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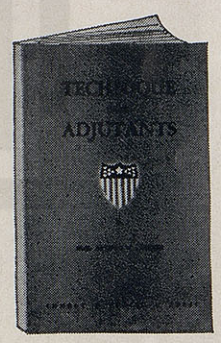

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Infantry Journal • Field Artillery Journal

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ARMS AND MEN

Walter Millis

Notes on the Trade

LABOR DAY is by no means an inappropriate moment to consider one now rather large class of labor—most of it highly skilled and specialized—which has no union organization but which often works very hard indeed and to which this country owes a great deal.

One can find out something about it in the service magazines—a small group of modest periodicals which might profitably be read by a much wider audience than they usually achieve. The service magazines are the trade journals of war. Few Americans think of war as a trade, despite the fact that over three and a half million of their sons, brothers, fathers and cousins, plus a few sisters and aunts, are at present engaged full time in this occupation. Yet a trade it is, in some ways like any other.

In the more stately examples of these publications, such as "Ordnance" or "Aviation Week"—both produced more for the industry than the uniformed forces—or "Naval Institute Proceedings" one does not quite catch the flavor. But in such slimmer, if authoritative, magazines as "Combat Forces Journal," "Marine Corps Gazette," "Air Force," or "Armor" (successor to the old "Cavalry Journal") one comes up against something rather disturbingly real and impressive.

Here is the technical literature of war, the trade journals of men who have been, are, or may soon be confronting some life or death crisis on a Korean hillside or eight miles above an air training base. They are much like other journals of the kind—some personalities, a bit of humor, discussions of technical ideas and innovations, letters to the editor, suggestions as to how to meet shop problems and how to get ahead in one's profession. There is only one marked difference. The shop problem is apt to be of such a kind that if it is not mastered the workman will be dead within a few seconds; getting ahead in the profession often means physically advancing (and staying alive) over some mortar-swept terrain or getting a first shot into an enemy tank before the enemy has a chance to get one into yours. These are peculiar and rather awesome skills.

* * *

SUPPOSE YOURSELF, for example, in command of a tank platoon in Korea; a mine blows half the wheels and track supports off one side of one of your vehicles. What do you do? The answer, according to "Armor," is that you break the track, hook up a shortened section of it around the remaining wheels and tow the vehicle off. If "time is a major factor" (which means if you are being shot at) you use quarter-pound blocks of TNT to break the track. From "Combat Forces Journal's" notes and articles one can learn a lot about the way battles are actually fought—not the big, impersonal battles that show up as broad arrows on the newspaper war maps, but the company and platoon size scraps and firefights out of which the big campaigns are made. "Air Force" will discuss the problems and something of the technics of combat at 40,000 feet. And so on for all arms and services.

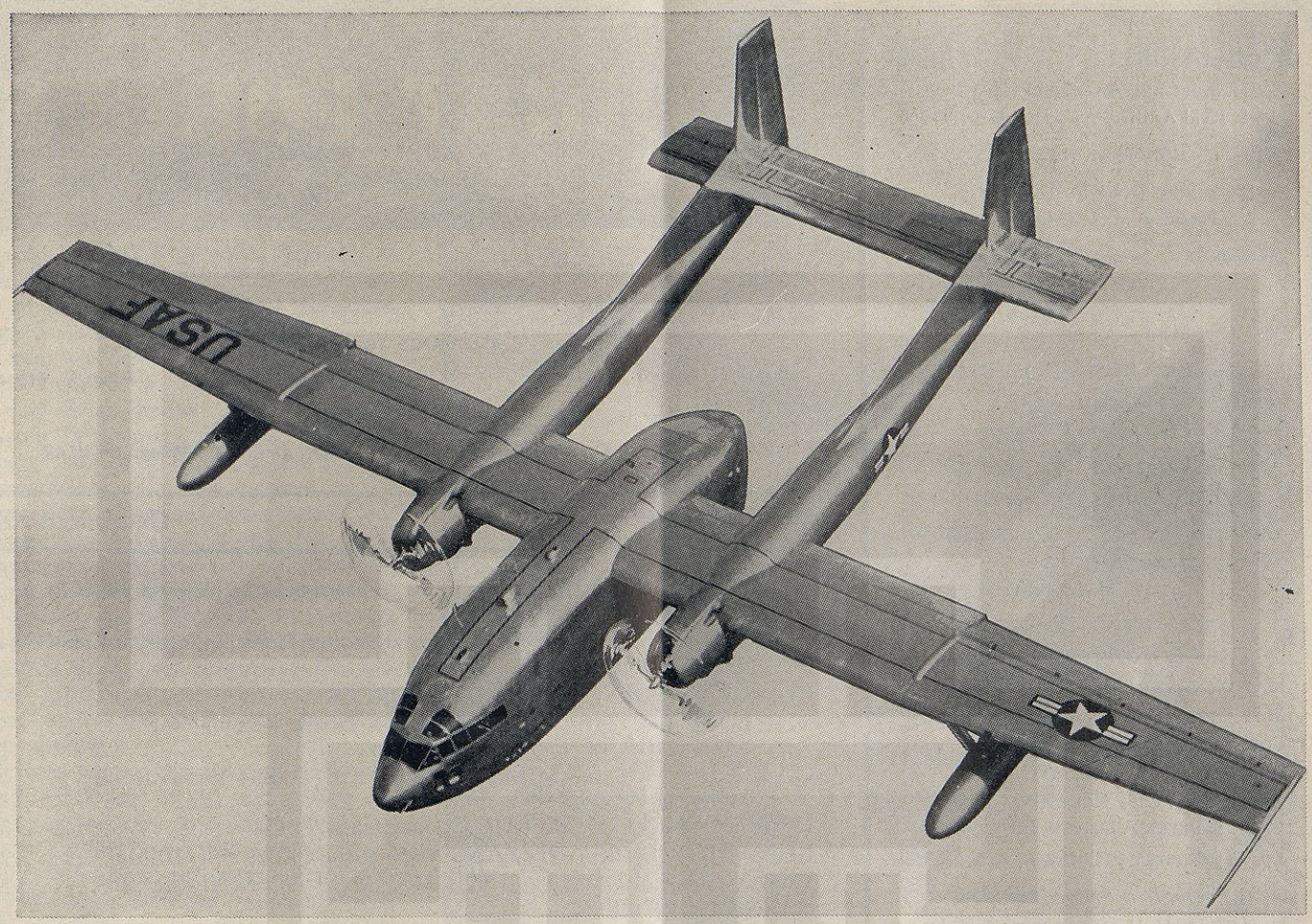
Modern combat in all its many forms is a highly skilled and technical as well as a deadly trade. It has its power tools—machine guns, artillery, vehicles—and its problems of management, discipline, worker psychology, like any other industry, but they are all grimly specialized against its own unique background of death and wounds. It is true that probably a large majority of those now wearing the uniform are unlikely to go through combat; but many have done so and many more are likely to in the coming years, while all must be trained to the business.

* * *

WE have to accept the trade of war as one of the normal occupations of our times for doubtless a long period to come. It seems certain, at least, that we must maintain large standing military forces indefinitely; and it is not unlikely that we shall have to be prepared to use them, in "little" wars from time to time, if their influence is to be effective in preventing the global war. This is a new situation for this country. It raises all kinds of questions as to obligations, duties, the allotment of risk and reward, the psychology of battle and the politics of power which are at best still only dimly seen. But one cannot read the service journals without sensing their presence in our affairs.

New Member of the Association of the U. S. Army

Typical of the world-wide campaign for membership in the Association of the U. S. Army and readers for the COMBAT FORCES JOURNAL is this photo from Korea showing Capt. A. E. Stanchoe, the 25th Infantry Division's TI&E officer, receiving the membership card of the division commander, Brig. Gen. Samuel T. Williams. Actually this was a renewal, for General Williams has been a member of the Association of the U. S. Army and the former Infantry Association for some 30 years. In Korea the Eighth Army is conducting a vigorous and successful drive for members.



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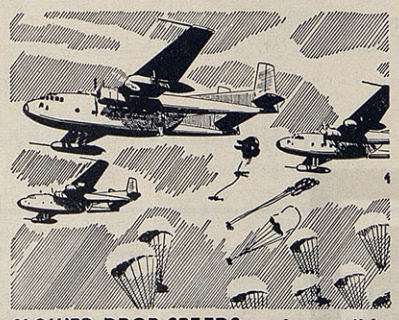

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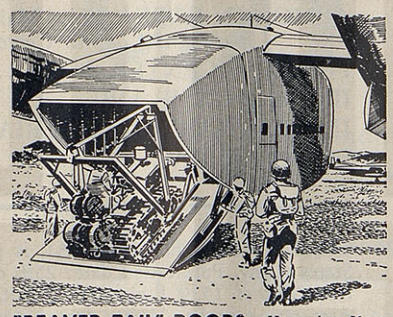

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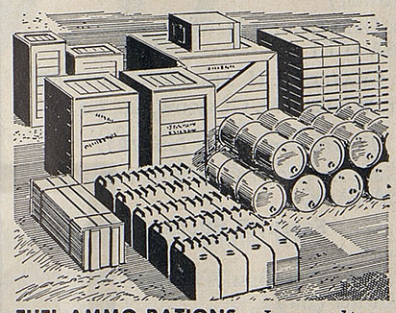

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To the Editors

Out of the Pencil Age

To the Editors:

Why does the artillery still solve meteorological messages by pencil arithmetic?

Seacoast artillery is dead, but surely someone remembers the range percentage correction board. This was a simple mechanical device for graphical determination of the net range effect of deviations from standard ballistic conditions.

I need not describe the board in detail. A few copies of the FM on coast artillery gunnery must survive in some military museum. In summary, the board contained a chart mounted on rollers on which were plotted groups of curves representing the range effects of various non-standard conditions. The ordinates of the chart were ranges and the abscissas were range effects. Using a combination of sliding pointers, the operator could, by visual interpolation and without computation, find the range correction for a given target in a few seconds. Little skill was required and no electronics or thousandth-inch tolerances were involved.

A faster means of computing corrections is needed because on the nights when we must keep our close-in defensive fires constantly corrected with the utmost refinement, our battalion is shooting at a rate of from two to six thousand rounds per night and our FDC is handling up to nine simultaneous missions. Our computers have little time to spare for paper work.

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APO 86, c/o PM
San Francisco, Calif.

MOS Correspondence Courses

To the Editors:

Why not correspondence courses for enlisted MOS training? As a Unit Instructor, ORC, I find this MOS training our greatest problem. As a former company commander, I found this problem as great.

The answer? Well, here's my proposal. Correspondence courses prepared and administered by the service schools. Difficult? Yes, but not impossible. A tremendous task? True, but unit competence is the goal of training and I believe that the final dance will be well worth the fee for the fiddler.

Since the Army Extension Course system trains second johns to lieutenant colonels and such commercial concerns as LaSalle or ICS train all sorts of trades and professions, the MOS extension course proposal must be feasible.

Granted, the service school can't mail out a howitzer or a bulldozer, but that can be handled by the proper approach.

The administrative MOSs are always critical and are too often staffed with improperly trained people, even in Regular units. Were extension courses available, I believe this could be remedied. Both

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Regulars and Reserves could be correspondence students.

Doubtless this would add quite a burden to the service schools, but I believe the final results would be as worth while as the present officer extension courses. And most of all, the Reserve and NG programs would have a means of training essential specialists that would give the taxpayer and the Army value received for money expended.

MAJ. ALEX HACKER
Naval Air Station
Corpus Christi, Tex.

Unit Loyalty

To the Editors:

In reading the July issue of the JOURNAL I was impressed by the number of articles and passages concerned with the morale of the combat soldier. One thing seems to be overlooked.

If you meet a soldier in a bar nowadays (forbid the thought) and ask him what outfit he is in, the answer will probably be, "The umpty umpth Division." There is one of the nubs of the situation. In the old Army, if you asked the same question you got a real answer, such as "H Company of the 23rd," "D Battery of the 15th," or "2d Medics."

A soldier can't see or feel a division. It's too big for him to really be a part of it. But a company or battery is different. The man knows the officers, he knows the first soldier, he can feel that he is a real, functioning, integral part of a team. When he falls out for a parade or inspection he can see his outfit. In combat he knows at most what his company is doing. Even the battalion is too big for him to keep up with.

Since the war I have met men out of the 9th Infantry who didn't know what the dragon stood for, men of the 15th Infantry that had no idea of the meaning of the Five River Pin, even men of the 7th Cavalry that didn't recognize Gary Owen.

Give back the pride of outfit, the feeling of team membership, the real *esprit de corps,* and morale in the field will reflect that spirit.

CWO JACK L. BOLING
1846 E. Commerce
San Antonio, Tex.

Tanker's Badge

To the Editors:

I propose the following draft be adopted by the Department of the Army:

AR 600-70
C 2

PERSONNEL BADGES

Changes }
No. 2 }

DEPARTMENT OF THE ARMY
Washington 25, D. C., ... 1952

AR 600-70, 24 September 1951, is changed as follows:

Combat Tank Crewman Badge (fig. . .)
—a. Eligibility requirements:
(1) An individual must be an officer or enlisted man, who subsequent to 6 December 1941, has satisfactor-

ily performed duty while assigned or attached to an armored unit as a crew member of a tank or other tracked vehicle during any period such unit was engaged in active ground combat.

(2) One combat tank crewman badge is authorized to be awarded to each individual for each separate war in which the requirements prescribed herein have been met.

c. Description:

(1) First award.—A polished silver Armor insignia on an oval green background .. inches in height and .. inches in length in front of an oak wreath of oxidized silver.

(2) Second award.—Same as (1) above with one silver star centered at the top of the badge between the points of the oak wreath.

(3) Third award.—Same as (1) above with two silver stars centered at the top of the badge between the points of the oak wreath.

(4) Fourth award.—Same as (1) above with three silver stars centered at the top of the badge between the points of the oak wreath.

The intent of this regulation is to permit the award to be made to individuals assigned to units containing tanks and to individuals who act as members of TACPs operating from tanks. Artillery FOs and those who work under fire as crew members of tank recovery vehicles are also intended to be included.

