation for command, or his lack of these qualities.

The first class of 231 candidates of the Armored Force School who reported in on July 1, 1941, had only 13 weeks to prepare themselves to be tank platoon commanders. Today's Armor officer candidates undergo a 22-week course that incorporates much of the field and practical training particularly in tactics and gunnery that urgency did not permit in 1941.

The current Armor officer candidate program as a whole reflects the interpretation of today's world situation as a lesser emergency than that which the United States faced in July, 1941. The present operational load of the Armor O/C Detachment has been leveled at eleven classes enrolled in the 22-week course, grad-

uating a class every two weeks. The number of entrants to each class now has been stabilized at about 100 candidates, although the first three classes, begun in monthly rather than bi-weekly intervals, were somewhat larger.

After the first World War II Armor OCS class was begun on July 1, 1941, a new class was enrolled every three weeks until a speeded-up schedule with a class starting every week was inaugurated with Class 15 in October, 1942. This pace was maintained until July, 1943, when the frequency of new classes was cut back to every other at the same time that the course was lengthened from 13 to 17 weeks. The 17-week course was maintained until the course was discontinued on September 1, 1946, although frequency of new classes varied with the Army's need for new officers. The wartime OCS reached its peak in January, 1943, with 3,496 candidates divided into 13 candidate companies and 576 cadre. During its

five years of operation, more than 12,000 second lieutenants were graduated.

The operation of the reactivated officer candidate course has now leveled on a peak load that averages approximately 1,100 candidates enrolled in 11 classes with an attrition rate of 35 to 40 per cent by graduation day. About 200 cadremen are assigned to the Detachment, not including instructor personnel of the previously constituted Armored School Departments, from whom the candidates receive most of their training.

The relatively high attrition rate, compared with the 25 per cent which was normal for the classes during the five years of the wartime course reflects too a less strenuous need for officers now than in 1941-46. Sixty-five per cent of all candidates relieved from the present course thus far were dropped for "lack of motivation," the same reason that led the field during World War II. The motivation heading includes all manner of shortcomings in the individual candidate which reveal his lack of adaptability to the demanding routine of OCS or later, as a combat officer. Candidates are brought before the Officer Candidate Evaluation Board—popularly called "boarding"—for deficiencies in conduct which may range from dishonesty to accumulation of an excessive number of demerits.

The second largest group of OCS reliefs, 16 per cent, has been for reasons of lack of leadership ability, revealed to class tactical officers who subject candidates to minute and constant observation.

Ten per cent of the reliefs have been for physical defects which would hinder the candidates' performance and which were not caught previously. Disciplinary reasons account for 7 per cent, and the last 2 per cent of the reliefs have been because of academic failure.

Academic deficiency was a much more prominent reason for dismissals from the World War II Armor OCS, partly because the shorter course concentrated on academic preparation, leaving little time for practical work in gunnery, tactics and field problems. In the present 22-week course a great deal of time is spent on ranges, tank parks and in the field. Today's Armor candidates are selected by a criterion of demon-

strated qualities of leadership, morality, mental capacity and physical fitness, and during the course they are observed for adaptability, academic proficiency and continuing physical development. In 22 weeks the candidates take five "physical efficiency" tests, and those who score low are brought before the Evaluation Board to determine whether they will continue.

This accent on psychological adaptability to combat stresses, to leadership and to allied physical efficiency is another contributing factor to the currently low standing of reliefs for academic deficiencies.

Today's candidate is also better equipped in educational background than his World War II counterpart to grapple with the academic side of his OCS training. The "average" candidate of the first 12 classes had had 13.57 years of formal education, or traveled up the educational ladder to complete 1½ years of college. The average educational level, however, can be expected to decline, just as the average age of entrants to Armor OCS has declined, with succeeding classes as Selective Service dips into successively younger groups of men to fill draft quotas. Of the 1,235 candidates who were enrolled in Classes 1 through 12, 1 per cent have postgraduate college or university credit; 19 per cent possess bachelors degrees; 42 per cent have some college work but did not graduate; and 38 per cent have only high school diplomas to meet the minimum OCS

educational entrance requirement.

The average candidate, again among the entrants to the first twelve Armor OCS classes, was 22.92 years old, although the average age declined steadily from 24.67 years for Class 1 to 21.10 years for Class 12.

The beginning of Class 1 on September 28 of last year posed few problems compared to those adjunct to the arrival of Class 1 in July, 1941 at the brand-new Armored Force School, or those which accompanied the integration of the Cavalry and Tank Destroyer OCS's with the Armored OCS in November of 1944.

The Armored School last summer activated an Officer Candidate Department, since redesignated "Detachment," for administration, house-keeping and teaching miscellaneous subjects, while the bulk of the candidate training was integrated into the schedules of the previously constituted instructional departments—Command and Staff, Weapons, Automotive, and Communications.

The permanent brick barracks on Third Avenue which housed most of the World War II candidates, however, are now occupied by School Troops, and renovation of an area of wooden buildings, north of The Armored School "campus" was necessary to house the new Armor candidate crop. The familiar two-story platoon barracks have been painted and rebuilt with partitions dividing the floor space into two-man cubicles and similar treatment has been given to wartime BOQ area to provide



The OCS is under the eye of top Armor commanders. Gen. White, Armored Center Commander, and Gen. Collier, Armor Inspector, witness the instruction.



quarters and facilities for study. Additional one-story wooden structures in the Detachment area have been refurnished as classrooms.

Detachment commander Colonel William H. Wood is in charge of the 146 hours of instruction out of the course total of 968 hours, which do not properly fall under the other Armored School instructional departments, including drill and command classes, physical training, officer indoctrination, and citizenship and morality.

The Command and Staff Department has the lion's share of the officer candidate instruction—totaling 416 hours. The largest blocks within the Command and Staff total are the 135 hours devoted to armor tactics and 38 hours each to infantry tactics and map and aerial photograph reading. Thirty-two hours are devoted to field training and shorter periods to intelligence, leadership, administration, military law, air operations and logistics.

The Communications Department has 55 hours to teach the candidates the fundamentals of radiotelephone procedure, radio operations and wire communications.

The Weapons Department, allotted 195 hours, devotes 82 of them to small arms, 62 hours to tank gunnery and smaller blocks of hours to material and observed fire procedure. The Automotive Department has the candidates for a total of 79 hours, and the remainder of the 968-hour course belongs to the assistant commandant,

during which classes are given in instructor techniques.

Most of the hours in the first four weeks of the 22-week course are given to Command and Staff instruction in principles of war, of the offense and defense, map and aerial photograph reading, tactics, logistics and administration. Instruction in the Automotive Department comes next and is followed by two weeks in the Communication Department. The Weapons Department takes over then, starting with small arms instruction and working up to the tank main guns, with every candidate firing all weapons organic to an armored division. And for the final weeks, the candidates return to Command and Staff for more comprehensive work in armor and infantry tactics.

The 73 hours of Drill and Command and 48 hours of Physical Training administered directly by the Candidate Detachment are interwoven through the daily routine of the 22 weeks. Company or platoon tactical officers supervise these hours, but they are conducted by the candidates. The role of instructor is rotated among candidates during physical training periods, and candidate officers and NCO's are utilized in command positions for drill and command exercises. The first of the weekly command conferences is conducted by company tactical officers, and the candidates are assigned by roster as instructors thereafter.

Although the academic work is the

structural framework of the officer candidate course, stress has been placed on the leadership and combat development and physical fitness necessary to the end product of a combat leader. Through 22 weeks of demanding routine each candidate is subject to minute and constant observation by company tactical officers to determine his adaptability for command responsibilities. The tactical officer must make the candidate aware that he is being watched, but the officer must at the same time dispel any preconceived ideas that the officer's mission is simply to detect weaknesses to eliminate candidates. The candidate must know that he is being judged fairly and impartially and to gain this confidence, the tactical officer must be friendly and helpful, but make known that this approach is an official, not a personal one. Impartial evaluation of candidates is not a simple matter, but experience has shown that the top and the very poor men in the officer's platoon will show themselves in the first few weeks of the course. Therefore, his concern is principally with those in the middle. Tactical officers are advised by the Detachment that, "Although the Army needs qualified officers, the loss of a candidate affects chiefly one individual, whereas the selection of one incompetent officer may be disastrous to many. Final doubts are to be resolved in favor of the service."

The entire course is oriented toward providing opportunities in which candidates will reveal their personal traits to tactical officers. A code of honor, setting standards of conduct for Armor officer candidates, and holding them individually responsible for the integrity of the code, is advertised to new arrivals. Lying, cheating, failure to meet payments due, misconduct in public or any other violation of the code is brought to the attention of an honor committee, made up of one candidate elected from each class. The committee hands over its findings to the Detachment commander for action.

Another part of the premeditated stress under which the candidate either proves himself or is relieved is a rigidly enforced system of discipline. Cadre company commanders and tactical officers assess demerits according to seriousness of the violation of the disciplinary standards. Failure



Students devote much time to study hours, with compulsory evening sessions in the first two weeks of the course. These students prepare for examinations.

to cooperate with enlisted men will cost a wayward candidate from 6 to 10 demerits. Use of vulgar or obscene language is worth 10 demerits, failure to salute costs 7, and failure to know his rifle serial number will get the candidate 3 demerits. The unfortunate officer candidate who accumulates a number of demerits in excess of 150 per cent of the class average goes before the Evaluation Board for a decision on whether he will be relieved, turned back to another class, or mend his ways.

Tactical officers have opportunities to observe proficiency and attentiveness in classes and formations, during physical training and the drill and command exercises, but every candidate has his day to demonstrate outstanding command capability—if he possesses or is developing it. A daily roster details the aspirants to commissions to candidate command assignments as candidate company commander, executive officer, first sergeant, platoon leader and sergeant, and assistant platoon sergeant. The candidate who demonstrates outstanding command capabilities as company commander may be excused from further command assignments while the borderline cases are assigned more frequently out of regular sequence. The candidate company commander is entirely responsible for the control and discipline of his company or class. His responsibility is to get the company to the appointed place or class, in correct uniform, at the specified time; to report absentees; to

answer for the conduct of his candidate officers-for-a-day; and to report to each instructor in this manner: "Sir, Candidate Jones, Candidate Company Commander, A Company, reports 90 men present and 1 man absent."

His executive officer renders a similar report to the instructor prior to the arrival of the commander and his company, then reports to the candidate CO when the class arrives, and he assists the candidate in his duties.

The candidate first sergeant orders the company to "fall in." He receives reports from the candidate platoon sergeants and then reports to the candidate company commander and insures that all forms needed during the day by the candidate company officers are available.