I'd like to point out that tankers have been waiting a long time for the implementation of the proposed regulation. I hope the matter can be expedited.

CAPT. STEPHEN K. PLUME, JR.
Hq. IX Corps
APO 264
c/o PM San Francisco, Calif.

'Arch General'

To the Editors:

General of the Army should be replaced as the title for a five-star rank in the Army. Experience has proven that it is confusing and inadequate. After some seven years of existence, five-star generals are today popularly indistinguishable from four-star generals.

Generals of the Army are so universally referred to as plain General that much of the original purpose in creation of the five-star rank has been lost. Five-star rank was created to place our military leaders on a parity with top military leaders of other nations who bear such titles as marshal, field marshal and generalissimo.

At the moment General Matthew B. Ridgway (a four-star full general who may soon become a five-star general, or "general of the army") will have a French marshal and a British field marshal under his command in the Atlantic Pact forces. Both the marshal and field marshal, at least in the popular mind, will outrank the supreme commander.

General of the Army is confusing in that it implies that there is only one "general of the army," whereas several officers may bear the title. Also, all five ranks of general are generals in the army or "generals of the army."

The title field marshal, marshal or generalissimo, already established in usage by other nations, should be utilized for United States officers of five-star rank—or some new American title should be established for the purpose. Arch, First, High, Chief, Grand, or Supreme General might serve the purpose.

Field marshal or marshal would serve well. A story has it that one of these was first considered when five-star rank was inaugurated, but discarded because George C. Marshall was slated for the rank and it was felt that "Field Marshal Marshall" would have an objectionably odd sound.

DANIEL FRANCIS CLANCY
Springfield, Ohio

Small Arms and Such

To the Editors:

Saw my letter on weapons in the June issue. Either my handwriting doesn't translate well or something happened at your end. What I meant to say is that the 9mm Parabellum is a standard caliber in Europe for submachine guns. The French use a 7.65mm and the Red nations use 7.62mm pistol caliber.

One of the many reasons the M1 is hard to shoot accurately is the mounting of the front sight on the gas cylinder. The T-44 and T-47 have a better setup. Also, taking the rifle out of the stock to clean creates possible trouble. If the gas system was above the barrel like the Soviet Tokarev M1940, it could be left in place.

Apropos of that sergeant who writes that he doesn't want any more rifle inspections, he is barking down the wrong hole as it were. Until Uncle shoots all of his corrosive primers away, rifles had better be checked at least for a few days after use. They leave such purty whiskers on the rifling.

WO JOHN P. CONLON
Camp Polk, La.

UMT

To the Editors:

While stationed at Fort Jackson, S. C., in 1947, I happened to know personally several of the graduates from the UMT experiment at Fort Knox. They had received six months of "training"—they had their own courts-martial, they had lectures from the chaplain, they had *Army Talks*, and they learned neatness and citizenship. And they knew the M1 rifle. But they knew almost nothing about any other infantry weapon!

As a test, I asked them all this question: "When your BAR fails to fire, what is the immediate corrective action?" Not one of them knew the answer. Yet that simple answer might save lives some day when the going gets rough.

This type of UMT would be a waste of time and money and would not contribute to national preparedness.

JOHN S. CARROLL
Denver, Colo.

Comment for the Combat Forces

Machines and Men

IN one of his books some years ago, General J. F. C. Fuller observed that the stalemate of the First World War was made possible because soldiers and civilians alike didn't understand the proper use of the internal combustion engine and wireless telegraphy in war. It wasn't until the closing days of that war that the true use of them began to be discerned, Fuller wrote (if we remember him correctly), and it wasn't until 1939-40 when the *Stuka-Panzer* teams appeared that the impact of the Age of Oil on warfare came to full maturity.

We recall that comment now because today, more than three-quarters of a century since Daimler built his automobile and a half-century since Marconi sent a wireless message, the use of these two devices by our military forces is being criticized. It isn't that the critics are against motor vehicles and radios and think the Army should go back to mule carts and wigwagging from high hills. Not at all. They just think or seem to think that it is a hell of a note that the Army has soldiers in uniform who spend their time operating these machines instead of firing shot and shell at the enemy.

If the full effect of this kind of thinking could bring about the complete disappearance of typewriters, IBM machines and other such millstones, the net gain might be worthwhile. But there is, as you well know, no hope of that. The bookkeepers and their machines are sacrosanct and even if the rest of the Army went back to the days of Mad Anthony Wayne, the spectacle of a machine-records unit trailing a mounted rifle company through a Korean valley would be something to see.

Of course this wouldn't satisfy the critics. But there's another solution that might: the modification of every machine in the Army to shoot bullets. It could be done. Is there any reason why a machine gun couldn't be fitted to a jeep engine so as to fire at every stroke of a cylinder? Or for a walkie-talkie to be fitted with a fast-firing carbine-type weapon? Or even for a typewriter to spew forth bullets? This would require the rewriting of the old adage that words are more lethal than bullets. But that can be taken care of by quip-makers armed with a Joe Miller joke book that backfires (no development necessary).

Seriously, the critics who want more shooters and fewer specialists are flying in the face of history. In the three-quarters of a century preceding 1945—when the scientists came forth with atomic energy—the changing methods of war were caused not by radically new weapons or explosives but by new machines that themselves didn't shoot a single bullet or shell or explode a single bomb. The motor vehicle (including the tank), the airplane (including the heavy bomber), and the radio (including radar and the VT fuze) multiplied the mobility and velocity of warfare tremendously. These inventions and developments made it possible for one man at the trigger and ten to a hundred men beside and behind him to place more fire power faster on the most critical targets than a hundred or a thousand or more men had been able to place before.

The question the critics should ask is not whether we have too many specialists in uniform but whether we have enough specialists assigned to the right units. And whether we are giving our specialists the right kind of training. And whether we are thinking enough about new ways to use these specialists.

And similar questions should be asked about the machines these specialists operate. Have we enough of them? Have we organized so as to get the most out of them at the place and time that is best for us? How can they be improved? What other new machines do we need that scientists and engineers can produce?

These are important questions. But it is still true that wars end when riflemen, machine gunners, tankers and artillerymen overcome the enemy's riflemen, machine gunners, tankers and artillerymen. But it is further true that in 1952 the riflemen, the machine gunners, the tankers and the artillerymen would never get to that final battlefield without the full use of the internal combustion engine and wireless telegraph—in all of their manifestations—by every echelon of the ground, sea and air forces.

Years in Grade

THE unfairness of the "five-years-in-grade" law to some 900 permanent colonels (some of whom are temporary general officers) and 50 or more generals has been somewhat alleviated by the Executive Order of the Commander in Chief which makes it possible for the Army to retain 60 per cent of these officers during the national emergency. But it is plain that the law needs revision. A law that penalizes an individual and deprives the Government of the services of men of proven capacity is not right at any time and is particularly inefficient at a time when the Army has the most intricate and difficult missions imaginable assigned to it.

Further, it wasn't what the officers bargained for when they entered the service as young men.

When these officers were first commissioned as lieutenants, they fully expected to serve on active duty until age sixty-four. Or else to be freely permitted to retire at the end of thirty years or more of service if they so requested. Or, possibly, to be retired for physical dis-

ability; or die from wounds, disease or accident before their careers were done.

They did not dream that Congress would first cut their service four years short—then cut it still further by a five-years-in-grade law. And they did not dream that their last years of service would turn out to be (by operation of law) a period of extreme uncertainty during which they have been made to feel very distinctly that failure to become generals has tended to brand them officially as failures.

There never has been (and never will be) a time when more than one regular colonel in five could be promoted. In the old Army and in the new, many highly honorable and truly "superior" careers have ended with retirement as colonel.

The one thing that has helped save a thousand senior officers from extremely low morale has been the sheer absurdity of the laws creating such extreme uncertainty for them in their closing service years. One law has said (for several years, now) that they must go out after five years as colonels. But another law has said that they can't draw any retired pay unless retired for disability.

The Navy has the best way. A man qualified to be an admiral, but who doesn't get that promotion in time, is *retired* as an admiral. Contrast this with our own "system."

Let's soon spell out clearly again for the junior officer what his career will be, with or without stars. And this *normal* career should be expressed in the form of a law of Congress.

$19,000 a Year

THE careers of our younger officers are important too. But we don't think any of our younger officers should feel that the retention of 600 or so of the older officers will irreparably delay their chances for promotion. Indeed the principle that would be established if the thousand "five-years-in-grade" officers were let out now could work to the disadvantage of younger officers in years to come. It might happen to them at forty-five instead of at fifty-five.

Nor is anything gained by older officers insisting that the young bucks are doing all right. To snort that "I was still a first lieutenant after seventeen years of service while kids of ten years' service are lieutenant colonels today," doesn't say a thing except that maybe the Government was right in keeping you a first lieutenant that long. Which of course is absurd. Your generation was unlucky. The younger generation can only be called lucky by comparison if you want to forget that it was that generation that got the heavy casualties between 1941-45.

And how well are the youngsters doing, anyway? Consider the cost of living today and fifteen years ago. Look at their contemporaries. Fortunately we can, for John Hersey in *Harper's* has given us a valuable report on the status of the Yale Class of 1936. He reports that the average member of the class had an income before taxes from all sources in 1951 of $19,226.41, life savings of $71,212.74, and $41,293.28 worth of life insurance. As Mr. Hersey observes, averages have to be watched in this connection, but surely the averages of the Yale Class of 1936 can safely be compared with the averages of the West Point Class of the same year. So compare them and see what you get. A few of the Class of 1936 USMA may be generals (temporary), but more of them are colonels (temporary), and still more, probably, are lieutenant colonels (temporary). Most of them are majors (permanent).

The Secretary of the Army is a relative youngster himself. And he believes that the young and vigorous are needed if the Army's leadership is to be kept healthy. He spoke of it at the American Legion convention in September, remarking that the "adoption of a special provision that permits promotion of five per cent of outstanding officers for special achievement irrespective of time in grade does much to emphasize incentive." So it does. But as you know there is a bit of a catch in that five per cent business. The word "permits" is critical. There is no guarantee in it that you'll get promoted if you are a hard-working genius with a flair for capturing the best possible efficiency reports. The regulation just makes it possible for such geniuses to be considered for promotion before they normally would be.

Meanwhile our advice for the Class of 1936 USMA is not to worry about that Yale '36 average of $19,226.41. It's a little phony on analysis. The average Yaleman "earned"—so Hersey put it—$11,329.01, "took in $5,189.30 in unearned income; his wife earned $186.10; and she had unearned income of $2,-522.20." So if you, in addition to your service pay and allowances, have $5,000 worth of unearned income every year, if your wife earns $180 a year and has unearned income of $2,500, you are doing all right. And even though you can't chalk up any of these extra windfalls, you're still no failure in our book.

On Your Toes

FOR early September the Virginia countryside is unusually cool tonight and so the crackling little blaze in the fireplace is very comfortable, as is the big chair, and as are our toes freed of confining leather. . . .

On page 37 of this issue three air lift operations of the cold war are briefly reviewed from the standpoint of the soldier interested in the use of air power to transport troops and supplies. The three operations are significant because each was more than a minor victory in the cold war, and in each, air transportation was the vital factor.

One of the three lifts was that of British troops to the Suez Canal Zone a year ago. In a recent issue of the British *Army Quarterly* this operation was described at some length with the author at one point observing that "a great change has occurred during the last twelve months, and a unit commander in the Middle East in 1952 must expect, and does expect, to be called on to carry out operations at very short notice involving moves by air. It has become second nature."

He was referring to standard British infantry regiments and not to airborne troops. And the comment is, or should be, applicable to our own Army today. Certainly travel by air by individual soldiers is common. And certainly many units have moved by air to maneuvers and even to Europe and the Far East and to other outposts on the perimeter of the free world.

But there is in that comment of the British writer more, much more, than the mere acceptance of the existence and possibility of movement by air. There is in it the suggestion that commanders today must anticipate the possibility of unexpected orders to move and must keep their commands prepared psychologically as well as physically for them.

This living "light" in anticipation of a sudden change is tough on the man who likes to toast his toes by his home fire at the end of a long day. But it can be done. Indeed you can learn to live that kind of a life and like it. So we have been told.

. . . We push our toes towards the warming fire and give ourself the luxury of a long and lazy stretch. A yawn is hardly stifled by the dull throb of an airliner's motors overhead, coming in or leaving the Washington National Airport. Something must be done one of these days about our own psychological adaptiveness to change.

The Load of the Individu

Tactics, logistics, equipment production and training are all involved In the load of the Doughboy. Here's what Army Field Forces — more explicitly AFF Board No. 3 — is doing about the load the soldier carries.

IMPROVEMENT of battle efficiency by simplifying the ways and means of carrying the soldier's load, thus easing his total exertion, has been a continuing objective of military leaders. The troops of Hannibal and Caesar forced enslaved peoples to "tote" their loads. Joan of Arc and the British battle chieftains had carriers bring loads of extra arrows and arrowheads into the fight.

In World War II, when our own forces spent much time in pursuit and amphibious assault, the soldier's load truly went under the microscope of the logistic and command study and research. In Korea, despite much discussion after World War II, solutions were generally local improvisations. There we have had a combination of mountain warfare with winter circumstances alternating with almost the hot-dry circumstance of the desert. During our withdrawals, we accused ourselves of being top-heavy with equipment.

The reports of abandoned supplies and the complaints against present load-carrying equipment indicate that no satisfactory solution has been found. The quest for it continues.

Everybody who has noted this agrees that the load must be lightened. But just how much should a soldier carry?

The most common rule of thumb has long been "one-third the body weight." In 1950, Army Field Forces Board No. 3 recommended:

(1) "That forty pounds be adopted as the optimum combat load to be carried by the soldier employed under the most trying conditions, *i.e.*, the rifleman."

(2) "That forty-five pounds be adopted as the optimum combat load to be carried by soldiers other than riflemen, whose combat functions normally require movement on foot."

(3) "That fifty-five pounds be adopted as the optimum load to be carried by any soldier when march conditions prevail."