And the candidate platoon leader and his candidate noncoms are responsible for platoon control, discipline and appearance just as in any TO&E organization.

A schedule of inspections too contributes to the substance of the demanding routine. The cadre company commander conducts daily inspections of candidate quarters. On Tuesdays, Thursdays, and Saturdays, candidates leave their wall and foot lockers open for inspection, and they stand by for the Saturday morning inspections.

Each candidate is scrutinized throughout the course not only by the cadre CO and tactical officers, but also by his fellow candidates who are required to submit aptitude rat-

ings on other candidates in his platoon. At the end of the 8th, 12th and 16th weeks of the course, the candidate lists members of his platoon in "order of merit," with the man he considers to be the best platoon leader at the top, followed in order by those he thinks have lesser ability. And the candidate must briefly elaborate on the characteristics of his buddies which led to his evaluation. All such records are of course confidential, but they are important to the tactical officer's own evaluation, not only in revealing traits of the candidate evaluator but in disclosing more subtle characteristics of the subject candidate. The "tac" officer utilizes these comments in his own evaluation, only if he can verify them by his own observation. If adverse candidate criticisms are verified, the tactical officer makes known to the offending candidate the observation of his weaknesses, although the origin by another candidate of the criticism is never revealed to the offender.

Normal off-duty hours for the Armor officer candidate are from 1300 Saturday until 1800 Sunday, and if he forgets to sign out, he gets six demerits. Those candidates whose class attains senior status upon the graduation of the preceding class get special privileges such as wearing loops of yellow cloth with the Armored School crest on the epaulets of outer garments, and relaxation of pass restrictions. During the week prior to graduation, the senior candidates inspect junior companies, bed check is suspended for them, and double-timing to classes may be relaxed.

The last formidable obstacle put in the way of candidates is the Armor Military Stakes competition, a test combining practical application of the academic instruction with physical endurance. (Described earlier this year in March-April issue of ARMOR.)

Another situation in which candidates are placed to display their initiative or lack of it is the company council, consisting of one elected representative from each floor of the barracks. The council considers problems affecting the company as a whole, such as dances and other social activities and the class yearbook.

These non-academic parts of the demanding OCS routine, operating within the academic framework, are



Candidates use intensive tank fighting compartments as a part of the instruction in tank gunnery, which they receive from the Weapons Department.

the situations of individual strength—or weakness—in which the Army is interested. The aspiring candidate's academic proficiency will be of little avail in combat if as a company or platoon leader, he does not possess the qualities of leadership, adaptability and physical efficiency which made up the total of professional proficiency.

If the candidate is not sincerely aspiring to a commission and to the development of leadership capabilities, lacking the motivation which enables him to come out on top in all the situations where his proficiency is on test—academic and otherwise—he sooner or later comes before the Evaluation Board.

The Officer Candidate Evaluation Board is made up of a president who normally is the detachment deputy director, two members who are the candidate battalion commanders, and a recorder who is the detachment adjutant. The Board meets during the fifth week of a class to relieve or turn back those candidates who have early shown themselves deficient for reasons of discipline, leadership, demerits, or academic and physical progress. Subsequent Board meetings are held on the initiative of company tactical officers whenever these officers have observed and doubt the ability of any candidate to complete the course. Reliefs, as a result of these hearings, are classed as "lack of mo-

tivation." The Board meets 25 days prior to the scheduled graduation of a class to report a tentative list of graduates to The Adjutant General in Washington and turn back any deficient candidates. A final Board is held during the 21st week to determine the graduating list and designate distinguished graduates, if any.

The Board has at its disposal the "order of merit" standing of the candidate, his physical efficiency record and his academic standing. These are worth 45, 5 and 50 per cent respectively in the final over-all standing of the graduating candidate. The company commander enters his candidates' "order of merit" standings six times during the 22 weeks, based on demerits, on the order of merit candidates have assigned to each other, and on the recorded observations of traits, to which numerical values have been assigned, by tactical officers. The company commander's final "order of merit" over-all standing is based on his previous "order of merit" entries and the academic record of the candidate.

Interviews with candidates who have survived to reach senior status indicate they fully recognize the pattern of pressure and the reasons for it and that adaptability is largely responsible for their success. As one candidate replied, "OCS is tough, but combat is tougher."

The 2nd lieutenants of Armor who

are graduated to troop assignments today have already had precedents set for them by the more than 12,000 officers who were graduated in the earlier Armor OCS to fight in World War II. Two were posthumously awarded the Congressional Medal of Honor. Second Lieutenant Raymond Zussman was graduated with Class 16 in 1942 and 2nd Lieutenant Thomas W. Fowler in Class 33 early in 1943.

A few more of the earlier Armor OCS have returned to the new Officer Candidate Detachment as faculty and staff members.

Many of the officers of the 1952 Armor OCS are "alumni" of the World War II OCS at Fort Knox. Major Howard E. Bressler commands one of the two candidate battalions and Major John L. Rees is detachment executive officer. Captain Leroy G. Cewe is operations officer and 1st Lieutenant James W. Lane is adjutant. Among company commanders and tactical officers are Captains Donald Allen, John E. Hansen, Max P. Hutton, Harry McCaffrey, George W. Weidt, and 1st Lieutenant Clarence A. Moore. Other of the detachment officers graduated from Cavalry and Tank Destroyer OCS's before they were combined with the Armored course and six of the tactical officers are graduates of the 1952 Armor OCS.

## CONCLUSION

# Federal Recruiting and Drafting in the Civil War

by DR. FRANCIS ALFRED LORD

WE shall now examine more closely the statistics in respect to the total number of men enlisted during the war for the Federal armies with emphasis on the motivations that prompted them to join the colors and the types of men that went to make up the Federal forces. The aggregate number of men credited to the several calls and put into the service of the Federal army, navy, and marine corps during the period of April 15, 1861 to April 14, 1865, was 2,656,553.<sup>60</sup> This number does not include the 120,000 emergency men who served periods of two or three weeks during the summer of 1863. The figure of 2,656,553 includes every man mustered in the service and does not take into account the fact that the same men in many instances had been discharged and subsequently re-enlisted.<sup>61</sup> It is difficult to arrive at exactness in evaluation of the strength of the Federal army at any one period due to the fact that it was constantly discharging veteran organizations and receiving recruits and entirely new regiments as replacements. The figures for the strength of the army at any given date should be examined accordingly. It is obvious that a three-month regiment, although having more men on its rolls than combat-depleted units had, was not to be compared in efficiency to a three-year regiment which had been at the front through several campaigns. The equivalent number for the figure of 2,656,553, which the Secretary of War gave as total enlistments for the war, would be 1,556,678 based on a term of three years.<sup>62</sup> There was the equivalent of 2,050 regiments in the Federal service during the war. This total includes the Regular Army but excludes the Veteran Reserve Corps.<sup>63</sup>

The Regular Army was the only reliable military entity at the outbreak of the war. Although its commissioned strength was seriously depleted due to so many of its best officers joining the Confederacy, its enlisted personnel remained true to the national government. In the quick, decisive campaign he envisioned in 1861, General Winfield Scott planned to rely solely on regular troops, by means of which he had won his victories in earlier wars. But the Regular Army was too small to defeat an enemy that was to put approximately a million men in the field before cessation of hostilities. Due to various causes that will be enumerated later, the Regular Army never was increased to any substantial degree. Most of the best officers of the war had advantages of West Point training and long experience, the exceptions being relatively few. The function of the Regular Army should have been, and was to some extent, to furnish cadres of officers and non-commissioned personnel to the volunteer army that was to bear the brunt of the fighting. Although many of the commissioned officers were eventually so utilized, the services of the 15,000 privates and noncommissioned officers<sup>64</sup> remaining were not. The latter would have proved valuable as company grade officers and sergeants. General McClellan wished to break up the Regular Army and

distribute its members among the staff and regiments of the volunteer organizations, or if that were not done, at least to build up the Regular Army regiments to their full authorized strength and use them as reserves in critical situations.<sup>65</sup> McClellan's advice was not followed. It is true that there was a grouping of regular regiments into brigades, but nothing more extensive was attempted. Added to the weakness of the Federal government in the administration of recruiting for the Regular Army was the widespread reluctance of civilians to enter the regular service. The reasons for this were many: the fact that enlistment in the Regular Army was for a definite period, while the volunteers were to be discharged at the end of the war, which everybody believed would not last three years; the fact that, although both volunteers and regulars received the same pay, the amount of two dollars per month was withheld from the pay of the regular soldier but not from that of the volunteer; the fact that the States granted bounties to their volunteers and pensions to their volunteers' families, advantages which the regular soldier did not have; and lastly, but not least important, the fact that discipline in the regular units did not appeal to the majority of volunteers.<sup>66</sup>

Those officers who remained with their regular units were discriminated against in comparison with the regular officers who accepted higher rank and responsibility with volunteer organizations. It was commonplace for two West Point officers of the same former regular unit to meet on the field, one of whom might be a divisional or corps commander, the other of whom might still be a lieutenant or captain in their old regular regiment. However, the former received his promotion within the regular service on the same basis as his less fortunate classmate. This is strikingly illustrated in the postwar reorganization of the Regular Army when generals commanding the higher echelons of the army returned to their old regiments as field and company grade officers. Some ambitious officers of the Regular Army at first hesitated to accept higher rank in the volunteers,<sup>67</sup> but others sought brief leaves of absence to visit the governors of their respective States to offer their services. These men were refused leave to accept commissions in State regiments because of General Scott's theory that the Regular Army was to be the main fighting force in the war. Later on, however, the policy of refusing to permit regular officers to accept commissions in the volunteers was changed. The exception to this is to be found in the regular artillery regiments, where there was a preponderance of well-trained Regular Army officers, whose presence enabled that branch to contribute so magnificently to the final Union victory. The regular infantry, on the other hand, was no better than the volunteer infantry due to the fact that the most intelligent, the strongest, the most stable elements refused to join the Regular Army. A large number of foreigners who had no strong State allegiance entered the regular ranks. Also the

## NEW TANK GUN RANGE FINDER

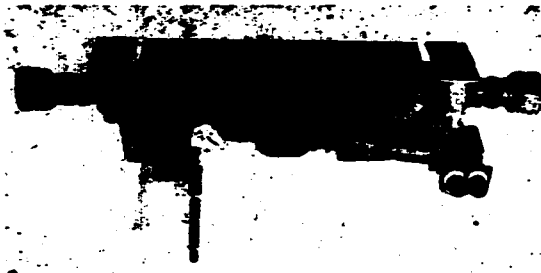
The nation's newest tank gun range finder is being manufactured by the Airtemp Division of Chrysler Corporation, Dayton, O.

This advanced device for use in the M47 medium tank makes it possible for the first time for a tank gunner to zero in on the target and make even his first shot a hit. With the range finder, the tank gunner ranges and continuously tracks the target. The range finder automatically applies to the tank gun, data on direction and distance to the target as well as the type of ammunition used.

C. E. Backholder, Airtemp president, said the company has received three multi-million dollar orders for the range finder.

"Six months after the fire control divisions of the Army Ordnance Department placed the first one, we began shipment," he said.

Backholder pointed out that while the new range finder is a big step forward in fire control instruments, it also represents a production job that involves several techniques with which industry in general has had little previous experience. For example, optical glass in the instrument is bonded directly to metal mounts without mechanical fasteners. Secondly, the entire instrument must be hermetically sealed against atmosphere.



Chrysler

R. J. Schumann, Airtemp factory manager, emphasized that starting the wheels of production for the range finder, a complex example of precision optical, electronic and mechanical systems, entailed much more than converting present plant facilities.

He pointed out that it necessitated over 100 new machine tools and many precision optical checking instruments. It meant rearrangement of the Airtemp plant, hiring and training new employees. To make room for all this a new 76,000 square foot building was added to the plant.

lower grades among the volunteers were assigned to young men fresh from civil life; those some of the old regiments and all the regiments created by the act of July 29, 1861, suffered from the same disadvantages as did the newly formed volunteer regiments. "Nevertheless, the *esprit de corps*, that moral influence which attaches to a word, a number, or a sign, which has the power of transforming men, soon imparted habits of steadiness and discipline to the newcomers, who, after the first combats, rivalled their older brethren in courage and sustained the credit of the regular troops."<sup>69</sup>

At the close of 1862 the Secretary of War appointed a commission to revise the articles of war and army regulations. This commission issued a circular inviting suggestions as to desirable alterations within the military establishment. One of the high-ranking officers so solicited urged in vain the need of giving unity to the army by abolishing the distinction between regulars and volunteers.<sup>70</sup>

#### Regular vs. Volunteer

The total number of enlistments for the Regular Army during the war was 67,000.<sup>71</sup> This included a few who enlisted just after the close of the war. At no time during the period of active hostilities did the Regular Army number over 26,000 officers and men.<sup>72</sup> As there were only thirty regiments in the Regular Army, it is apparent that their average numerical strength must have been small, but their losses in action were severe in proportion to their numbers. The Regular Army lost 2,283 killed in action and 3,515 from disease and other causes during the four years of conflict.<sup>73</sup> Desertion was exceptionally high in the Regular Army due, in large part, to the caliber of enlisted men found in the regular regiments. A large proportion of the men in the ranks were foreigners, because native-born citizens went with their States. Whereas 62.51 per thousand deserted from volunteer units, the regulars lost 244.25 per thousand.<sup>74</sup> This is partially accounted for by the fact that honorable discharges were far easier to obtain in the volunteer force than in the Regular Army. The volunteer could use the influence of friends, congressmen, and others while such influence was difficult for the foreigner to obtain. The political interest of the State officials in their volunteer regiments was nonexistent to the regular soldiers, who had no ties except with the Federal government. Honorable discharges were granted at the rate of 67.23 per thousand to volunteers, 15.08 per thousand to the colored troops, and only 17.88 per thousand to the regulars.<sup>75</sup> The proportion of discharges for disability was about the same for volunteers and regulars: 78.81 per thousand for the former and 75.99 for the latter.<sup>76</sup> The better discipline of the Regular Army as compared to that of the volunteers is reflected in the deaths from disease: 42.27 per thousand in the Regular Army but 59.22 per thousand in the volunteers.<sup>77</sup>

It has been necessary to discuss the Regular Army to the extent we have because no complete understanding of the volunteer soldier is complete without a consideration of the source whence he drew many of his regimental and most of his brigade, divisional, corps, and army commanders. The militia, the only other organized military force at the outbreak of the war, is of much less significance, but nevertheless merits attention because of its role

as a reserve force during the war. Generally speaking, before formation of the volunteer army, the militia dominated the scene until after Bull Run and then left the stage except for temporary appearances during invasions of the North by Confederate troops. During the first invasion of Northern soil by the Southern army the governor of Pennsylvania called out 25,000 militia "for service within the state to repel rebel invasion."<sup>78</sup> These troops, which were not mustered into service but were recognized and paid by the United States, were discharged and forwarded to their homes after serving only two weeks. Such was the nature of the militia contribution to the war effort. The militia was not as efficient a training element for officers as had been hoped at the beginning of the war. An act was passed by Congress in 1792 providing for a uniformed militia to be raised in each State which would form a reserve force to be called out in case of invasion or rebellion. However, during the long period of peace the militia organization had been almost wholly neglected. Most of the States had laws for the organization of militia but these laws were little regarded. The commencement of the war found only two or three States with a militia organization sufficiently sound to admit a ready response to the President's proclamation of April 15, 1861. Even those regiments that did respond were filled with volunteers who had no previous training. During the first year of the war most of the States passed militia laws providing for the enrollment of all able-bodied white male citizens (some, for instance Rhode Island and Massachusetts, included colored citizens) between the ages of 18 and 45 with certain specified exceptions. The militia thus organized was divided into two classes, the active and inactive militia.

#### The Militia

The active militia included the voluntary companies organized into a given number of regiments and recruited to full strength by a draft from the enrolled men between the ages of 18 and 30. The inactive militia comprised all men between the ages of 30 and 45 who were required under penalty of a dollar fine per year to appear on a specified day to answer to their names. The active militia was fully officered and equipped and was called out once or twice a year for a few days' drill. It had been a prevalent idea among the militiamen that they could not be required to serve outside their State nor could they be retained in Federal service for more than three months. This led to certain militia regiments marching to the rear at the sound of the enemy's cannon during the Bull Run campaign. But the act of July 17, 1862, authorized the President to call out the militia for nine months instead of three. It is impossible to give more than an approximation of the number of militia enrolled though it was probably over 3,000,000 by 1862.<sup>79</sup> Of the 77,875 three-month troops called out in the spring of 1861 a little more than half were militia; of the 30,000 or 40,000 called out in the summer of 1862, all or nearly all were militia. There were also some militia regiments among the nine-month force raised under the call of August 9, 1862.<sup>80</sup>

Some militia regiments offered their services for longer periods and enlisted as a unit in the service of the Federal government. Among these was the famous 55 New York Infantry which filled its vacancies and enlisted in the Fed-

eral service for three years or the war "and the 55th of militia became the 55 volunteers . . ."<sup>81</sup> The militia law, nevertheless, left the men solely in the control of the States until they were sworn in the service of the national government. Thus the appointment of all officers was the privilege of the State and the opportunity was not overlooked in the paying off of political debts to favorites. By the summer of 1863 the military authorities had learned that they must depend on the volunteers, not on the militia, even during invasions of Northern territory. As General-in-Chief Halleck reported November 15, 1863, with reference to the operations of the Gettysburg campaign: "Lee's army was supposed to be advancing against Harrisburg, which was garrisoned by raw militia, upon which little reliance could be placed."<sup>82</sup>

#### Volunteers Bear the Brunt

It was the volunteer troops who bore the brunt of the fighting and suffered the losses that made possible the Union victory. Any attempt to analyze the various motivating factors that caused over two million men to enter the military service of the Federal government is impractical. Dealing with exact figures is much easier and more accurate than attempting to evaluate human emotions. In studying letters and diaries of the Civil War period one found that some factors occurred more frequently than others. Certainly one of the most compelling factors was the desire for excitement. This mania to "see something" before the war was over affected the younger elements more than the others and persisted throughout the entire war and was just as strong in one section as in another. Many minors who were refused permission by their parents solved their dilemma by running away and enlisting.<sup>83</sup> Although there were few "boy regiments" or "boy companies" in the Federal army there were thousands of soldiers in the ranks whose recorded ages were sixteen and seventeen. Probably 200,000 recruits overstated their ages a year or more. In Company I, 2 Vermont Infantry, there were ten soldiers who enlisted at seventeen, fourteen who enlisted at eighteen and fourteen who put down their ages as nineteen.<sup>84</sup> Often boys in their teens were prompted to enlist by news that a unit from their State had participated in a great battle and the boys were seized with the desire to emulate their more fortunate friends who were getting all the glory.<sup>85</sup>

In addition to the youth of the country who waited impatiently until they could get their parents' consent to enlist or took matters in their own hands and ran away to join any unit that was available, the majority of the volunteers offered themselves to their country primarily from a sense of duty. In the North there was very little enthusiastic sentiment about military life, especially in the Eastern and Middle States. It is true that the West responded with more unanimity and probably with more alacrity to the often repeated summonses to leave peaceful pursuits and take the field. This was due rather to the comparative newness of the civilization in the West than to any specific martial quality in the population. The truth is that the Northern people were busy, preoccupied, full of schemes for the development of the country. The poetry of war hardly entered the mind of the Northern volunteer whose course was determined by a sense of duty. He regarded the Southerners as completely to blame and was deter-

mined to put them down, cost what it might. The war was all weary work to him, a distasteful job that had to be done, "a sort of anachronism."<sup>86</sup>

The history of recruiting during the Civil War is the story of a steadily decreasing willingness on the part of the North to offer freely its manpower as soldiers and a resulting steady increase in the necessity for inducements to overcome that unwillingness. From the beginning of the war the press and pulpit played their parts in prodding the laggards, while in town meetings and "rallies" local orators proclaimed undying devotion to the Union. One soldier who reacted favorably to a politician's harangue later observed that although the speaker to whom he listened declared that life must be cheapened, the effusive orator never "helped on the work experimentally."<sup>87</sup> Up to the commencement of drafting the recruiting of troops was either by individual or group enlistments. In the case of individuals enlisting it was often necessary for them to join a regiment from another county or even State; especially was this true in the early months of the war when the Federal government was not accepting many of the regiments already formed. Group enlistments functioned as follows: a group of men would go in a body to some recruiting station and signify their readiness to enlist in a certain regiment provided a designated member of their number should be commissioned captain. That the war was unnecessarily prolonged because of the "town meeting" attitude there can be no doubt.