The Chief, Army Field Forces, approved as doctrine these 45-pound combat and 55-pound marching loads. Although no specific doctrine was set up for the rifleman as such, his 45-pound load can readily be reduced to 40 pounds by cutting down his ammunition. These are the first actual and practical yardsticks for the soldier's load. They affect not only the man who carries it, but they control and influence tactical and logistical doctrine, training methods, and the development of every item which must be man-carried on the battlefield. The problem is much more complicated than it seems on the surface.

COMBAT tactics dictate that every infantryman have his own individual weapon; and that crew-served weapons of the infantry battalion be man-portable. Operators of crew-served weapons already heavily loaded, must also carry an individual weapon.

Mobility of the soldier is vital to tactical mobility. Every additional pound he carries cuts down his mobility and the tactical mobility of his unit.

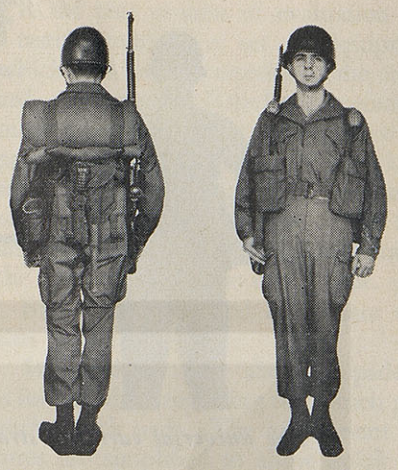
The logistical aspect of the problem includes resupply methods and use of transportation, and these things, more than anything else, dictate the amount of supplies and equipment the soldier must carry. This aspect becomes most complicated in areas impassable to motor vehicles where everything must either be man- or animal-carried.

A man wearing no clothing and carrying nothing has the ideal load. But any solution of the load-carrying problem must be a compromise between what the individual must carry to do his job and the ideal. The solution must be one

MAJOR RICHARD T. MATHEWS, Infantry, is a member of Army Field Forces Board No. 3 at Fort Benning.

dividual Soldier

Major Richard T. Mathews



Front and rear view of a soldier equipped with the newly developed carrying equipment and field trousers. This man is carrying battle, existence and full field load.

that will not interfere with breathing or blood flow or the capacity of the body to dissipate heat. The load must create the least possible body pressure, pain and fatigue.

During training the soldier must be prepared both physically and mentally to carry his necessary combat load. Discipline is essential. Only through a combination of mental and physical conditioning can the willful throwing away of supplies and equipment be eliminated. Commanders must see to it that training isn't designed to condition a man to carry larger and larger loads as his condition improves, but rather to carry the minimum essential loads with less and less adverse effect on his operating efficiency.

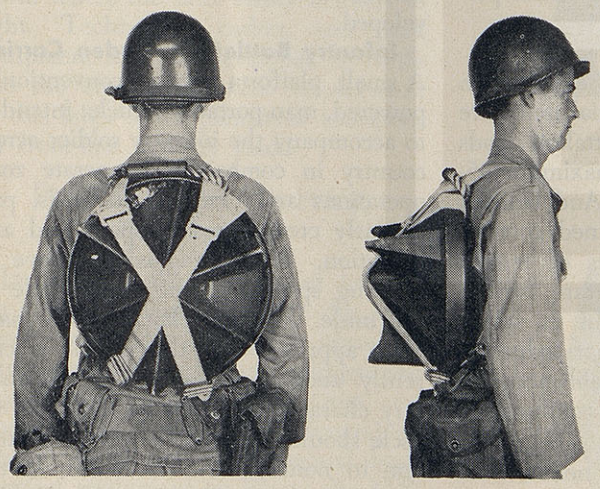
Development

A chief objective in development is to cut down the weight of man-carried equipment. This is a continuing project. Suitable lightweight materials must be obtained for it. The difficulty of coming to a skillful compromise between the soldier's battlefield needs and his ability to carry the load makes it absolutely necessary to give the highest priority to cutting the weight of the equipment he must carry.

The means by which the soldier carries his load must be designed so that the weight is transmitted to the ground through the bone structure, thus eliminating local muscular and other strains.

The center of gravity of the load must closely coincide with that of his body, so he can maintain his normal posture and free gait. All pressure on the chest should be eliminated, whether from parts of the load or the load-carrying equipment itself.

There must also be the least possible effect on the regulation of his body temperature and minimum interference with his capacity to do the jobs he must do.



The 7-foot web universal carrying strap can be used with crew-served weapons. Here it is used with the inner ring of the baseplate of the 81mm mortar.

IN July 1951, Army Field Forces Board No. 3 undertook a project to study this problem and develop military characteristics for improved individual load-carrying equipment. The Board found that a final solution narrowed down into two main coordinated efforts: (1) Cutting down the soldier's load by eliminating every nonessential item and reducing the weight of the essentials; and (2) Improving the means of carrying the load.

It was recognized that the problem was most acute for the front-line infantryman, both in the loads carried and means of carrying. If a solution could be found for *him*, then any special requirements for other types of units could be readily resolved.

The 45-pound combat load and the 55-pound marching load could be further broken down into these items:

Habitual Clothing. The clothing worn so naturally that the wearer is not conscious of its weight. The weight of this was considered as exclusive of the 45-55 pound maximum.

Existence Load. These are items common to the load of all combat soldiers, which protect or maintain the individual. The following minimum existence load was proposed:

Medical items, toilet articles, socks and spoon	.70 pounds
Bayonet-knife[1]	.90
Ground sheet, sleeping and rain gear (poncho)	2.00
Rations (⅓ "C")	2.20
Helmet	3.00
Water (canteen, cup and cover)	3.30
Suspenders, combat pack, belt, and 2 ammunition pouches[2]	3.50
Intrenching tool w/carrier	3.50
Pistol and ammunition	4.00
or	
Carbine and ammunition	8.00

[1]A previous project of Board No. 3 recommended that the bayonet-knife be modified to fit the M1 rifle and issued in lieu of the bayonet, M1.

[2]Items developed by Board No. 3 during the conduct of this study. They are discussed later in this article.

The universal carrying strap becomes a machine-gun sling.

TOTALS:

Men armed with rifle[3]	19.10
Men armed with pistol	23.10
Men armed with carbine	27.10

Battle Load. This consists of a rifle or crew-served weapon and their ammunition, and unit equipment which varies with the soldier according to his assignment. In the main, these are the man's contribution to his small fighting unit, as contrasted with the existence items which he carries to support himself.

Full Field Load. These are certain additional existence items that a man may need to increase his environmental protection or comfort, when he is on the march to or from combat—or when he is otherwise in the field but not actively engaged in combat. These include such things as sleeping bag and extra clothing.

STUDY of the functional loads showed that to meet the maximum 45-pound combat load, we must have an existence load of 20 pounds, and a battle load of 25 pounds.

These weights were recommended for adoption as research and development guides, to be applied in the design of equipment as well as controls for use in establishing T/O&Es. The full field load is of lesser importance, since it can be regulated to insure that, added to one or both of the other loads, the total load does not exceed 55 pounds.

Studies of infantry battalion loads show that it is probably feasible to cut the minimum existence load to 20 pounds. This limitation, of course, would be based upon further research and development. The weight of such items as the canteen and cup, intrenching tool, rations, helmet and side arms could probably be reduced.

Most of the loads in a rifle company fall within the 25-pound maximum battle load, when only the minimum essential weapons, ammunition and equipment are carried. When current developmental projects are completed, practically every rifle company load will fall within this limit. Notable exceptions are the ammunition loads for the light machine gun and the 60mm mortar. These cannot be brought within the 25-pound limit unless radical changes are made in the packaging of ammunition.

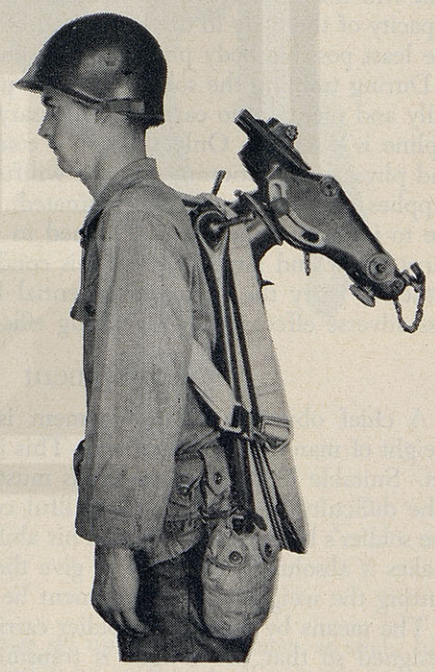
The weights of crew-served weapons, ammunition and equipment of the heavy weapons company are greater than those of the rifle company and obviously cannot be carried within the 25-pound battle load limit. Neither the 105mm rifle nor its ammunition is man-portable, and the 75mm rifle and its ammunition are only semi-man-portable. This heavy-weapons company problem, though serious, is not as acute as that of the rifle company, where hand-carry of weapons and ammunition is normal in all displacements even when the terrain permits use of vehicles.

IT is apparent then that, even when only the minimum essential items are carried, many infantry battalion loads cannot come within the maximum 45-pound combat load limit. And besides, the requirements for sustained combat, special operations, extremes of terrain and weather, and arctic warfare, further complicate the problem. In its study, Board No. 3 considered that reduction of the load, to meet the established doctrine, requires a considered combination of these measures:

(1) The elimination of nonessential items;
(2) Use of lighter, improved equipment;
(3) Increased strength of weapons teams;
(4) Supplemental battlefield transport.

Items and Accessories

Battlefield transport must be able to reach the rifle soldier in the front lines and often go with him in battlefield displacements. Conventional combat vehicles do not furnish a complete solution. It is even doubtful whether any single means of transport can be devised to be satisfactory in all circumstances. The Board concluded that from the following group an integrated family of battlefield burden carriers could be developed.



The new lightweight machine-gun tripod can be handily carried by using the universal carrying strap.

Infantry Battlefield Burden Carrier. A small, platform type, unconventional, powered, man-portable vehicle, intended to accompany the infantry soldier across country in combat in temperate zone operations and carry squad loads, particularly crew-served weapons and ammunition. It is designed to move at walking speeds, in the former role of the mule. Military characteristics have been approved and the vehicle is currently under development. If the military characteristics can be met, this vehicle should alleviate the carrying problem in nonmountainous terrain in the temperate zones. An over-snow version of such a vehicle warrants consideration for arctic use.

[3]The rifle and rifle ammunition are considered a part of the battle load and the weights of these items are not included in the existence load.

Helicopter. The infantry has welcomed the increasing availability of Army cargo helicopters in handling its logistical problems. More study is necessary to decide whether the military characteristics of cargo helicopters should be changed to provide for close support of the infantry soldier in front lines. A cargo version of a one-man "hoppicopter," capable of lifting loads for short distances at treetop level, has possibilities.

Hand Carts. Hand carts have been used by many armies for transporting loads too heavy to carry by hand. In World War II, airborne units had varied success with an ammunition cart towed by a motor scooter in the assault phase of airborne operations. This scooter, equipped with small doughnut-shaped tires and a very low gear, had considerable cross-country mobility. An extremely light, high-wheeled, rickshaw type, collapsible cart, capable of being transported outside of the cargo compartment of a combat vehicle, warrants investigation. Such a cart could consist of two readily demountable drawing bars. It should carry loads up to 250 pounds secured to the framework of the cart.

Sleds. Man-towed sleds have been used in arctic snow-covered terrain by several armies. Currently our Army has 100- and 200-pound capacity sleds. Field tests are required to determine the practicability of man-towed sleds loaded with combat impedimenta of rifle and heavy weapons companies. The bulk and weight of existence equipment required in the arctic dictates the need for special means of transportation.

Mule. The special capabilities of the mule in certain kinds of terrain warrant its retention for such special roles.

Man Transport. Natives will act as human carriers in many areas of the world where the U.S. Army is likely to fight. Techniques, cadres, and pack equipment must be developed to facilitate the organization and employment of this labor as supplemental transport, for front-line infantry loads.

Practical Load-Carrying Equipment

In studying the problem of improving the means used to carry the load, every conceivable source of ideas for equipment with optimum military and physiological characteristics was explored. The Quartermaster General reviewed all patents of individual load-carrying equipment on file at the U.S. Patent Office and furnished Board No. 3 with copies of those meriting consideration. The Infantry School canvassed its staff and faculty and furnished numerous ideas and suggestions. Combat veterans, both from World War II and Korea, were interviewed. Reports covering previous studies and tests on individual load-carrying equipment were examined. Items of French, German, and Japanese equipment were evaluated. Complete sets of British and Canadian experimental equipment presently undergoing tests in those countries, were received and evaluated. The ideas from these sources were sifted, evaluated, combined and consolidated to arrive at desirable features in individual items and a collective group of items which would form an individual load-carrying system.

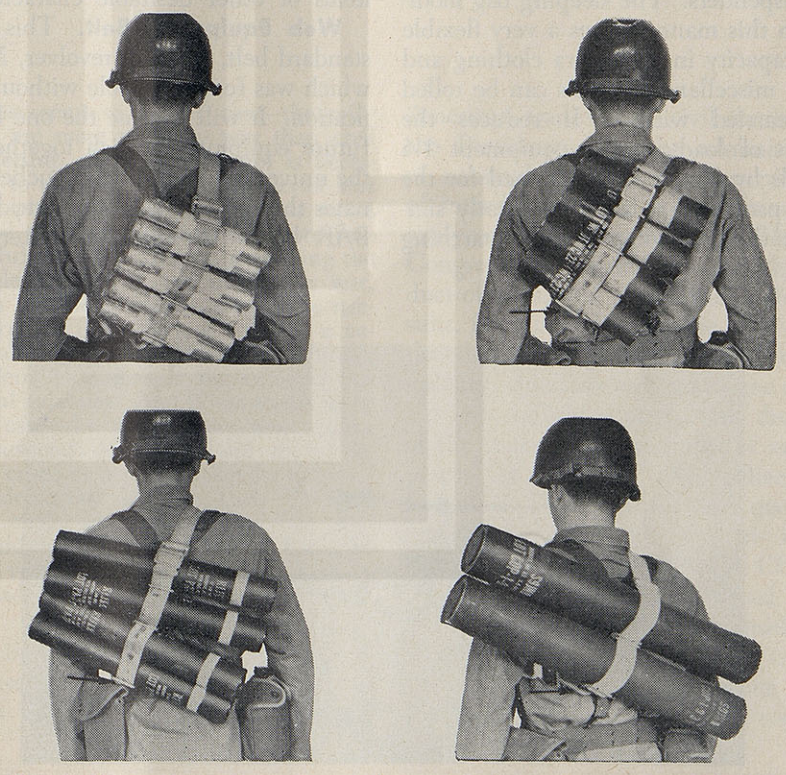
Concurrently and in conjunction with the evaluation process, an expert equipment designer from the Jeffersonville Quartermaster Depot worked with Board No. 3 in fabricating protoype models of equipment for testing. These models were first tested and evaluated informally to determine any deficiencies or desired modifications. Items were then tested formally, with all results recorded, in comparison with each other and with standard equipment. Formal tests alone involved marching more than 750 man-miles over a variety of terrain, with test soldiers simulating both combat and marching conditions.

FROM this process of evaluation and testing evolved a set of equipment which appears far superior to the standard equipment. Based on prototype models, military characteristics were prepared with recommendations that 1,000 sets be fabricated for service and troop testing. This testing, under actual field and combat conditions, will determine the true merits of the equipment.

Briefly the proposed equipment consists of the following:

Suspenders. The shoulder padding is improved by replacing the 2-inch pads with 3-inch pads. The adjustment features are simplified to allow quick and easy adjustment and eliminate annoying loose ends. Easily operated attachment devices are located at shoulder level for the alternative attachment of either combat pack, sleeping bag, or other equipment. Webbing tabs with a channel for carrying a hand grenade are located on each strap at chest level.

Combat Pack. A small pack of simple design permits flexible employment since it can be carried in four different ways: from the belt; from the suspenders; by a shoulder strap; or by hand as a kit bag. It has a minimum capacity for one "C" ration, poncho, toilet articles and one pair of socks; with an expandable feature in the cover to provide for loads of greater bulk. A waterproof name-plate holder is located on the

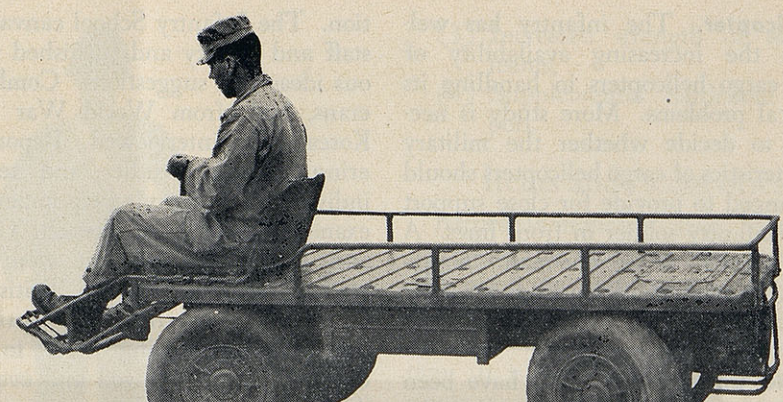


Here's how the universal carrying strap is used to tote different kinds of ammunition.

cover. The intrenching tool can be suspended from this pack or from the belt.

Universal Ammunition Pouch. These pouches are suspended from the belt with additional support being provided by the suspenders. Their positioning on the belt is very flexible. They can be positioned on the side during combat, thus eliminating interference with hitting the ground and crawling; or they can be positioned to the front in non-combat situations when heavier loads are being carried. In either position they give a desirable balancing effect on the total load and noticeably ease the strain on the individual. Each pouch has a capacity for ten clips of M1 ammunition, or four magazines of BAR ammunition, or any lesser small-arms ammunition load. They can also be used for rations, toilet articles, socks, underwear, baseplate for hand-held mortar, and other items. Their potential for adding flexibility to the load-carrying system appears unlimited. Their many possible uses will be developed during service and troop tests. One apparent major advantage is that a more even distribution of BAR ammunition is feasible within the rifle squad, thus eliminating a load which heretofore was very burdening on a few individuals.

Sleeping Bag. The comforter type sleeping bag, recommended for standardization in November 1951, is equipped with webbing straps to secure the bag in a rolled position. These straps carry attachments which permit clipping to the suspenders. The sleeping bag modified in this manner gives a very flexible load capacity in that extra clothing and minor miscellaneous items can be rolled and carried within. It reduces the weight of load-carrying equipment 1½ pounds by eliminating the need for the cargo pack and in addition greatly simplifies the changing from a marching order to a combat order.



Requirements for the infantry burden carrier now under development are that it does everything the mule can do, only better. It must be capable of carrying squad loads, crew-served weapons and ammunition cross-country and at walking speed.

The bag is rectangular in shape, convertible to a mummy shape by means of a quick-release zipper. Its filling consists of chicken feathers which provide adequate insulation down to plus 15 degrees Fahrenheit. It will replace the wool sleeping bag and blankets, for field use, in temperate areas.

Intrenching Tool Carrier. The standard carrier is modified to provide for attachment of the bayonet or bayonet-knife on the outer surface. This modification reduces cluttering of the belt without sacrificing accessibility to the items or other desirable characteristics.

Web Equipment Belt. This is the standard belt, pistol or revolver, M1936, which was found suitable without modification. It will become the one belt for future equipment, which together with the universal ammunition pouches eliminates the special need of a cartridge and BAR belt. An improved fastener has been called for to facilitate buckling and unbuckling.

Clothing. Trousers designed for combat use are equipped with two 8x9-in. cargo pockets located on the outside seam of the leg above the knee. A smaller outer pocket is superimposed on each of the cargo pockets. One of these pockets is designed for the first-aid dressing, the other for a compass. The cargo pockets are not designed for specific items, their primary purpose being to provide flexibility and for supplemental utility cargo space. A lightweight poncho could be carried in one of these pockets.

A cargo-carrying one-man helicopter capable of lifting infantry loads for short distances has intriguing possibilities.

All-Purpose Strap

During the study at AFF Board No. 3 it became apparent that an urgent requirement existed for an all-purpose means of carrying infantry crew-served weapons ammunition. At present, numerous bags, each with a special purpose, still fail to meet our rapidly changing needs. To meet this requirement, a universal carrying strap was developed in conjunction with the airborne experimentation. The item is very simple, merely a 7-foot web strap with a quick-adjustable loop containing three load spacers and a "V" ring on one end, and running snap fasteners and sliding "V" ring on the other. Tests to date indicate that in addition to being a suitable replacement for all special purpose ammunition bags, the strap possesses a wide variety of other uses such as: facilitating the carry of crew-served weapons, or litters. It can be used as a scaling rope and in improvising a pack; for parachute-jumping ammunition loads; and,

(Continued on page 29)

CIVIL CONTROL OF MILITARY POWER

NO one will venture to disagree with the statement of Dean Smith of Berea College, in the volume under review,★ that "One of the most ancient and difficult problems of political society is that of the proper relationship of military power to civil authority." Few will disagree with his five criteria of "democratic civil control":

(1) The heads of the government are civilians and are the representatives of a majority of the citizens to whom they are accountable and by whom they may be removed by the normal functioning of existing legal and political processes;

(2) The professional heads of the armed services are under the control of the civilian leadership of the government in a manner which is both constitutional and effective;

(3) The departmental management of the military establishments is under the authoritative direction of civilians who co-ordinate all phases of the program, and are themselves responsible members of a responsible administration;

(4) Elected representatives of the people make the general policies, including such things as the decision about war, the voting of money and men for military purposes, and the granting of whatever emergency powers are required; also they are able to exercise an ultimate and general control over those responsible for the execution of policy;

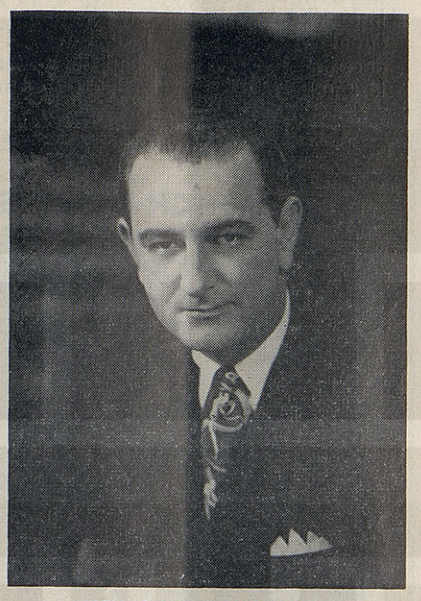
(5) The courts are in a position to hold the military accountable for the protection of the basic democratic rights of the people of the nation.

But the conclusions on which he rests in emphasizing "the high urgency of civil control" are more doubtful:

★*American Democracy and Military Power. A Study of Civil Control of the Military Power in the United States. By Louis Smith. 1951. The University of Chicago Press. 370 Pages; $5.00.*

COLONEL FREDERICK BERNAYS WIENER, Judge Advocate General's Corps-USAR, has contributed to this magazine and its predecessors for many years. He has been a Reserve officer since 1936. During the Second World War he saw duty in Trinidad, Guadalcanal and Okinawa. A practicing attorney in civil life, he is general counsel to the Association of the U.S. Army.

DOGMA *VERSUS* REALITY



SEN. LYNDON JOHNSON

"... the Secretary of Defense [should] appoint a group of eminent and qualified citizens to make a comprehensive and thorough study of the entire problem of the utilization of manpower by the armed services ..."

SEC. HENRY L. STIMSON

"... it is my view that the decision of vital matters which are intrinsically military in character should remain the responsibility of our trained soldiers. ..."

If—as seems to be the case—the military are more prone to war than civil leadership, then such control is necessary to the end that the horrors of war may possibly be averted. If—as seems to be the case—civilians are more successful than the military in eliciting the whole strength of the nation for war, then their leadership is even more necessary, for if the fact of a war is a national tragedy, the loss of one under modern conditions is the ultimate national calamity. And if—as seems to be the case—the military are more prone to suspend democracy and to invoke war crises as a justification for subverting democratic liberties, then it is vital that civil control remain lest free men should lose their liberties at home in the very process of defending them abroad.

THE infirmities of these conclusions are assuredly not the fault of Dean Smith's coverage. He discusses the American tradition of civil dominance, the Presidency and the administration of national defense, and the problems of interdepartmental co-ordination. He analyzes fully the vexed problem of Congressional committees and the conduct of wars. He runs through the lawsuits, famous and otherwise, that reflect the degree of judicial control of the military which is exercised by the courts. He sees, rightly enough, that the "role of the states in the restraint of military power" is "obsolete." He collects the literature of the subject and quotes at length from the writings of his former colleagues at the University of Chicago. Since these gentlemen, by and large, treat the military with a considerable reserve, there emerges at least a trace of anti-military sentiment, as when Dean Smith criticizes Congress for voting a

Colonel Frederick Bernays Wiener

70-group Air Force where the President, in 1949, was willing to recommend only 48 groups. Apparently, the preferred civil control is one that cuts rather than increases military budget estimates.

But the real shortcoming of Dean Smith's genuinely stimulating book is that it is essentially doctrinaire, that it shoots an obsolete gun, militarism, at the wrong target, with the wrong gunner aiming and firing it.

The Wrong Gun

PERHAPS I may be pardoned for quoting from a review written two years ago, of a work with a similar approach:

> We can better understand the traditional subordination of the military power to civil authority if we recall its origin: the English experience with Cromwell's Army. That armed force enabled the Protector to oust the King, and, in due course, to eliminate Parliament. The ensuing resentment against a standing army which was then bred in men of English speech long hampered the development of a proper military policy, not only in Britain, but also in America. The principle persisted; it is still popular. But just what precisely does it mean?
>
> Actually, it means just what it meant in seventeenth century England. It means that in the United States the armed forces are the servants and not the masters of the government, that rulers are selected at the ballot box and not at councils of war or military staff conferences, and that the United States Army is non-political and does not, as in pre-war Japan undertake the assassination of unpopular officials, or, as in the republics of Latin America and the Levant, spark-plug the endemic revolutions that seat and unseat a succession of presidents. . . .
>
> The traditional concept includes as well a firm acceptance of the notion of a civilian President as Commander in Chief, surrounded by civilian secretaries who speak in his name and with his authority. When the Secretary thinks Yes and the Chief of Staff thinks No, the answer is Yes. It does not follow, however, that Yes is therefore automatically the correct answer, or even that the Secretary is always the better citizen.

OUR history is full, too full, of examples of cherished civil-supremacy dogmas that all but lost the Republic. Take the notion that it was wrong to have a standing army at all. In 1784, the following preamble was solemnly offered in the Continental Congress: "And whereas standing armies in time of peace, are inconsistent with the principles of republican Governments, dangerous to the liberties of a free people, and generally converted into destructive engines for establishing despotism." Yet within the decade then just past the spark of Independence had been all but extinguished because the civil power could never be persuaded that short-term enlistments were unsound.

Almost in vain did Hamilton urge in *The Federalist*, supporting the Army clause of the Constitution:

> Here I expect we shall be told that the militia of the country is its natural bulwark and would at all times be equal to the national defence. This doctrine, in substance, had like to have lost us our independence. It cost millions to the United States that might have been saved. The facts, which from our own experience forbid a reliance of this kind, are too recent to permit us to be the dupes of such a suggestion.

That argument, to be sure, saved the Army clause of the Constitution, but the militia notion was still strong enough to force into the now revered Bill of Rights the Second Amendment:

> A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms shall not be infringed.