#### Way to a Commission

In 1861 it was common for someone who had been in the Regular Army or militia, or who had served with a volunteer unit in the Mexican War, to take the initiative in recruiting for his district and circulate an enlistment paper for signatures. Because of his active interest, his chances were pretty good to obtain a commission as captain; men who had materially assisted him in his work would secure lieutenantcies. On the return of the three-month troops some of the companies immediately re-enlisted in a body for three years, sometimes under their old officers. In 1862 the recruiting offices increased greatly in number and functioned in processing recruits both for old units already in the field and for new organizations. Unquestionably at this time the latter were more popular. The lot of a recruit in an old company was, at the best, not an enviable one, and sometimes was made very disagreeable, because of the large bounty the recruit received, amounting in some cases to a thousand dollars.<sup>88</sup> Later on in the war when the notorious "bounty jumper" made his appearance in the ranks of the veteran regiments and openly boasted that Uncle Sam would never get him to the front, the superior tolerance of the veteran toward the recruit turned into bitter hatred and disgust.<sup>89</sup>

Flaming advertisements and billboard posters were used with considerable effect in getting the men to the recruiting stations. One such poster for the purpose of getting recruits for a regiment already in the field informed the prospective soldiers that although "the regiment [2 Massachusetts Infantry] is second in number [it] is second to none in regard to discipline and efficiency, and is in the healthiest and most delightful country."<sup>90</sup> War meetings, held indoors or outdoors according to the clemency of the weather, were used to stir lagging enthusiasm. Often

bands and choirs regaled the audience with "Red, White, and Blue" and "Rally 'round the Flag." Veterans of 1812 and 1848 were called upon to urge the younger men to give themselves to the cause. Often there was a patriotic maiden lady who kept a flag or a handkerchief waving declaring she "would go in a minute if she was a man." In addition there was usually a man who would make one of fifty (or some other safe number) to enlist, when he well understood that such a number could not be obtained. Often there was one present who, when challenged to sign the enlistment roll would agree to do so, if certain wealthy men would put down their names.<sup>99</sup> There were many amusing repercussions from the blatant patriotism of some of the orators at these war meetings when later on they were called upon to fulfill their promises of heroic conduct on the battlefield. Illustrative of the many incidents of this sort was that of the man who, by virtue of his promise "to be found where the bullets were thickest" was elected captain of his company. His promise was literally fulfilled, for during the first engagement of his regiment he was found hiding under an ammunition chest.<sup>100</sup> Despite the name-calling and town politics prevalent in many of these meetings, they were usually a success and once the first man had signed the enlistment roll, he would be followed by others. Often toward the end of the meeting a stampede would set in to fill the town's quota. Local pride played a large part in filling the ranks of the army prior to the enrollment act of March 3, 1863. The strenuous efforts made by the towns, cities, and States to fill their quotas plus the very liberal bounties offered by the various localities were effective enough so that there was very little drafting before the spring of 1863. Up to February 1, 1863, there were probably not more than 10,000 drafted men in the army.<sup>101</sup>

#### Physical Examination

After the enlistment roll had been filled in sufficiently for the town quota, a local physician conducted the medical examination of the recruits. In too many cases this examination was a mere formality. The men who passed were then taken to a recruiting station where they signed the roll of the company or regiment into which they were going. This roll included a description of the men as to height, complexion and occupation. A guard then conducted them to the examining surgeon, who was detailed for the purpose by the War Department. The surgeon examined the volunteers for dissimulated or concealed diseases; after the draft was in operation, however, he had to detect simulated or feigned diseases and ailments. Because of the general enthusiasm early in the war, large numbers of men entered the ranks with concealed infirmities which early required their discharge.<sup>102</sup> Under the volunteer system large numbers of boys from fourteen to eighteen years of age, immature and feeble, were admitted into the volunteer regiments, with the result that soon they found their way into the hospitals. Equally unfit for active duty were many men of advanced age, some of sixty years and upwards.<sup>103</sup> Of the men accepted in the years 1861 and 1862, a large part, nearly 200,000, were soon found to be unfit for service and were discharged.<sup>104</sup>

In 1863 the requirements for enlistment were made much more stringent. The minimum age was 18; the maximum age was 45. No man was to be accepted under

the height of 5 feet 3 inches and although there was no maximum limit the rule of practice was for the examining surgeon to reject very tall men (6 feet 3 inches and up), especially those whose chests were narrow and contracted, whose muscular systems were imperfectly developed, and who betrayed a tendency to hernia or to a varicose condition of the veins. The weight extremes were set at 110 and 220 pounds.<sup>105</sup> Due to the use of the paper cartridge which required being torn open by the teeth before use in the musket, men were rejected who lacked a "sufficient number" for that purpose. In most respects the physical requirements for enlistment were substantially as they are today. Disqualifying mental infirmities were: manifest imbecility or insanity, senile dementia, monomania, and melancholia. Men convicted of a felony were disqualified by the regulations, as were habitual drunkards and men with venereal diseases.<sup>106</sup>

#### The Oath

The volunteer was required to sign a "volunteer enlistment" form in which he declared his desire to serve for a specified period of time. This form was signed by the examining surgeon who certified, on honor, that he had carefully examined the volunteer and that in his opinion he was "free from all bodily defects and mental infirmity which might disqualify him from performing the duties of a soldier."<sup>107</sup> The recruiting officer likewise certified on honor that he had "minutely inspected" the volunteer and that he was "entirely sober when enlisted," of lawful age and qualified to perform the duties of a soldier.<sup>108</sup> The volunteer enlistment form also provided for the father's consent in case the volunteer was a minor. No later than six days after enlistment the soldier took the oath of allegiance, which could be administered by a civil magistrate or an officer of the Regular Army, but preferably by the latter.<sup>109</sup> The oath was as follows:

I, A—B—, do solemnly swear or affirm (as the case may be) that I will bear true allegiance to the United States of America, and that I will serve them honestly and faithfully against all their enemies or opposers whatsoever, and observe and obey the orders of the President of the United States, and the orders of the officers appointed over me, according to the rules and articles for the government of the armies of the United States.<sup>101</sup>

In the case of men joining old regiments the oath was administered them and they were sent at once to join their units in the field. Hundreds of the men who enlisted under the call issued by President Lincoln on July 2, 1862, were killed or wounded before they had been in the field a week. On the other hand, the new regiments were usually kept in their camps for several weeks before being sent to the front. A committee appointed by the Secretary of War examined more than 200 regiments during September and October, 1861, and discovered that the average time occupied in recruiting each of these regiments was six weeks.<sup>102</sup> Often the new regiments were mustered in as a unit and all the men took the oath of allegiance together. After muster-in the men were trained in their camp until the regiment was forwarded to the seat of war. When one-half a company had been mustered into service, the first lieutenant thereof could also be mustered in; and when the organization of the company was completed, the captain and second lieutenant could be mustered in.<sup>103</sup> The major was mustered in after the muster of six companies; and

ARMOR—July-August, 1952

lieutenant colonel after the muster of four companies; but the colonel, chaplain, surgeon, adjutant, assistant surgeon and quartermaster had to wait until the entire regiment was mustered in.<sup>104</sup> Aliens were not required to take the oath of allegiance to the government because it conflicted "with the duty they owe to their own sovereigns," but military commanders were directed to adopt, "in lieu thereof . . . such other restraints of the character indicated as they shall find necessary, convenient, and effectual, for the public safety."<sup>105</sup>

The almost complete collapse of morale in the first three months of 1863 was due to the military disasters incurred in the Peninsular Campaign, in the Second Bull Run Campaign and at Fredericksburg. Civilians and soldiers alike were affected. Desertion in the Federal army was rife and volunteering came to a standstill. By March, 1863, nearly 400,000 recruits were required to bring the regiments up to the legal and necessary standard.<sup>106</sup> The military disasters had been followed by an equally demoralizing inactivity; the safety of the country depended on a speedy and continued re-enforcement of the army. In addition to the casualties of war and the extraordinary rate of desertion was the loss of thousands of men whose terms of service had expired. The enrollment act of March 3, 1863 was passed to provide a complete inventory of the military resources of the North in men. This act provided for the appointment of James B. Fry as Provost Marshal General and under his leadership the draft was put into operation and continued to function to the end of the war. The office of Provost Marshal General was charged with the duties of arresting deserters, enrolling the national forces for draft, and enlisting soldiers.

The mode of drafting men was quite similar to that employed in later American wars. Advance public notice of the draft appeared in the local newspapers and civil officers and prominent individuals were invited to be present. A wheel or box was used containing slips of paper with the name of each prospective soldier and his district written thereon. A man, blindfolded, continued to draw out slips until the quota of the district was completed. Then the same drawing would take place for the next district.

#### The Enrollment Act

The enrollment act was to include "all able-bodied male citizens of the United States, and residents of foreign birth who had declared on oath their intention to become citizens between the age of twenty and forty-five years."<sup>107</sup> There were two classes of men liable to draft: the first class included all men between the ages of 20 and 35 and all unmarried persons above the age of 35 and below 45; the second class included all married persons between the ages of 35 and 45.<sup>108</sup> Drafted men were given the regulation physical examination and appeared before a board of enrollment which consisted of the provost marshal, a commissioner and surgeon. Each man was examined separately. The board then asked the drafted man his name, age, residence, and whether he claimed exemption. If held to serve he was then asked whether he desired to send a substitute, and if so, what extension of time he desired.

When a sufficient number of men had accumulated at the draft rendezvous they were forwarded under guard to

ARMOR—July-August, 1952

the general rendezvous. It may be said that generally the quality of draftees was extremely low. It will be seen when we discuss the Union soldier in combat that the average drafted man was not only of no earthly use to the regiment he joined but was actually a definite liability.