With all deference, that principle had been proved untrue in the Revolution. It was proved untrue again in the War of 1812: we had, in 1808, a militia aggregating 674,287, including 80 major generals and 226 BGs—and look at the disgraceful shellacking we took. The sad fact of the matter is that the Militia was never a workable instrument of security, because under the Militia clause it could not be "well regulated." The Militia could not constitutionally serve in Mexico, it walked off the field at First Bull Run, and some of it refused to go overseas in 1898. In 1917 it had to be drafted—and in 1940-41 it was the NGUS, organized under the Army clause. Military opinion has not been unanimous as to the efficiency of the units originally ordered to duty on the latter occasion. Accordingly, when, during the closing months of World War II, an effort was made to formulate "general principles of national military policy to govern preparation of post-war plans" (War Department Circular No. 347 of 1944), principles framed in order to provide "full opportunity for competent citizen soldiers to acquire practical experience through temporary active service and to rise by successive steps to any rank for which they can definitely qualify; and with specific fa-

WHICH VOICE SHOULD WE HEED?

MR. HERBERT HOOVER

". . . the military strength of America does not lie today in great ground armies. How many mistakes do we have to make before we learn that our genius lies in the invention, production and operation of great weapons? . . . The effective deterrent which American resources can contribute is not bayonets against overwhelming land forces, but the expansion of air power and navies to make up a great striking force . . ."

GEN. OMAR N. BRADLEY

"Air power, like every other weapon, has gaping limitations for war as we shall know it for many years to come. . . . I am convinced beyond any reasonable doubt that should this nation be forced into still another conflict, we shall once more be forced to gain the inevitable victory over our dead bodies —those of our soldiers on the ground. If I did not [so] believe . . . I would readily recommend abolition of the Army . . ."

cilities for such practical experience, qualification, and advancement definitely organized as essential and predominating characteristics of the peace establishment"—certainly an advanced and equitable concept at which no non-professional could fairly cavil—the National Guard as such was nowhere specifically mentioned.

But—after V-J day, to the wild huzzas of vocal and as yet unburied statesmen, we proceeded to organize a much larger National Guard.

OUR Republic in the era of a cold war badly needs a citizen reserve of trained officers and men constituted in units whose efficiency will not vary with the high-mindedness or otherwise of State governors and the professional integrity of State adjutants general. By the same token, our Republic at this juncture of partial mobilization needs a citizen reserve which will be called up on a basis of military need and not on the basis of how many general officer positions will thereby become unavailable to deserving Regular colonels (or with similar queries down the ladder of rank). Nothing that has been brought to light since the end of the Second World War gives anyone hope that either of these needs has yet been met—or indeed is within reach of being met within the foreseeable future.

It would be very helpful all around if the political scientists and the experts in public administration would stop seeing militarists under every bed just long enough to come up with a plan for organizing civilian components that would (1) reflect the brains and ability and competence of our country, (2) be safe from the political favoritism of State capitols, and (3) be equally safe from the narrow and blind professionalism that objects to any non-Regular above the company grades—in short, a plan to implement the vision that flashed forth from Circular 347 of 1944.

Up to now, it is scarcely necessary to add, the civilian supremacy wonder boys have not produced any such plan.

The Wrong Gunner

THERE is another vital and fundamental problem of our military policy toward the solution of which the doctrinaire reiteration of "civil supremacy" provides not even an outline, and that is the composition of our armed forces. For on these points the civilian is fully as fallible as the citizen whose working hours are spent in military uniform. Three aspects of that problem, out of many more that could be discussed, will serve to illustrate.

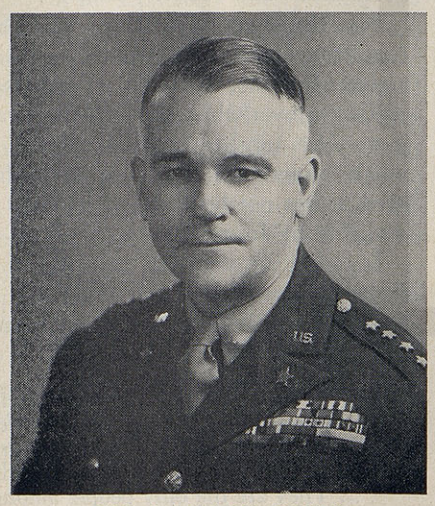
The first concerns the proper role of air power. We now know that our strategic bombing, though it contributed materially to the defeat of the Axis, was far from being as successful as even the more modest wartime claims indicated. We know that on many fronts over many months our tactical bombing was less effective than it should have been, no doubt in large measure because the very term "air support" implied a position of subordination rather than of independence for the air arm—and after twenty years of being kicked about by unimaginative colonels on the General Staff, the fly-boys insisted on independence. Here an emotional bias, one which is far from fully dissipated even now, worked to the disadvantage of the common effort. To the extent that Marine Corps aviation furnishes more effective ground support, undoubtedly that circumstance is due to a greater feeling of identity between the Marine in the air and the Marine on the ground.

But air power has its civilian advocates no less fervent than the command pilots in their shade 88 uniforms. Here is what Ex-President Herbert Hoover told his fellow-Republicans in July of 1952:

> . . . the military strength of America does not lie today in great ground armies.
>
> How many mistakes do we have to make before we learn that our genius lies in the invention, production and operation of great weapons? Our future is in great weapons, not in bayonets. . . .
>
> The effective deterrent which American resources can contribute is not bayonets against overwhelming land forces, but the expansion of air power and navies to make up a great striking force, which could destroy the Communist military potential if they started any aggression anywhere. And this striking force naturally includes strategic bases with a stretch of water in front of them over which Communist armies cannot pass our navy.

What this proposal comes to, in plain English, is that when and if the Red Army marches, we should retaliate with the atomic bomb. Let us pass the morality of atom-bombing the Russians, because as General Bradley pointed out on a memorable occasion, all war is im-

Does acceptance of the principle of civil supremacy mean that our Chiefs of Staff are less capable than civilians of writing a table of organization?



GEN. J. LAWTON COLLINS

GEN. DWIGHT D. EISENHOWER

GEN. GEORGE C. MARSHALL

moral. Let us also pass the question of the Russians' atom-bombing us, because retaliation after all is one of the risks of a shooting war. But if we are to withdraw our ground forces from Europe, as Mr. Hoover and those like-minded urge, then the Red Army will pour over Germany and France—and thereafter war on the Hoover model against the Communist armies will mean atom-bombing Germans and Frenchmen. What of the morality involved in that? And how does the "civil supremacy" formula help in resolving it?

ANOTHER aspect of the problem of the composition of our armed forces has to do with the much-vexed role of the Marine Corps, an aspect more prominent since President Truman's unfortunate remark was made the vehicle of a movement which all but established it as a wholly separate and autonomous armed force. Did Senator Douglas' bill, which as introduced would have made the Commandant of the Marine Corps a member of the Joint Chiefs, with a vote although the Chairman had none, have any real basis except the emotional—the emotion of his own war experiences therein included?

This is admittedly a subject which does not lend itself to dispassionate discussion. But there can be no dispute about some underlying facts. First, from 1775 or 1798 until Armistice Day, 1918, the Marines never had more than a brigade in the field at any one time. Second, in all the invasions in the North African, Mediterranean, and European Theaters—North Africa, Sicily, Italy, Southern France, and, pre-eminently, Normandy—the Army waged amphibious warfare and landed hundreds of thousands of men on hostile shores without the assistance of a single Gyrene.

Question: On the basis of the indisputable facts just set forth, what sound reason is there to continue to maintain two separate land armies? Second question: Why have none of the economy-minded statesmen in the halls of Congress seized upon this particular example of wholesale duplication? Third question: What has the "civil supremacy" school of thought said about such an instance of duplicating militarism?

The answer to the third question is that Dean Smith's book just isn't aware of the problem.

A THIRD aspect of the problem of the composition of our armed forces is that of their internal organization. In the past, from the 1790s through 1916, Congress undertook to prescribe just how many men there should be in a company, how many companies in a regiment, and so on. Thereafter, wiser councils prevailed, and organization was left to the experts, with the men who had to command and administer and fight wars with the units in question.

But now a contrary tendency has begun. The Senate Preparedness Investigating Subcommittee has just recently announced that "there can be only one solution to the dilemma presented by the urgent need for both military and economic strength," namely, "to increase the effectiveness of our defenses while decreasing their costs." This, of course, is eventually a *non sequitur*, because in any organization there comes a point beyond which economy dilutes effectiveness. To be unkind, but wholly relevant, just look at the effect of Mr. Secretary Louis Johnson's economies.

The Subcommittee considers alleged wastefulness in personnel overhead, particularly, with respect to Army organizations, in respect of administrative, automotive, and communications personnel. The report concludes that "manpower reorganization is the road to economy and the road to strength"—though it recognizes that "manpower reform . . . is a task that is beyond a congressional committee." It therefore recommends

> that the Secretary of Defense appoint a group of eminent and qualified citizens to make a comprehensive and thorough study of the entire problem of the utilization of manpower by the armed services and that they render a report to the Secretary as soon as possible with recommendations as to the more efficient and economical use of military personnel. A majority of this group should be civilians. It should have an adequate staff of its own selection and, in addition, should have authority to obtain the best technical advice available. When this report has been rendered to the Secretary he should immediately make it available to this committee and the other appropriate committees of Congress.

And, in the same month, in Section 640 of the Department of Defense Appropriation Act for Fiscal Year 1953, Congress solemnly enacted that

> The Secretary of Defense is hereby directed to submit revised tables of organization and tables of equipment of the Army, Navy, Air Force, and Marine Corps to the Congress, together with recommendations for decreasing the number of personnel positions, clerical positions, supply positions, and other administrative positions so that the combat effectiveness of our Armed Forces may be improved.

Of course a watchdog committee fulfills a useful function; of course a garrison Army develops too much fat. But it does not follow, as the Act of Congress seems to imply, that a company of infantry composed solely of riflemen is 100 per cent combat effective, while one with clerks, cooks, and signalmen included is somewhat less so. Indeed, even when T/Os were pruned by a most expert hand, that of the late Lt. Gen. Lesley J. McNair, it was found that, in combat, the units which were administratively lean were less able to function when they incurred casualties than those which had additional administrative personnel on whom to draw.

There is no evidence whatever in the Subcommittee's report that it considered in any degree our World War II experiences with T/Os that had been cut and with T/Os that were thereafter beefed up. Yet how can anyone who has not examined that experience conclude that the "manpower reform" which will relieve the harassed taxpaying voter is also bound to increase combat efficiency?

WHY, it can be asked, is a group composed of a majority of civilians better able to come up with the right answer than a group composed of a majority of service officers who have been struggling with the problem all of their mature lives? It would be just as sensible to suggest that the reorganization of a sick industry should be entrusted to a group most of whom are officers of the armed forces. True, in each instance, the man with the "open mind," *i.e.*, unencumbered by any previous consideration of the problem—may, if he has sufficient innate ability, come up with some ideas that are genuinely helpful. But for the most part, the uninitiated will only think of a "solution" that has already been tried—and found wanting.

No, the proposal of the Senate Subcommittee, which in essence is that the expert shall not even be on tap, is obviously unworkable, though conceivably it may be another manifestation of "civilian supremacy." Up to now, however, it has not been urged in years not divisible by four.

It would be well for members of the Subcommittee to ponder what the late Secretary of War Henry L. Stimson said on this point in 1942:

> . . . it is my view that the decision of vital matters which are intrinsically military in character should remain the responsibility of our trained soldiers. . . . They are the only people among us who have the training and the information necessary to carry this responsibility. . . .

The Wrong Intelligence

LET us revert to the second of Dean Smith's criteria for democratic civil control, namely, that

> The professional heads of the armed services are under the control of the civilian leadership of the government in a manner which is both constitutional and effective.

The last two words, *and effective,* should be underscored, for although one would never suspect the fact from Dean Smith's books, present controls are far from effective—and the only informed disagreement ranges over the precise degree of ineffectiveness.

Let us recall, first of all, that what was widely hailed as unification was not that at all, but triplication, and with a fringe on top whose tassels, individually and collectively, are growing larger daily.

Let us return to fundamentals: The basic impetus for unification was the reaction to the waste of effort and the waste of money inevitable in the duplication by the Army and Navy of auxiliary—not in any sense primary—services and facilities during the Second World War. That duplication was more obvious in the Pacific and in the ZI, because in Europe and Africa the Navy played a smaller role. The standard example of duplication was, inevitably, the two general hospitals, one Army and the other Navy, side by side on the same island. The purpose of unification was to eliminate this kind of senseless, expensive overlap.

So what did we get? We got three Medical Services where we had only two before, because the Air Force's pride, prestige, and indeed independence required a set of pill-rollers in flyboy blue. And we now have three Judge Advocates General, each busily engaged in separately interpreting the same Uniform Code. And that isn't all, because on top of the three sets of medicos there is a high-level medical board in the Office of the Secretary of Defense, and coordinating the three wings of legal eagles there is a General Counsel and an Assistant Secretary of Defense for legal matters. Even in the days when an Army staff officer had to approach the Navy with the carefully cultivated humility of the small country's ambassador seeking a boon from the proudest of empires, coordination was infinitely easier than it currently is —as those whose Pentagon service spans an entire decade can readily testify.

THERE is an urge, not fully informed perhaps, but a definite and growing urge for real unification, as witness the recurrent legislative provision exhorting uniformity among the services insofar as practicable. And there is something more than an urge to eliminate the spending of (at least) every unnecessary dollar, though assuredly the circumstance that unification actually quadrupled, by compounding the preexisting duplication, seems not yet to be the subject of general comment. No one can fairly quarrel with the idea that unification should not be allowed to impair integrity of function. But no real unification will ever be achieved unless two fundamentals are recognized.

First, there must be a unification of service functions. We will never make progress while we maintain three Surgeons General, three Judge Advocates General, and three Chiefs of Chaplains. Neither a man's body nor his soul is varied in its essentials by the uniform he wears, nor is his instinct towards criminality changed thereby. The British ever since the RAF was created made their flyers share the British Army's JAG —without apparent decline in discipline. We have managed to concentrate most buying of supplies in the hands of the Army's QMG—and the Navy's chow on board ship does not seem to have suffered.