The continuance of the Federal armies in the field depended not only on insuring a continual supply of replacements by draft but also on re-enlisting those well-trained veterans already in the field, many of whose terms of service were about to expire. To accomplish the latter the War Department issued a general order<sup>109</sup> June 25, 1863, which permitted the volunteers already in the service to re-enlist for a period of three years or the war. A furlough of at least thirty days was granted to officers and men of the organizations re-enlisting under this order. Where a large proportion re-enlisted the regiment was sent home in a body at government expense and during its stay re-organized and recruited its ranks. Every soldier received a bounty of four hundred dollars for re-enlisting under this plan and he retained this amount even though the government did not require his services for the complete three years. The date of rank for the officers was made continuous from the date of original muster. The force thus reorganized was termed "veteran volunteers" and, as an honorable distinction, service chevrons were authorized for it by the War Department.<sup>110</sup>

#### Re-enlistment

The reason that some regiments re-enlisted almost in a body while others had very few men "sign over" is difficult to ascertain. Local conditions were responsible in many of the units. For example, the 6 Connecticut Infantry left the Petersburg front for home with very few re-enlistments, due, in large part, to war weariness.<sup>111</sup> The 2 New Hampshire Infantry was a fighting regiment, but when it received worthless conscripts as replacements it resented their presence so much that few cared to serve out the war with these new men.<sup>112</sup> On the other hand, regiments with high morale usually re-enlisted because there was great pride in preserving the regimental organization. In one regiment in the Western theater there were only fifteen men who did not re-enlist and these were the physically disabled and malcontents.<sup>113</sup> If a regiment had a popular colonel it would very often follow his urging and "see the thing through" because of confidence in him.<sup>114</sup> In some units the feeling against those men who refused to re-enlist was quite strong and in the 25 Indiana Infantry, at least, they were termed "rounders" as a title of opprobrium.<sup>115</sup> Over 136,000 veterans re-enlisted, however, and their contribution to the defeat of the South may be considered decisive. Organizations which would have been lost to the service were preserved and recruited. Capable and experienced officers were retained in command. The force thus organized and retained . . . performed an essential part in the great campaign of 1864, and its importance to the Country cannot be overestimated.<sup>116</sup> All recruiting and enlisting of volunteers ceased April 29, 1865.<sup>117</sup>

An analysis of the racial composition of the Federal army is extremely difficult to make due to inadequacies of the national government records. An attempt was made shortly after the war but was reluctantly abandoned due to lack of an adequate clerical force and a different system of returns from that employed during the war.<sup>118</sup> Unques-

53

tionably there were hundreds of thousands of foreigners in the Federal ranks. This is readily understood when one examines the census figures of the forty years preceding the war. During those four decades immigration from Europe, but more especially from England, Ireland, and Germany, was heavy. The following table tells the result of famine and revolution in those countries more graphically than words:<sup>120</sup>

Country Where Born	Number of Immigrants	Years
England .....	302,665	1820 to 1860
	247,125	1841 to 1850
Ireland .....	32,092	1851 to 1860
	967,366	1820 to 1860
Germany .....	162,332	1841 to 1850
	748,740	1851 to 1860
Germany .....	1,486,044	1820 to 1860
	422,477	1841 to 1850
	907,780	1851 to 1860

During the war the "American Emigrant Company" imported both skilled and unskilled laborers upon order of employers who advanced the necessary travel expenses and who paid a small commission for the service. These immigrants were under a contract to work for these employers. When substitute brokers were able to lure the newly arrived foreigners into military service, the employers immediately countermanded orders already made for more immigrants. In other words, the emigration company was sincerely interested in functioning as a provider of labor for Northern industry. A bill was submitted in the Senate by John Sherman which had as its purpose the prevention of enlistment of newly arrived immigrants.<sup>121</sup> It was also proposed that any immigrant who broke his contract for repayment of emigration expenses would be liable for double the amount that should remain unpaid of these expenses, and if such money were not paid it would be the duty of the person, or persons, who enlisted him in the Federal service to make such payment. By a Senate resolution adopted May 24, 1864,<sup>122</sup> the President was requested to state:

If any authority has been given any one, either in this country or elsewhere, to obtain recruits in Ireland and Canada for our army or navy, and whether any such recruits have been obtained, or whether to the knowledge of the Government, Irishmen or Canadians have been induced to emigrate to this Country in order to be recruited; and if so, what measures, if any, has been adopted in order to arrest such conduct.

Lincoln referred this resolution to the Secretary of State who replied that no authority to recruit abroad had been given by the government and that applications for such authority had been invariably rejected. He admitted that the Federal army included not only Canadians and Irishmen but also many subjects of continental European powers, maintaining, however, that these persons were voluntary immigrants into the North and had enlisted after their arrival of their own accord.<sup>123</sup> In considering the efficiency of the Federal soldier as a combat man one must not confuse these foreigners with native-born Americans. Although many foreigners fought well and many native Americans did not, the majority of foreigners in the Federal ranks were worthless. Army officers of both sides

and thousands of disgusted enlisted men corroborated Meade when he alluded to the "worthless foreigners, who are daily deserting to the enemy," and Breckinridge when he spoke of the men, "chiefly foreigners" who had come into his lines.<sup>124</sup> It was inevitable that a force as large as the Federal army would include practically every race and nationality. Although the effort to enlist Mexicans was just as much a failure for the North as it was for the South,<sup>125</sup> the effort to secure the services of American Indians was somewhat more successful and 3,530 were enlisted, of whom 1,018 gave their lives.<sup>126</sup> At least one Oriental served in the Federal army.<sup>127</sup> During the war there were enlisted 186,097 colored troops,<sup>127</sup> of whom 2,532 were killed or died of wounds.<sup>128</sup> The proportion of officers, all of whom were white, who were killed in action while serving in colored regiments was considerably higher than among the colored enlisted men. To the list of certain qualities that tended to reduce the chances of the Negro to develop into a good combat soldier, must be added the fact that the quality of Negro obtained was often not the best. Substitute brokers did not hesitate to procure the services of colored men confined in jails within the national capital itself.<sup>129</sup> When it was obvious to the majority of the Southern soldiers that theirs was a hopeless cause, numbers of them deserted and were enlisted into the Federal service.<sup>130</sup> These men were, in most cases, sent West to fight Indians.<sup>131</sup>

#### Commopolitan Army

Despite the observations of many Southern writers and foreigners, especially English, who were inimical to the Northern cause, the oft-repeated assertion that the Federal army was composed in the main of Hessians, Irishmen and Negroes is unfair and false. The muster rolls stated the birthplaces of the men. From these rolls it appears that, in round numbers, out of 2,000,000 men, three-fourths were native Americans. Of these 2,000,000 soldiers Germany furnished 175,000; Ireland, 150,000; England, 50,000; British America, 50,000; other countries, 75,000.<sup>132</sup> The Committee of Inquiry,<sup>133</sup> appointed by the Secretary of War June 9, 1861, discovered that of the 200 regiments it inspected in September and October of 1861, the New England States furnished 37, the Western States 62, and the Middle States 101. In 76.5% of these regiments native Americans were found to constitute the majority; in 6.5% the majority of men were Germans; in 5.5% the majority were Irish, and in 5.5% the regiments were half foreign and half native-born. Although admitting that its findings were not conclusive, the committee considered it to be near the truth to state that about two-thirds of the volunteer soldiers were American born, and nine-tenths citizens, educated under the laws of the Union and in the English tongue.<sup>134</sup> This committee investigated these regiments in the first year of the war, but its findings are indicative of the composition of those regiments which, enlisting with sincere patriotism in 1861 and 1862, kept their patriotism throughout the long, bitter struggle that followed. These men fought and won the war. The colored troops were comparatively few in number; only a few regiments were brought into action at all and their losses were negligible. The "average" Federal soldier was: race, white; nationality, native-born; age, 25;<sup>135</sup> height, 5 feet 8¼ inches;<sup>136</sup> and weight, 143½ pounds.<sup>137</sup>

60. *Ibid.*, 31.  
61. *Ibid.* (Livermore gives the enlistments as 2,898,304 but includes some militia who were never mustered into the United States service. Livermore, 1.)  
62. Livermore, 50.  
63. Phisterer, 23. The Veterans Reserve Corps will be discussed later on in this paper.  
64. *Official Records*, Third series, I, 22.  
65. Shannon, I, 153, citing McClellan, *McClellan's Own Story*, 97.  
66. Comte de Paris, I, 287-288.  
Another foreign observer with the Union Army in 1862 said of the volunteer: "Le pluspart du temps . . . le chef est un camarade; seulement il porte un autre costume. On lui obéit dans la routine de tous les jours, mais volontairement . . . Cela est si vrai que, bien la paie et le temps de service soient les memes pour les volontaires et les réguliers, le recrutement de ces derniers est devenu à peu près impossible. Toute la classe d'hommes qui s'engageait pour l'armée lorsqu'il n'y avait qu'elle, par goût de la vie des camps, passe aujourd'hui dans les volontaires. D'un côté la licence, de l'autre la discipline: le choix est vite fait." Trognon (Le Prince de Joinville), *Campagne de L'Armée du Potomac*, 8-9.  
67. William Tecumseh Sherman in writing to his brother John Sherman on May 22, 1861, said: "I shall promptly accept the colonelcy [of a new regular regiment] when received and I think I can organize and prepare a regiment as quick as anybody. I prefer this to a Brigadier in the militia for I have no political ambition, and have very naturally more confidence in Regulars than Militia." Thomdike, ed., *The Sherman Letters*, 121.  
68. Comte de Paris, I, 289.  
69. Cox, *Military Reminiscences of the Civil War*, I, 438-440.  
70. Fox, *Regimental Losses in the American Civil War*, 527-528.  
71. *Ibid.* This includes both present and absent.  
72. *Ibid.*  
73. Report of the Provost Marshal General, *House Executive Documents*, 39 Cong., 1 Sess., Document 1, 76-77.  
74. *Ibid.*, 77.  
75. *Ibid.*, 76-77.  
76. *Ibid.*  
77. *Ibid.*, 53.  
78. *American Annual Cyclopaedia and Register of Important Events of the Year 1862*, II, 27. (Hereafter, this work will be cited as *Annual Cyclopaedia*.)  
79. *Ibid.*  
80. De Trobriand, *Quatre Ans de Campagnes a L'Armée du Potomac*, I, 76.  
81. Report of the General-in-Chief, November 15, 1863, *House Executive Documents*, 38 Cong., 1 Sess., Document 1, 19.  
82. Boys of this type were to be found in every unit. "The war fever seized me in 1863. All the Summer and Fall I had fretted and burned to be off. That winter, and before I was sixteen years old, I ran away from my father's . . . farm . . . and enlisted in the Eleventh New York Battery, then at the front in Virginia. . . . Wilkeson, *Recollections of a Private Soldier in the Army of the Potomac*, 1.  
83. Kilmer, "Boys in the Union Army," *The Century Illustrated Monthly Magazine*, LXX (June 1905), 269-270.  
84. Such was the case with 97 Iowa youths who enlisted after hearing of the part played by the 1 Iowa Infantry at Wilson's Creek. The average age of the 97 was less than twenty years. Clark, ed., *Downing's Civil War Diary*, 3-4. Downing was in Co. E, 11 Iowa Infantry.  
85. Ropes, *The Story of the Civil War*, I, 105-106.  
86. Goss, "Recollections of a Private," *Battles and Leaders*, I, 149.  
87. Billings, *Hardtack and Coffee*, 202.  
88. Blanding, *In the Defenses of Washington*, 6.  
89. Billings, 37.  
90. *Ibid.*, 38.  
91. Related to the author by color sergeant Francis H. Buffum, Co. F, 14 New Hampshire Infantry.  
92. *Annual Cyclopaedia*, 1863, III, 18.  
93. *Official Records*, First series, V, 82. In his report covering the period August 1861, to March 17, 1862, the medical director of the Army of the Potomac said in part: "It seemed as if the army called out to defend the life of the nation had been made use of as a grand eleemosynary institution for the reception of the aged and infirm, the blind, and the deaf, where they might be housed, fed, paid, clothed, and pensioned, and their townships relieved of the burden of their support."  
94. Bartholow, *A Manual of Instructions for Enlisting and Discharging soldiers*, *passim*.  
95. Report of Secretary of War, *House Executive Documents*, 38 Cong., 2 Sess., Document 83, 55.