More important, by unifying the service elements of the armed forces, we can eliminate the insensate rivalry which marred so many aspects of victory in the past. If the strategic plan calls for the capture of an island and the construction of x airfields thereon by D plus 7, there would be, at present, a great to-do over whether the Navy's CBs, the Air Force's Engineer Aviation battalions, or the Army's Engineer battalions (Construction) would do the work—and get the glory. With properly unified services, the only question would be: how many of these construction outfits will we need? Y, or z, or m? Once that comparatively simple question is settled, there is no more rivalry, because there would be only one engineer service in the armed forces. Why should a solution so simple still seem so utopian?

Second, there must be, in some form, a military staff at the Department of Defense level, because, as every informed person knows, the present system of layering selected civilians and detailed officers over the three existing staffs just isn't working. It isn't working because initiative is sapped at the military department level—"no use going forward if DOD is going to change it all anyway"—and because the civilians, however able most of them are in their own right, are handicapped by lack of knowledge and by lack of experience. When their military advisers get service conscious, and start to build their particular uniform's empire, then the civilian must referee—a task for which he just isn't equipped. He is in the not-so-imaginary position of the rustic justice of the peace who, without legal training, is called upon to decide a technical legal point which two trained and resourceful lawyers have just argued loudly and learnedly before him. The squire is in a dilemma, because he doesn't know the real answer—and knows that he doesn't know it. The analogy is obvious.

THE concept of a super-staff, of course, rouses civilian emotions (or is played upon to do so), and, in greater degree, that is true of the concept of a single military chief of staff. In 1945-46, Navy spokesmen saw dictatorship lurking in these ideas. Prior to 1903, Lt. Gen. Nelson A. Miles, Commanding General of the Army, attacked Secretary Root's General Staff proposal as "monarchistic" and "Prussian." Both arguments, it may be ventured, created heat rather than light. We know that Fleet Admiral Leahy, as Chief of Staff to the Commander-in-Chief, was essentially a professional adviser and not even faintly a Man on Horseback. We know that, under the original National Security Act of 1947, the Joint Chiefs of Staff, attempting to function without a Chairman, just didn't function. And how the shop will work after General Bradley retires, no one knows—and almost everyone fears.

The JCS provides a joint military staff to deal with strategic problems. What is needed is a similar staff to deal with administrative and organizational problems, to handle them as now they are not being handled in the existing order —*i.e.,* with competence and with dispatch.

It would be dogmatic to urge a particular solution to these two most pressing questions of military organizational policy. But their urgency cannot be denied—except, of course, where the problem of controlling the military is viewed in a vacuum. That it is so viewed in Dean Smith's book is proved by that volume's total unawareness of the tangles of "unification."

The Wrong Target

THE view that the essentials of the doctrine of civilian supremacy are un-

(Continued on page 39)

HOW DO YOU COMMAND?

Colonel John W. Cave

THE morale of an outfit is made or unmade by its officers. At any level of command the commander must know when things are right and where credit is to be given. You should give credit when it is due, being careful, however, not to confuse the giving of credit to subordinates with the hypnotizing self-conclusion that "all's well, let's go get a cup of coffee" and pat yourself on the back. You must take a close look at the poor actions and the untaken actions.

Modern American industry has learned that management must look upon its men as partners in the production team. The reason for this is very simple—simple indeed with the hindsight of 175 years of the Bill of Rights. You can't raise the standard of liberty as we did in 1776, giving men a taste of the strong potion of human freedom, and at the same time retain an autocratic "Theirs not to reason why" philosophy of command.

Your soldiers are free men. They were free when you got them, and they will be again. They are reasoning men. They are equals in any stacking up against the standards of human dignity. Are you treating them as equals? Fighting organizations are still necessary in this world of 1952, and we agree that our country must remain strong. Then is it not fundamental that we officers must never dull the spirits of our citizen soldiers? Is it not our duty to so treat them that they prefer to make the personal sacrifices demanded in military service by the world situation? And let's never forget that the dignity of the individual soldier is the most powerful force we have.

On Founders Day at West Point, General J. Lawton Collins said: "Our officer corps is dedicated to the belief that our high standards of character and integrity must be maintained. We recognize, honor and preserve the dignity and identity of the humblest soldier. This is probably the most fundamental relationship in the Army—between the officer and the men who are entrusted to his care. Undoubtedly we have the most democratic army in the world. But its performance on the battlefields of Korea has clearly shown that it does not lack discipline. The fact that our discipline is a reasonable and not a rigid thing made much of the magnificent performance of our Army possible because it did not thwart the resourcefulness and initiative of the individual soldier."

That's your job as a commander—as a manager. It isn't an easy one.

THE soldier with his weapon is the man who actually does the fighting in a military machine. In managing your command, do you have prompt and accurate information on your men as they go through the training process? What are their problems? How are they responding? Or do you take refuge behind the old saw that "since war is hell anyway, a little hardship will do them

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good?" Do you indulge in the kind of thoughtlessness that was curbed by our old troop and battery commanders when they insisted that an officer be among the very last to leave the picket line; that officers could not eat until the men and animals were fed.

When did you last check on the mess at the *breakfast* chow line?

Don't answer that one. Let's get down to fundamentals.

Modern military might stems from economic strength. It is our vast and complex organization of industry, and our management of it, that gives our country weight in world affairs. So let's take a look at some advanced thinking on management problems.

There are hundreds of rules on management, and nearly as many "principles"; but there is one thing on which almost all are agreed: there is no single answer. Yet there is a color to almost all the answers. What is it?

Mary Parker Follett, a brilliant pioneer in the management field, respected by industrial managers and leaders, put it this way in writing of the problem in industry: "One person should not give orders to another person, but both should agree to take their orders from the situation. If orders are simply part of the situation, the question of someone giving and someone receiving does not come up. Both accept the orders given by the situation. From one point of view, one might call the essence of scientific management the attempt to find the law of the situation. With scientific management the managers are as much under orders as the workers, for both obey the law of the situation . . . the order must be integral to the situation and must be recognized as such."

CAN this idea be applied to military command? Probably not. But it is not as foreign to our job as you may think. How do *you* get decision acceptance?

Miss Follett has gone on to say: "Our idea of power is changing. Power is now beginning to be thought of as the combined capacities of a group. We get power through effective relations. This means that some people are beginning to conceive of the leader, not as the man in the group who is able to assert his individual will and get others to follow him, but as the one who knows how to relate these different wills so that they will have a driving force. He must know how to create a group power rather than to express a personal power. He must make the team."

Ponder on this idea for a moment. You can always reject it, but if it has a grain of truth, let's see if we can use it. Where are you in this picture? For centuries military success was founded upon the superior ability to maneuver men on the field of battle. This is the basis of military close-order drill. Are we, in the middle of the twentieth century, and in the midst of a complete revolution in the art of war, retaining a dogged grasp on the vestigial remnants of age-old command techniques?

IT is generally the nature of human beings to stay in a mental rut. Old ways are the easiest. But whether we admit it or not, the skill demanded in team-play and team-effort bears at least the same relation to the old "theirs not to reason why" philosophy as the atomic bomb does to a muzzle loader. A good look at the combat histories of the last two wars confirms the conclusion that in battle it is team-play that wins and not the autocratic command of rank. The strength of team-action flows from the release of initiative and resourcefulness by the men who make up the team. In the case of our American soldiers this human quality has been magnified by their environment in a free nation; by their wholesome desire to understand the reasons for what they do. One of our great military leaders recently said, "the man who is going to be given responsibility for execution of a part of the over-all plan must be fully consulted, integrated into the machine making up the plan—early and late—else he is never a part of it."

Industry has faced up to this problem because it is dealing with men. So are we. Skill in business management has had to stand the acid test of a profit-and-loss sheet. True, the balance sheet isn't as decisive as an enemy bullet, but it is decisive enough to have been the basis of some deep thought and much study and experimentation. Industry has learned that one highly successful approach to its management problems is simply to make sure that everyone up and down the line knows what the score is before each play is called.

DO your men know the score? Men can undergo great hardship if there is a reason for it and if they know what the reason is. They will also rebel against the most trivial inconveniences that appear to be unreasonable or unnecessary. And that's why "score" is a pretty good word in this case. "Score" goes with a game—a square, honest game. Americans can smell a shortsighted, blunder-covering command three echelons away. What is worse, unless the score is explained, they'll attribute even minor unavoidable hardships to dimwittedness in the chain of command.

Commanders must do some honest soul-searching on this subject. If we can improve we'd better improve, and we'd better be quick about it. The best and easiest kind of improvement is self-improvement, the self-improvement that comes in response to the "law of the situation." If we don't produce the improvement it will come by the demand of public opinion or the final, inescapable command of a superior enemy force.

We simply cannot be satisfied that we're as good as we can be at this command game. If there is another war, the nations that win it aren't likely to be the ones that simply improved on old stuff. It will probably be those that found a better way to do the job. And the best way is the team-way —all the way down—and up—the line.

Marines, moving along the top of a ridge, watch friendly mortar fire smear adjoining ridges where the enemy is entrenched and waiting.

A Marine outfit found it paid to get on the high ground and stay there

Major Gerald P. Averill

COMBAT in Korea is a constant, bitter battle of man against Nature; merely to move through and over the hills and mountains that march endlessly back and forth over the length and breadth of that desolate peninsula is physically and spiritually exhausting. Add a crafty and eager opponent (the Chinese and North Korean soldier is both), arm him with good weapons; furnish him with an adequate supply of rice and ammunition; emplace him firmly in the fastness of mountain strongholds and along the defiles that guard supply routes that are necessary to a road-bound and over-equipped Western-style army—and all the problems in logistics and tactics that could possibly be encountered appear.

Until they learned better, the ground combat forces of the U.S. in Korea had a strong and inflexible tendency to stress corridors as *the* way to enter the main battle position of the enemy. Ridges were mentioned in the books as *possible* avenues of approach, but most tacticians treated the subject lightly, or ignored it completely. When American forces joined the battle in Korea some commanders, both senior and junior, still nourished the corridor as the key to the door of the enemy's position. At Hoensong, Massacre Valley, Chaun-ni and the road to Inje, and countless other corridors in Korea, this method was attempted by units of the Eighth Army during the late winter, spring and summer of 1951. *If the high ground was taken* it was not retained, and in all instances the attacker backed off with his nose painfully bloodied, and in some cases came out of the engagement seriously hurt.

A look from the defender's point of view will illustrate why the attack up corridors failed. With the attacker

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RUN THE RIDGES AND WIN

advancing along the low ground, the defender has excellent observation over the valley floors, river bottoms, and adjacent high ground. From ridges above river valleys observation can often be measured in miles. As the attacker approaches along the valley, he may either be taken under fire by long-range supporting weapons, or is allowed to close the position, and be subjected to intense fires from the front, flanks and rear. By controlling the high ground, the defender forces his adversary to deploy in the open, and can take him under fire no matter in which direction he chooses to attack.

Weapons sited on high ground have to use plunging fire. Plunging fire is not as effective as grazing fire at long range, but when delivered in heavy volume at medium and close range it can stop, or even destroy, an attacking force. Fires of supporting artillery and mortars can be directed and observed with a high degree of accuracy from ridges and hills. This gives the defender a decided advantage over the attacker, who can not observe the effect of his supporting fires in rear areas, except from aircraft hovering overhead.

When the attacker uses the corridor as an approach to the position, the defender can accurately predict the zone of the main attack, and can place his forces to best meet the situation. The defender has almost complete freedom of movement within his position. He is able to move reserves unobserved, and his routes for supply and evacuation are covered.

With these advantages in mind, let's consider an example of what can happen to an attacking force when it disregards the capabilities given the defender in hills and mountains.

The Chinese, following a deep penetration of UN lines in April, 1951, had outrun their supply bases and were withdrawing to prepared positions in the north. In late May a plan was evolved envisioning a sweep of armor and infantry from Chaun-ni, to Inje, and turning east from Inje, to drive to the sea. This movement would cut off and trap thousands of Chinese as they moved north along the east coast. The plan became an order. Tank battalions and infantry regiments were thrown together to form a task group, and in a cloud of dust it went churning madly up the road towards Inje, flanks-be-damned! The movement north was moderately opposed by the enemy until all units of the force had crossed the Soyang River and entered the town of Kwandae-ri. Here the task group went into a defensive position for the night, not knowing that enemy forces were moving down in strength. By dawn they had ringed the entire area. At daybreak the UN infantry mounted the tanks and in a long, completely motorized column, prepared to bear down on Inje. On the right of the road the ground dropped down to the river for a distance of twenty to sixty feet. On the left it rose sharply to form hills up to seven hundred meters in height. Flank security was *not* placed on the high ground that paralleled the road. The leading elements moved out, pennants flapping in the morning breeze, and less than a mile out, where the river bended, it came to an abrupt and painful halt. The point was under fire from small arms, automatic weapons, and mortars, emplaced on the high ground to its front, flanks and rear. Enemy snipers, located just above the road, poured fire among the infantry scrambling from trucks and tanks. The whole column became immobilized, and for four hours was completely surrounded by small units of the enemy. Finally the infantry, as it should have in the beginning, cleared and controlled the high ground flanking the road. Inje was not taken that day or the next, the sea was never reached, and the Chinese escaped to fight again another day.

In spite of this and other similar incidents on record, the legend of the corridor persists, and if the Eighth Army again moves out in the attack there will be those who will again give the corridor its chance to chew up and spit out companies and battalions.