96. Bartholow, 34-54.  
97. *Ibid.*, 16-24.  
98. Billings, 200.  
99. *Ibid.*  
100. United States War Department, "General Order No. 61," August 19, 1861, *General Orders Affecting the Volunteer Force 1861*, 27.  
101. United States War Department, *Revised Regulations for the Army of the United States*, 1861, Section 935, 131.  
102. *Annual Cyclopaedia*, 1861, I, 37.  
103. United States War Department, "General Order No. 61," August 19, 1861, *General Orders for 1861*, 27.  
104. *Ibid.*, 28.  
105. United States War Department, "General Order No. 82," July 21, 1862, *General Orders for 1862*, 58-59.  
106. Report of the Provost Marshal General, *House Executive Documents*, 39 Cong., 1 Sess., Document 1, 1.  
107. *Ibid.*, 54.  
108. *Ibid.*  
109. United States War Department, "General Order No. 191," June 25, 1863.  
110. Report of Provost Marshal General, *House Executive Documents*, 39 Cong., 1 Sess., Document 1, 57.  
111. Entry for September 12, 1864, Diary of Frederick Stearns, Co. I, 1 New York Engineers, Manuscript in author's possession.  
112. Haynes, *A History of the Second Regiment New Hampshire Volunteer Infantry in the War of the Rebellion*, 206-207.  
113. Cox, II, 92.  
114. Entry for February 2, 1865, Diary of 1st Lt. Frederick Frank, Co. K, 11 Indiana Infantry, Manuscript in author's possession.  
115. "Editor's Drawer," *Harper's New Monthly Magazine*, XXX (December, 1864), 128.  
116. Report of the Provost Marshal General, *House Executive Documents*, 39 Cong., 1 Sess., Document 1, Appendix to Secretary of War's report, Part II, 58.  
117. *Ibid.*, 127.  
118. Barnes, ed., *The Medical and Surgical History of the War of the Rebellion*, Part I, Medical History I, XXII.  
119. Kennedy, *House Executive Documents*, 37 Cong., 2 Sess., Document 116, 18. This is the "Preliminary Report on the Eighth Census."  
120. *Senate Miscellaneous Documents*, 38 Cong., 2 Sess., Document 13, 6-7.  
121. *Annual Cyclopaedia*, 1865, V, 35.  
122. *Ibid.*, 36.  
123. This phase of the Civil War has been admirably covered by Ella Lonn in her *Desertion During the Civil War*. The citation here is from this book, 138.  
124. *Ibid.*, 139.  
125. Fox, *Regimental Losses in the American Civil War*, 535.  
126. Page, *History of the Fourteenth Regiment Connecticut Vol. Infantry*, 151. Since this man, a Chinese, bore the name of Joseph Pierce, there may well have been others.  
127. Phisterer, 11.  
128. *Ibid.*, 69.  
129. *House Reports*, 38 Cong., 2 Sess., Report 23, 1-11.  
130. *Official Records*, Third series, IV, 1232; also Second series, VI, 808.  
131. *Ibid.*, First series, XLI, Part 2, 465; XLVIII, Part 1, 455.  
132. Fox, 62.  
133. *Annual Cyclopaedia*, 1861, I, 37.  
134. *Ibid.* That this proportion of native-born volunteers may even be greater is suggested in the fact that the United States Census of 1890 showed that 82% of all surviving Union veterans were native-born and 18% foreign-born. John Bigelow, Jr., *Campaign of Chancellorville*, 17.  
135. Fox, 62. The mean age of all the soldiers was 25 years. "When classed by ages, the largest class is that of 18 years, from which the classes decrease regularly to that of 45 years, beyond which age no enlistment was received. [This is not correct. The writer's grandfather and great-grandfather enlisted in the same company; the son was 18 years old, the father 49 years old at enlistment. There were many such cases.] Of 1,012,273 recorded ages taken from the rolls, there were 133,475 at 18 years; 90,215 at 19 years and so on. The number at 25 years of age was 46,626; and at 44 years, 16,070." *Ibid.*  
136. *Ibid.* "The general average would have been greater had it not included the measurements of recruits from 17 to 20 years of age, who evidently had not attained their full stature when their measurement was recorded." The tallest man, a captain in the 27 Indiana Infantry was 6 feet 10½ inches in height; the shortest was a soldier in the 192 Ohio Infantry, who, at 24 years of age, was only 40 inches tall. In both cases the regimental commanders attested to the ability of these two extremes to endure fatigue. *Ibid.*  
137. *Ibid.*

# HOW WOULD YOU DO IT?

## DISMOUNTED METHODS OF ATTACK

AN ARMORED SCHOOL PUBLICATION

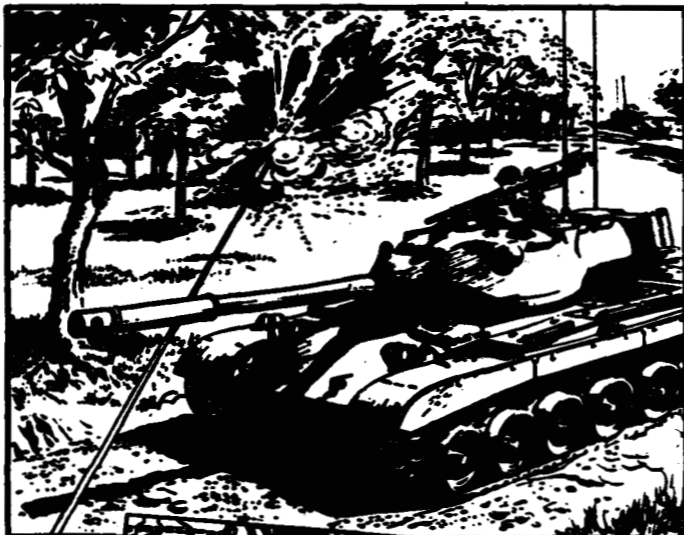
ARTICLE: CAPT G E HERRICK & CAPT D D GORE

ARTIST: MAJ SGT W M COHN

**SITUATION A.** Your tank platoon, reinforced with an armored infantry platoon, less carriers, is acting as advance guard for a reinforced tank company. Your mission is to seize a crossing over OTTER CREEK. As your lead tank reaches point A, it is fixed upon by antitank guns from the woods at point X. You deploy your platoon to the right and engage the antitank guns by fire. You realize that in order to accomplish your mission, you must first reduce the antitank guns.

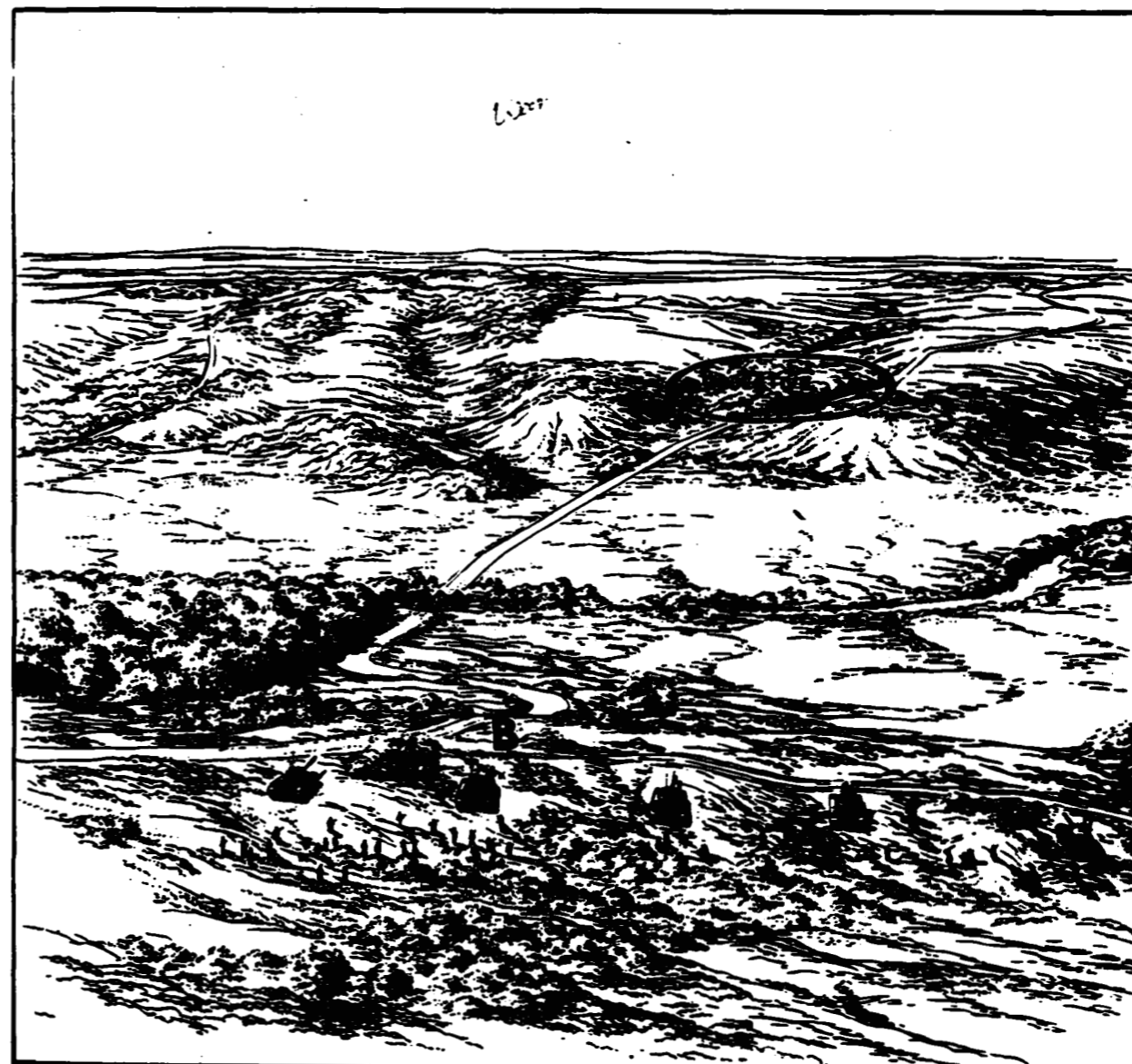
From the map and sketch below, which of the five basic dismounted methods of attack would you employ?