WHAT happens to this same enemy when the attack is made using a dominant ridge line as an avenue of

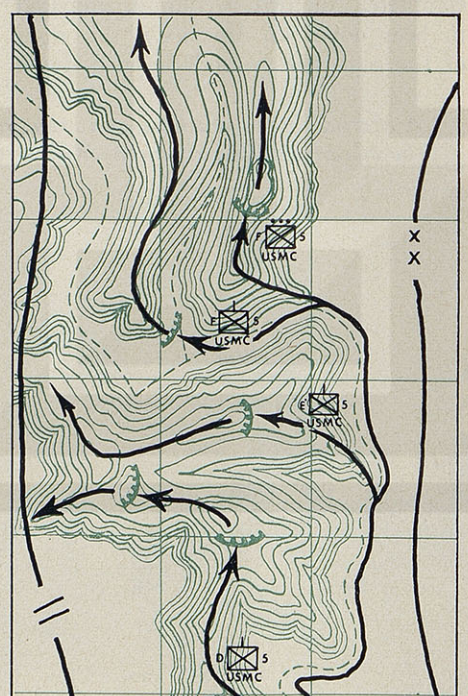
A Marine Corps machine-gun crew moves to the top of a ridge to back up the advance of the riflemen. Ridge-running in Korea is backbreaking toil.

approach? That is the question that was posed by, and later answered by our battalion commander in late February, 1951. The 2d Battalion, 5th Marines, was in Corps reserve at Wonju, at this time. During ten days we spent on this mission the problem of operating in hills and along ridges was discussed seriously and at length. These discussions resulted in a terrain study of the area, and a tactical walk, conducted by the battalion commander for his company commanders and staff. It was decided that, within the battalion's zone of action, regardless of whether the ridge ran perpendicular to the direction of the attack, or whether it ran parallel to it, we would in the future gain the high ground from the flank or rear, and then attack along the long axis of the ridge. Security elements of from fire team to platoon size, would be sent off to clear the finger ridges that broke off from the main ridge line. The attack could be launched by a single company along a single ridge, or by employing two or more companies in the attack, adjacent ridge lines within a zone of action could be simultaneously seized. If the ridges in the zone of action formed cross-compartments we would not attack frontally, but by a series of systematic flanking actions gain the high ground and attack down the long axis of the ridge, securing all intermediate objectives in this manner. The assault on the final objective would be carried out in the same way, using for the main effort a ridge line which paralleled our direction of attack, or by means of secondary attacks flank the position and force the enemy into flight or capitulation.

Could this method work in combat? And did it? The answers are that it can and did. During the attack of the 1st Marine Division in March and April 1951, resistance was in most cases spotty and light, and therefore there was no sure way of determining the effectiveness of these tactics. But in May and June resistance stiffened, and by late May definite and heartening results could be assessed. Marine casualties within the battalion remained relatively light while the enemy lost heavily. In some cases numerically superior enemy forces withdrew in disorder and were severely hurt by our air and artillery in the process. To show by example how this was accomplished let's follow the action of the battalion on 28-29 May. These operations give a picture of how ridges running perpendicular to the direction of attack were covered, and also the mechanics of an assault on a main ridge running parallel to the direction of attack.

ON 28 May the battalion began the attack from the vicinity of Kwandaeri. The battalion attacked on the right of the regimental zone of action, with its right flank on an unimproved road which ran straight north for a distance of three thousand meters, before cutting sharply to the west. From the line of departure to this sharp bend, the zone was twice crossed by ridges running perpendicular to the line of attack. At the bend a ridge line parallel to the direction of the attack formed an inverted **U** leading into a main ridge that ran north in our zone of action. For the first example, the area between the line of departure and the inverted **U** will be used.

The plan of attack called for Dog Company to lead off, clear the first intermediate ridge of enemy, then move to the left flank of the zone of action and hold the ridge and await orders. Easy Company was to move up the right flank road, initially echeloned to the right rear of Dog, and as Dog attacked, Easy was to advance westward along the second ridge until contact was made with the battalion on the left. Easy would hold its ridge until it got further instructions from the battalion commander. Fox Company was to follow Easy up the road, and as Easy Company moved west along its ridge, Fox would assault both fingers of the **U** and secure the entrance to the main north-south ridge line behind the **U**.



Dog Company moved out, climbed its ridge and advanced six hundred meters before it came under fire from enemy emplaced in bunkers, located at the junction of the finger ridge and the first east-west ridge line. Fire from 81mm mortars supported Dog's attack, and as the assault elements closed, the enemy withdrew to prepared positions along the east-west ridge. A captured prisoner said that one North Korean battalion was defending within our zone of action. Dog pursued and after a brisk fire fight the enemy fled, allowing Dog to advance the entire length of the ridge.

Easy Company advanced up the road without incident until it moved on its assigned ridge. At this point it was taken under light fire from riflemen emplaced along the crest of the first hill. The company forced the enemy out of position, and stayed there without further disturbance by the enemy.

FOX COMPANY, with the battalion command group, moved up the road. Before it reached the turn in the road two North Korean soldiers surprised it by coming out of hiding to surrender. They said that both fingers of the **U** were occupied by enemy units of undetermined strength. The company moved on, and in accordance with the original plan, one platoon attacked up the first, or right, finger ridge. The rest of the company turned west and proceeded along the road toward the left finger of the **U**, where another platoon was ordered into the assault. As the left platoon moved forward across the opening of the **U**, it surprised a squad around cook fires on the low ground. The platoon killed three and wounded two of the enemy and suffered no loss to itself. Meanwhile the platoon on the right had reached the summit of the hill. It had advanced less than a hundred meters along the ridge when it became hotly engaged by enemy firing from trenches and log bunkers. The platoon suffered twelve casualties and the platoon leader was seriously wounded, but the platoon with the help of a coordinated artillery barrage pressed forward and cleared the first six hundred meters of the ridge line. The left platoon climbed to the high ground, and under the concealment of thick forest growth moved forward to the main ridge line. The ridge was barren and enemy troops were seen digging in. With his platoon as yet undiscovered by the enemy, the platoon leader asked and got permission to withdraw to defensible ground a short distance to the rear. He then set up a plan to attack early the following morning.

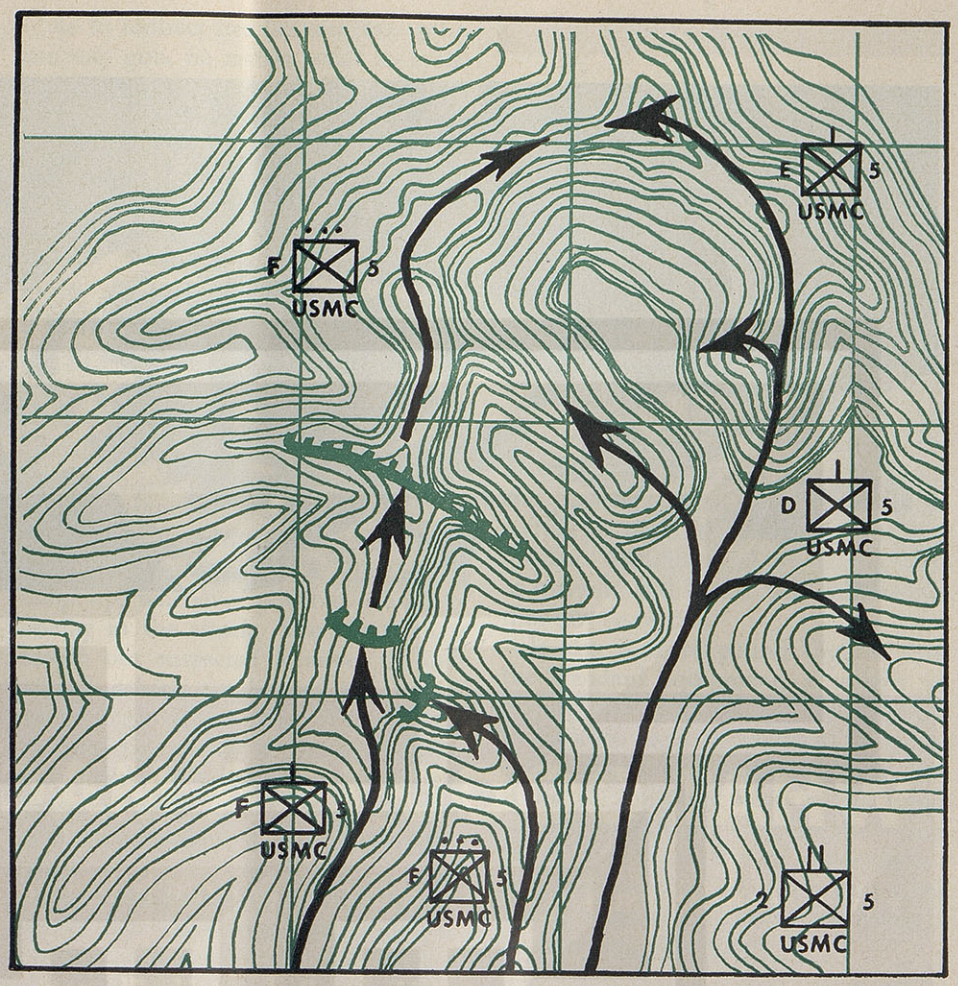
The next day's plan called for Fox Company to assault and capture the high ground immediately to its front and along the ridge forming the curve of the **U**. Easy Company was to move up the valley, climb the ridge and go into position to cut off and destroy any enemy forces that might be forced back along the ridge by the attack of Fox Company. Dog Company was to move east and north, and block from the high ground to Easy's rear.

FOX jumped off in the haze of early morning. The platoon on the right met light resistance, and reached the higher ground in its zone without difficulty. The left platoon found it more difficult. The enemy had dug in on the high ground on the left of the position and along the ridge extending east and north from it. The left platoon of Fox moved quietly to the edge of the woods, fixed bayonets, and under a sharp mortar barrage charged into the positions. Surprise was complete. Taken completely unaware, the enemy force broke and ran.

At this point the 1st Platoon of Fox was ordered to pass through the position and take up the attack. As it moved forward to where the main ridge line was crossed by a minor ridge, the enemy delivered a hail of small-arms fire and grenades on it. Light machine-gun fire covered the platoon as it withdrew about 150 yards to the first covered position on the ridge line. Then with the coordinated support of air, 4.2-inch mortars and light machine guns the platoon again closed on the enemy and drove him from his position. Some 300 enemy soldiers streamed off the hill, not towards Easy Company, as had been hoped, but into the valley to the west which was in the zone of the adjoining battalion. Fox consolidated its position along the ridge, made contact with Easy and tied in for the night.

THUS one battalion, with actually only one company in the attack, had forced a North Korean regiment to withdraw from the battalion zone of action and had inflicted heavy casualties on the enemy with less than thirty casualties to the battalion.

The battalion continued to attack through May and June against ever increasing resistance, using the same technique to seize key terrain and destroy enemy forces emplaced thereon. During this period we became convinced that the defense of a ridge line is a highly undesirable undertaking, when an attack is directed along that ridge and



adjacent high ground. Here are reasons why:

¶ The defender is robbed of his initial advantage of observation.

¶ Fields of fire along the long axis of a ridge are shortened due to the rise and fall of the ground. Frontal, rather than flanking fire, must be delivered from weapons sited along the ridge. Coordinated, mutually supporting, interlocking bands of fire are difficult to establish. This inability to place adequate defensive fires along the ridge makes it often possible for one platoon to force a penetration of the position.

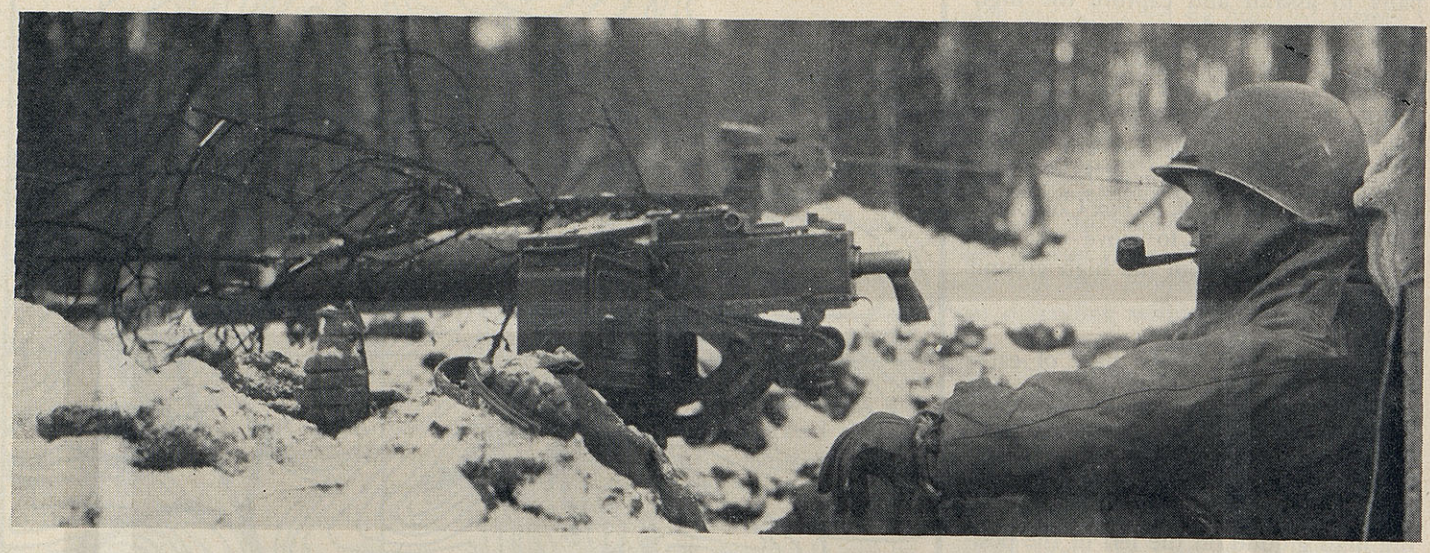
¶ Defending units located on low ground between ridges are vulnerable to flanking attacks, and they cannot place accurate fire on the attacker as he moves forward along the ridge.

¶ Supply and evacuation become increasingly difficult. The attacker can observe and bring fire to bear on litter teams, supply trains and rear-area concentrations as he advances along the ridges.

¶ Outcropping finger ridges can be cleared by the attacker as he advances.

¶ Perhaps most important of all, we learned that when the attacker has dominant observation within a position, the psychological effect on the defender is almost as great as the effect of the fires being brought down on him. He can observe the advance of the attacker not only along the main ridge line, but also along the high ground to his flanks. The fear of being outflanked and cut off may cause him to refuse to fight and lead him to withdraw. No military force will long remain in position when it can see the enemy moving aggressively on high ground to its flanks and rear. The Chinese Communist Forces and the North Korean People's Army are no exception to this.