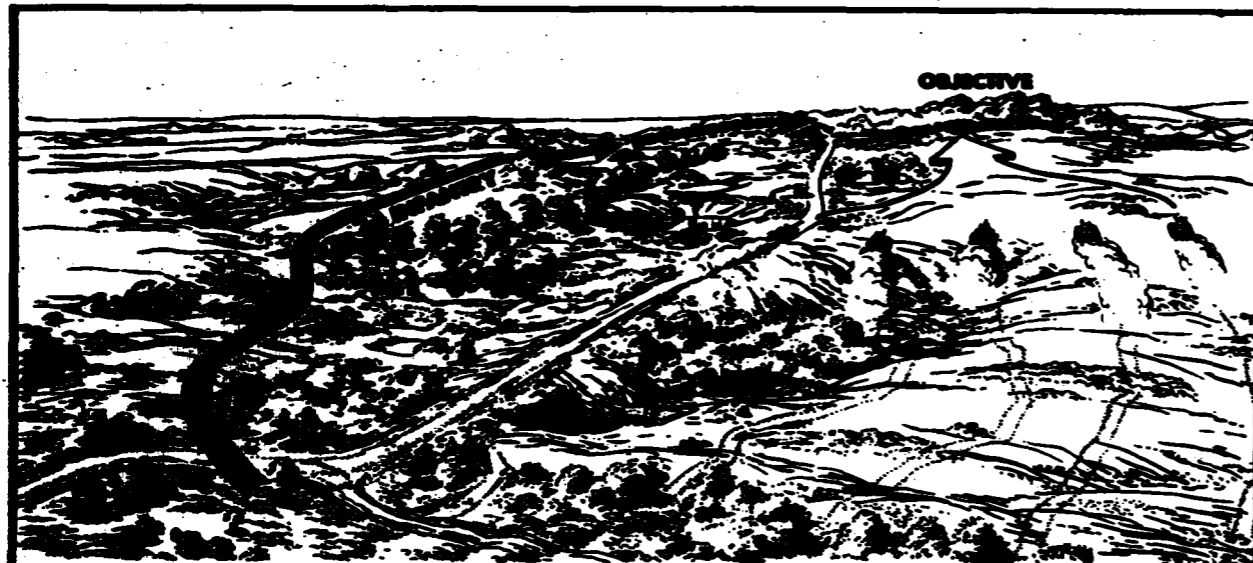
1. Infantry side tank.
2. Tanks follow infantry and pass through to land on the two closely approach the objective.
3. Tanks and infantry approach the objective from different directions.
4. Infantry and tanks move together.
5. Tanks overwatch infantry.



**SITUATION B.** Your reinforced platoon destroys the Aggressor antitank guns and continues on its mission. Your company commander radios you that Army aircraft report the bridge over OTTER CREEK has been blown and enemy activity in the vicinity of the bridge would indicate the approaches may be mined. He orders you to cross OTTER CREEK and secure the high ground 800 yards west of the bridge. Your reinforced platoon deploys to the right on the high ground at point B.

From the map and sketch below, which of the five basic dismounted methods of attack listed on the opposite page would you employ to accomplish your mission? How would you do it?





**SOLUTION A. APPROACH FROM DIFFERENT DIRECTIONS.** Your tank platoon should continue to engage the Approver antitank guns as the infantry maneuver around to the left utilizing the covered and concealed approach to the objective. The infantry inform you by radio or prearranged pyrotechnic signal when they are close to the objective. After the covered infantry open fire, the tanks would then attack across the open ground, utilizing the full effect of their fire power, mobility, armor protection and shock action. If artillery support is available it would be used to support the attack. The infantry would time their assault so as to arrive on the objective as soon after the tanks as possible.

This method should be employed when the best tank approach would unduly expose the infantry and there is a good covered approach available for the infantry. Tanks and infantry attacking from different directions, when conditions permit, provides surprise, maximum fire effect, and shock action.



**SOLUTION B. TANKS FOLLOW INFANTRY AND PASS THROUGH TO LEAD TO THE OBJECTIVE.**

Your tank platoon should support the covered infantry by fire initially on the high ground at point B. The covered infantry platoon should maneuver through the woods to the left down to vicinity of the blown bridge, check for mines and a lead for the tank platoon. The covered infantry platoon leader should inform the tank platoon leader by radio or prearranged pyrotechnic signal when to move the tank platoon forward. The tanks should pass through the infantry and lead across the open ground to the objective, utilizing the full effect of their mobility, fire power, and shock action. When artillery support can be obtained, the tanks should move onto the objective under time fire since the infantry is not available for close-in support.

This method of attack is employed when covered infantry must initially advance and quickly breach an obstacle to permit tanks to advance rapidly and take the lead in the attack.

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## GUDERIAN: FATHER OF THE BLITZKRIEG

**PANZER LEADER.** By Heinz Guderian. E. P. Dutton & Co., Inc., New York. 528 pp. \$7.50.

Reviewed by  
WILLIAM T. R. FOX

During the whole early development of Heinz Guderian's thinking, Germany had no tanks whatever, these having been forbidden under the Versailles treaty. Indeed, Guderian never saw the inside of a tank until he went to Sweden in 1928. This lack of tanks certainly made it difficult for Guderian to experiment, but the sheet metal dummies which he used as substitutes may have been adequate for some technical experiments. They were, however, not

adequate for persuading the older arms of the service to take tank warfare seriously. The tank, therefore, continued in Germany as elsewhere, although unfortunately for not so long as elsewhere, to be viewed as an infantry-support weapon, something to be used to exploit a breakthrough but not an instrument for initial breakthrough or deep penetration.

One of the disturbing impressions that arise from reading the Guderian memoirs is that dictatorship does not

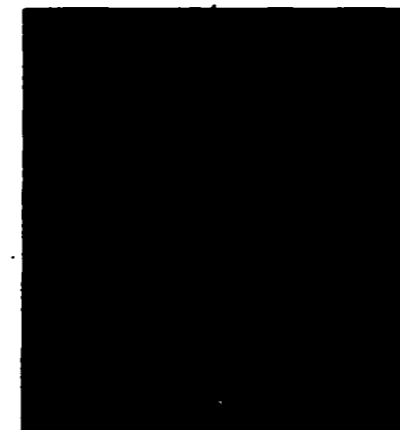
erated his military heterodoxy until it finally came to support the military doctrines for which he stood.

DeGaulle, on the other hand, in the French democracy of the 1930s, in which there was presumably free competition of ideas, was unable to make his voice heard at all. Fuller was practically forced out of the British army by being given an assignment which bore no relation to his consuming interest in tank warfare. Chaffee, in the United States, saw his mechanized force disbanded in 1931.

France stumbled into its greatest crisis under the faltering leadership of sclerotic septuagenarians who were intent on reighting the First World War. The other major democracies,

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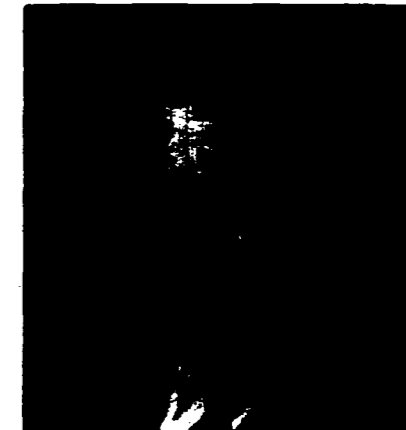


German Official

Heinz Guderian began his tank career as the Chief of Staff to Germany's Armored Troops Command in 1924. He commanded the 2d Panzer Division in 1935 and became Chief of Mobile Troops in 1938. He shaped the blitz forces which he was to lead in Poland, the West and the East, successively as Corps, Panzer Group and Panzer Army commander.

ARMOR—July-August, 1952

—The Reviewer—



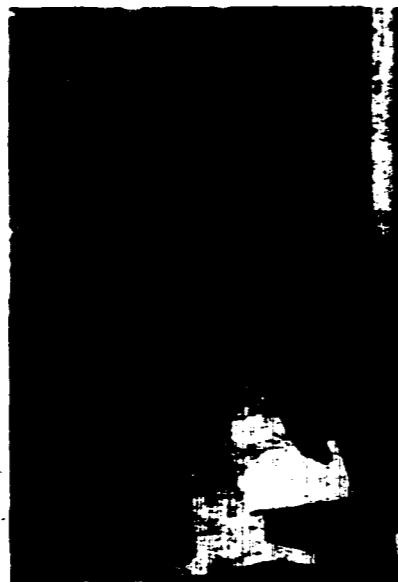
Blotzinger

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61

because of the lucky accident that they were insular powers who were thereby granted time to prepare and to learn from the initial Panzer successes and the further circumstance that reckless misuse of Panzer divisions in the East enabled another totalitarian power to meet Hitler's tanks with more and better tanks, did not have to pay the penalty of defeat and occupation. Apparently, democracy is not inherently more likely than dictatorship to favor military initiative; that quality can find its expression if the civilian executive power is interested enough and knowledgeable enough, no matter how abhorrent and tyrannical its constitutional arrangements. On the other hand, democracy has no protection against the dead hand of traditionalism if its civilian leaders are unwilling to interest themselves enough and to learn enough to mold their policy judgments by considering and choosing among the full range of recommendations brought to their attention by the military profession, both the orthodox and the unorthodox.

In the first half of *Panzer Leader*, which deals with the reconstruction of the German army in the 1930s and with the successes of the first years of war, one sees how little industrial potential has to do with military success in a short war or in the first phases of a long war. It was not only that Hitler got the jump on Britain and France by scorching first; but he



Guderian consults with one of his officers at the front in France, 1940.

used what arms he had more effectively. Guderian's tanks did not have to be any better than the French tanks, nor even as good, for his concentrated tank formations to smash the static defense of the West. They only had to be mobile and relatively invulnerable to opposing infantry. If the French had used their tanks as he used his, then his would have had to be better and more numerous.

The Second World War seems to demonstrate that God was in the end on the side of the big battalions, although Guderian is reluctant to ad-

mit this. He records the overwhelming superiority in December, 1944 of the enemy in the East—7:1 in tanks, 11:1 in infantry and 20:1 in the air. However, he continues to write as if the critical problem was to redefine the relationship between Hitler and his generals, and between the armored forces and the traditional arms.

After October, 1944 there could no longer be any question of which side would win the war but only how and when the war would end. The seven months of dramatic and pulverizing strategic air bombardment of Germany which followed have obscured the role which armor played during the earlier, decisive periods of the war. For it was the imaginative and daring use of armor which carried the Western powers to the brink of defeat in 1940; it was the massive superiority of Soviet armor which rendered the Nazi cause hopeless in the East after 1943 and the superiority of Anglo-American armor which did the same in the West after Patton's breakthrough in 1944. Paradoxically, the Germans contributed to their own defeat by making, at Hitler's insistence, a static defense which neither permitted withdrawal in time nor permitted the creation of a concentrated reserve striking power of armored force sufficiently far behind the line of battle to permit a massive counterattack. The two sides, as it were, exchanged strategies; for in the period of German successes in the West and in Russia it was Germany's opponents who stood stolidly in fixed positions while their forces were being hacked to pieces. Neither side learned during the war how to use armored forces in large-scale defensive operations.

General Guderian's *Panzer Leader* faithfully records the successes of the Third Reich during the period when the Panzer divisions were being intelligently used and the collapse of Germany when these forces were being misused. The inference is plain that Guderian believes Germany could have caused the United Nations a whole lot more trouble than it did. We have reason to be thankful that Hitler did not take his advice, but we had better study it carefully ourselves. It is the defense of Western Europe with which NATO is principally concerned, and it is in the

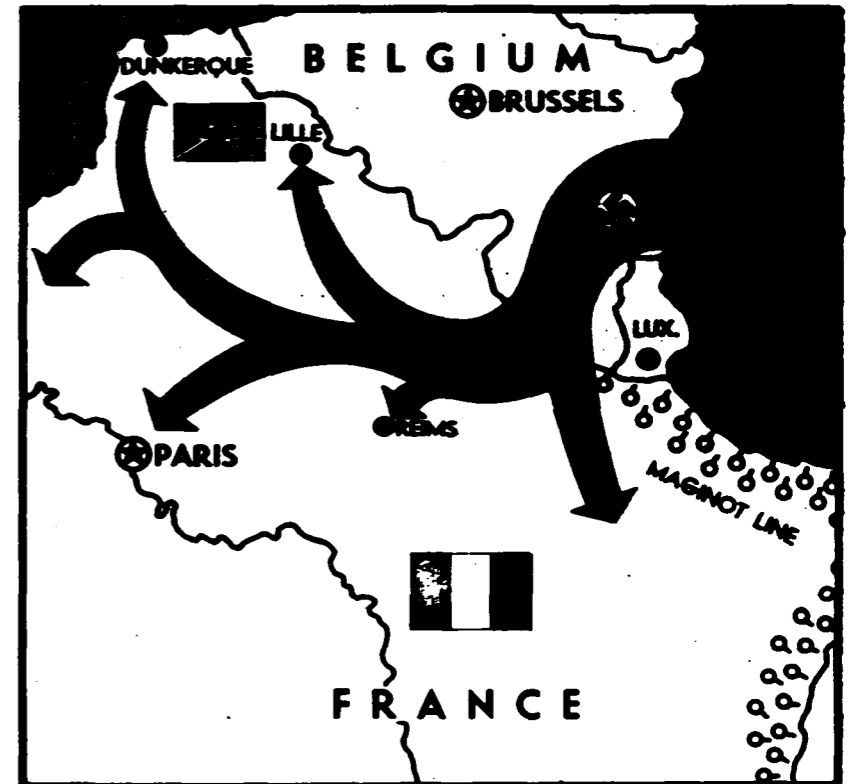
context of a strategy of defense that Guderian's advice was most persistently rejected.

How atomic artillery, super-bazookas and the latest gadgetry of antitank and antipersonnel weapons will, when fully developed and mass-produced, affect Guderian's central doctrines—in attack, the concentrated use of armored force for the initial breakthrough; and in defense, the concentrated grouping of strategic reserves of armored force well behind the battle line—it is for the professional student of mobile warfare and not for this academic amateur to say. So long, however, as the other side does not have the new gadgets and so long as we have to be in a position to fight non-atomic wars, as we have had to do in Korea, Guderian's precepts may still be directly applicable. We can freely admit that it would be a great boon to the non-Soviet world if ways were found to nullify Soviet tank strength; but we have to be prepared to fight today's wars as well as tomorrow's—and limited wars as well as total wars. For if the United States is to have any real chance of avoiding two-way atomic war, it must be prepared to counter Soviet efforts to nibble away at our position as well as Soviet efforts to destroy us.

Whether or not postwar advances in military technology have made Guderian's principles of mobile warfare obsolete, the panzer leader is still worth studying. What military men most need to know is what qualities of mind and spirit and what kind of training enable a man to guess right about the decisive weapons and strategies of the next war. It is not enough to guess the direction of future technological developments; one has also to be right about the timing. Guderian was right about both, and he was able to rise to a position of high responsibility.

Any German general's autobiography raises questions of the responsibility of the professional German military man for Hitler's military adventures. As a professed German nationalist, Guderian objected only to what he termed "excesses" or "stains upon the honor of German arms." For the rest, he is quick to pin responsibility on Hitler's predecessors or on the Nazis themselves.

It is left to Liddell Hart who writes the foreword to defend Gu-



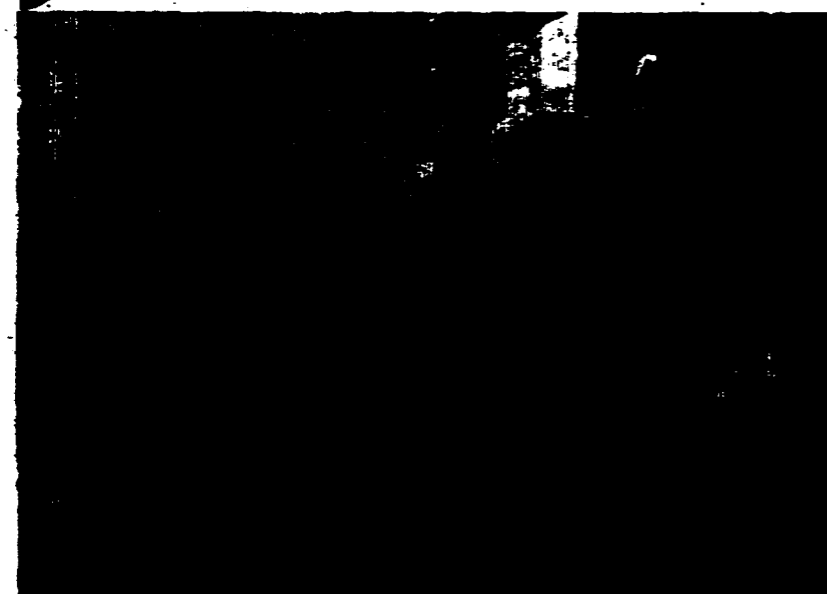
The strategic result—Guderian's justification of his ideas for tank warfare.

derian in more sweeping terms: "... he would not question the cause for which he and his troops were serving or the duty of fighting for their country. It was sufficient for him that she was at war, and thus in danger, however it had come



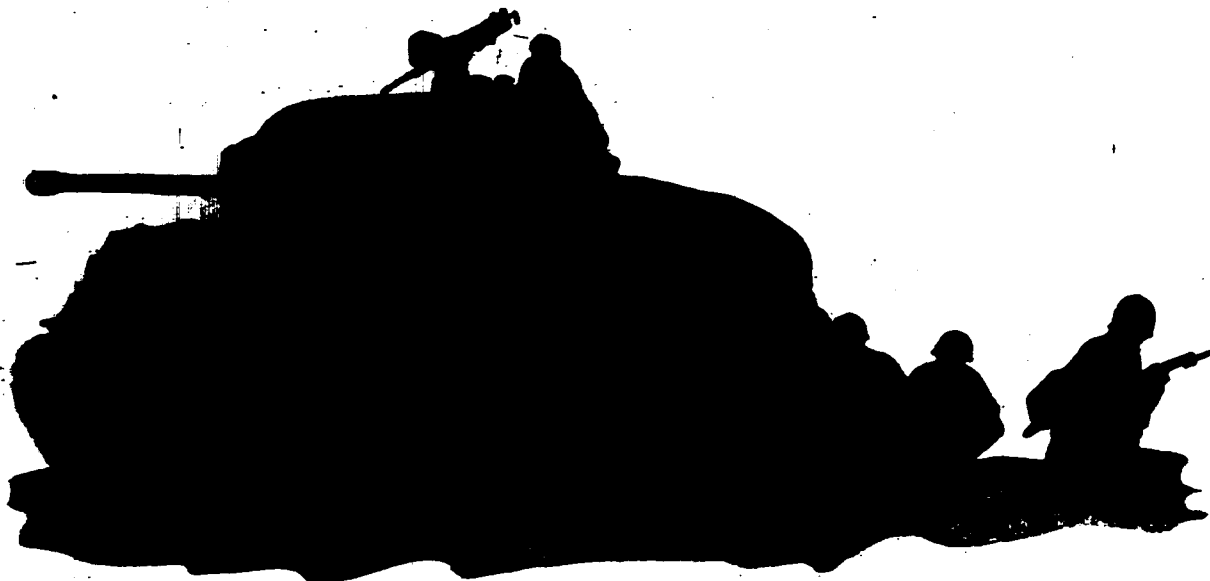
On the East front Guderian gives instructions to a field commander.

about. The fulfillment of duty was not compatible with doubts. As a dutiful soldier he had to assume that his country's cause was just, and that she was defending herself against would-be conquerors. . . . But his assumptions are similar to those of most soldiers of any country at any time. Few qualms of conscience are to be found in the memoirs of those who exercised command in the wars for highly questionable causes that Britain and the U.S.A. waged in the nineteenth century. There is a markedly 'Victorian' flavour about Guderian's turn of phrase and thought. . . . Soldiers are not trained to explore the truth behind international disputes, and if they try to wrestle with the resulting questions they are likely to become incapable of performing their tasks. There is a place, and a need, for the military philosopher in the study and guidance of war, but a profoundly reflective mind does not fit easily into the service itself." This reviewer could not have been more astonished if he had read that there was something "Hitlerian" about Queen Victoria's relations with her generals and admirals.



The panzer leader discusses and congratulates one of his men at a ceremony.





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