BETWEEN 19 May and 23 June the battalion was engaged in steady fighting for thirty-five days. Except for minor variations in tactics, to fit each new situation, the same basic idea was used to achieve the results desired. Gains of from six to ten thousand meters a day had been made on an average. During the period extensive experiments had been conducted in ridge-running, and those experiments proved, to us at least, that the way to stay healthy, stay alive, and win was to get on the ridges and stay there.



WHAT GOOD IS A MACHINE GUN?

We should use them as we actually do while pretending to do otherwise

Major Robert H. Clagett

THE machine gun, which first appeared on battlefields some half-century ago, found its development governed more by technical than tactical requirements. For example, no one has ever really studied what the optimum cyclic rate of fire of a ground machine gun employed against ground targets should be. We have (all of us, in all armies) stumbled along in the belief that the "faster the better," tempered only by concern over barrel life. Logistically we might find it much better to use a far slower rate than we do and tactically we might find the slower rate equally effective.

Look at the MG42, the weapon of the *Wehrmacht*. Its rate was 1,200 rounds per minute. That amounts to twenty rounds per second or one round for each twentieth of a second of firing. Presume you are laid approximately on a target. The first knowledge the target has that you are on it is the crack of a bullet in his vicinity (providing your first round misses). Presume further that he has normal human reaction time, that is five-eighths of a second. In this time eleven bullets will have passed in his vicinity any one of which could have killed or incapacitated him. Then he must move or take some action to protect himself. This will take a measurable period of time during part of which he will still be subject to hits from your fire. For each twentieth of a second he moves within the cone of dispersion of the fire he is subject to being hit by a round.

Is this fast rate necessary?

Quite another view can be taken in favor of the higher rates when one considers the psychological factor. Ask anyone who contended with the *Wehrmacht* and in the still of the night heard the vicious ripping of a MG42. It chilled many brave hearts. It was small comfort to think that the firer of that gun was wasting ammunition and soon would have to look about for a resupply.

I HAVE no answer; nor, have you. If a good answer is to be found, this is not a simple problem but rather one that should be studied by bright brains dedicated to objective thought and provided with the necessary data to come up with a valid conclusion. The Air Force made a study of the cyclic rate of fire of its guns and found out that the fast German fighter planes were slipping between the bullets fired by gunners on U.S. bombers. Stepping up the rate precluded such escapes.

Technically much may be said for a particular rate for each design of gun. At the instant of firing of each round

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the whole mechanism goes into recoil and begins to fall back into battery. If it fires again from the precise position in which it first fired it may be said to be in "natural rhythm." If this rhythm is considered in design of machine guns it is quite probable that a very tight cone of dispersion can be achieved.

But we haven't decided yet whether we want a tight cone of fire. Perhaps a larger pattern can be tolerated than the present Browning gives us. After all, a weapon does not need to put each bullet through the hole made by its predecessor. Shotgun coverage may be more desirable. If it is, we can save many pounds of weight by eliminating the micrometer adjustments in the cradle and mount.

IT is desirable that someone undertake a study on rates of fire of machine guns and we, the infantry, should suggest to the investigator that he look at all sides, tactical, logistical and psychological. As the infantry contribution to this study, we should give some thought to the tactical use of machine guns. My own views of machine-gun tactics are unorthodox. Rather than offend the tender sensibilities of the orthodox, I will raise some questions that may provoke thought.

Are we dealing in 1918 thinking when we emphasize Final Protective Line fires for machine guns as we do?

Can we hope to close off and render impassable any line we choose where we get grazing fire?

Don't we teach FPL on one hand and have men crawl under grazing fire on infiltration courses on the other?

Can you normally expect to find suitable terrain for FPLs when your defensive position is organized along the military crest of a hill or ridge?

To find FPL terrain aren't you forced to the bases of hills and ridges and into otherwise indefensible ground?

I have no quarrel with barrages for indirect fire weapons, which can make an area a death trap for a few moments, but they are not steel doors that can be slammed in the face of a determined enemy. In the trenches of 1918 there was a place for FPLs when infantry assaulted in waves with two to five pace intervals between men, but today we are more concerned with observation and antitank fire. Can't we, or rather don't we, defend on the high ground and devil take the FPL? Ask any Battalion S3 what he found when he attempted to check the FPLs turned in on overlays to him for the battalion fire plan.

As to indirect fire for machine guns, can any gun, no matter what its cyclic rate, put more weight of effective metal in a remote area than the 81mm or 4.2-inch mortar in any given minute of time? Even the most orthodox will agree that the machine gun is an inadequate indirect fire weapon.

FOR what, then, is a machine gun good? This is a reasonable question if FPLs and indirect fire are eliminated from its tactics and technique. My answer is that we should use them as we actually do while pretending to do otherwise. We use them to keep the enemy infantry down and restrain his movement while rifles and indirect fire weapons go after him. We use them to chop up, whenever possible, masses of enemy in the attack. We use them to search out suspected locations of individuals which are beyond the normal usage range of the rifle. We use them to keep the enemy in his hole during our attack. We use them to seal embrasures while other, more effective, arms are brought to bear on fortifications.

An examination of wound statistics shows that small-arms ammunition accounts for a very small percentage of casualties compared to other types of ammunition. But we know that no one can stay exposed to small-arms fire safely; hence the greatest contribution of machine-gun fire to tactics is keeping the enemy down. This is exactly how we use machine guns today.

For these uses I think slower cyclic rates are desirable because they can accomplish what we want accomplished with a lesser expenditure of ammunition. Micrometer adjustments can go out too and save ten per cent or more in mount weights.

LET us infantrymen determine why we really need a machine gun and then pass that information on to some competent technicians who can determine the proper cyclic rate. Then let's tell the gunsmiths the facts and in time we shall have a machine gun worthy of our mission: "to close with and destroy the enemy."

To the skeptic who says we learn by experience let me remind him "the burnt child shuns the fire" but "shuns" is all he does by learning from experience. Some clear thinking would lead him to use a poker and get the use of the fire without being burnt.

My plea is simple: We must design guns to fit our needs, not plan our uses around the guns provided us.

THE LOAD OF THE SOLDIER

(Continued from page 16)

with accessories, as a parachutist's "H" harness. It also appears that it can complement, though not replace, the packboard for the carrying of heavy and bulky loads.

Detailed study of the proposed equipment in comparison with present standard equipment highlights these outstanding advantages. It is much simpler because it eliminates a maze of straps and buckles and makes adjustment, attachment, and detachment easier and quicker. It adds flexibility in methods of carrying and in the bulk and weight that can be carried.

It also is three pounds lighter than the standard equipment, a weight reduction of 40 per cent, and it is modified to increase carrying comfort. In actual field tests, testing soldiers greatly preferred the proposed items to the standard and to all other experimental equipment. And besides these advantages, a very real economy is achieved by eliminating more than 20 different items of load-carrying equipment.

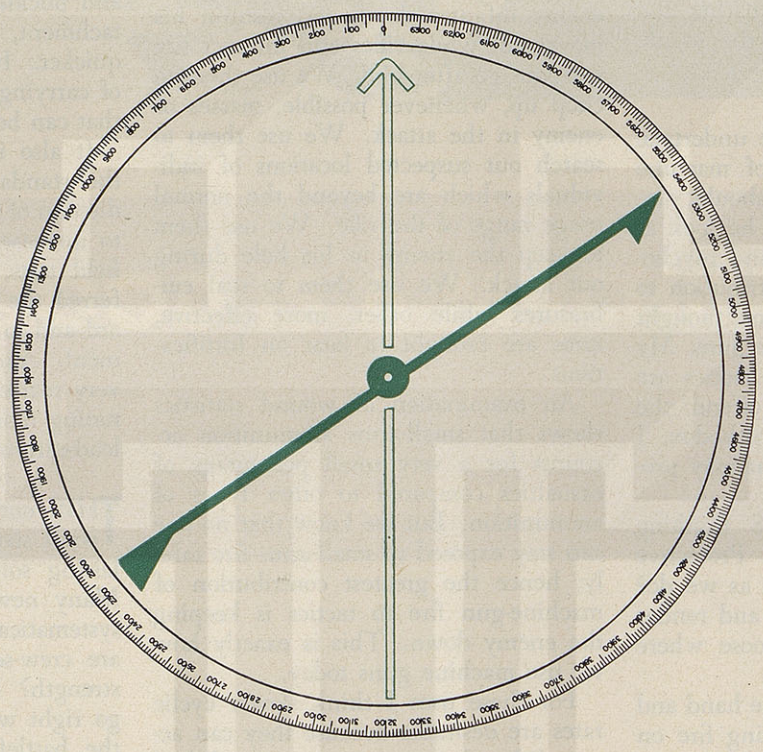
THIS entire project constitutes a forward step in the eternal search for a lasting solution to this vital problem. Many new fields of thought must be systematically explored. For example, are crew-served weapons teams understrength? Don't we need that carrier to go right with the individual soldier on the battlefield? What priority of our critical lightweight materials should be given to Infantry weapons and equipment?

The entire problem is so involved with interrelated problems, so critically interlocked with tactics, logistics, training, and development that an over-all approach is essential. On such a solution a major advantage of the field of battle may depend. The danger of a highly motorized, roadbound army is highlighted in history by the defeat suffered by the German armies on the Russian front—largely due to conditions which forced them to operate with little or no motor support. Our planners and our soldiers alike must be prepared to operate under conditions greatly limiting motorized support, and forcing the soldier to exist for protracted periods with what he can carry, reinforced by air or other limited resupply.

TARGET GRIDLESS

Major Robert E. Plett and Lieutenant Harvey T. Heckman

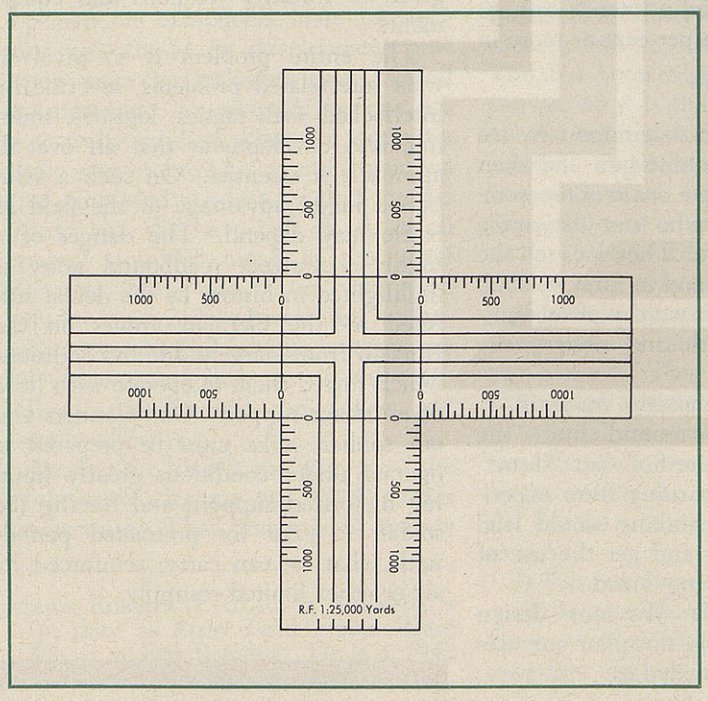
Here's a way to eliminate delay and confusion when you're shooting several missions in the same general area on the same firing chart



DURING the month of October 1951 the 77th Field Artillery Battalion expended 113,745 rounds of ammunition. Most of this was fired in direct support of the 7th Cavalry Regiment during Operation Commando, with a maximum 24-hour expenditure of 12,766 rounds. At the start of the operations, the 99th Field Artillery Battalion had the mission of reinforcing the 77th's fires (prepared to be direct support of the 8th Cavalry Regiment) and the 936th Field Artillery Battalion (155 howitzer) also had the mission of reinforcing our fires. In addition, Battery A, 17th Field Artillery Battalion (8-inch howitzer) was in general support of the division and was able to fire throughout our sector. We were supporting four infantry battalions in the attack, each with three forward observers, and for a short period we had an observer with the 16th Reconnaissance Company. Thus we were answering calls for fire from twelve to thirteen forward observers, in addition to two artillery liaison aircraft, division artillery, and the regimental commander. The maximum number of missions simultaneously processed by our fire direction center was 19 missions: 9 missions fired by our own 77th Field Artillery Battalion; 5 by the 99th Field Artillery Battalion; 4 by the 936th Field Artillery Battalion; and 1 by Battery A, 17th Field Artillery Battalion.

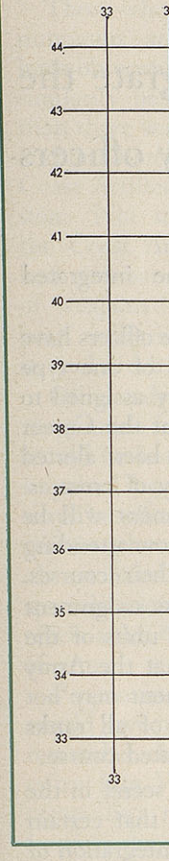
The maximum number of missions simultaneously processed and fired by the 77th Field Artillery Battalion was 11 missions. This was later when the 8th Cavalry Regiment had been committed with the 99th Field Artillery Battalion as its direct support battalion, and the 936th had been given a general support mission reinforcing our fires.

During these operations, it was found that when several missions were fired in the same general vicinity on the same firing chart, some time was lost in juggling the target grids and pins, which of necessity were stacked up.



IN order to eliminate this delay and confusion, we modified the present target grid system. The problem was to eliminate the possibility of having two or more target grids on different azimuths overlapping and obscuring portions of other grids. A secondary problem was to eliminate the possibility of the target grid obscuring a deflection index or even a grid square in which a new target appears.

MAJOR ROBERT E. PLETT, Artillery, and FIRST LIEUTENANT HARVEY T. HECKMAN, Artillery, were respectively S3 and assistant S3 of the 77th Field Artillery Battalion when they prepared this article.



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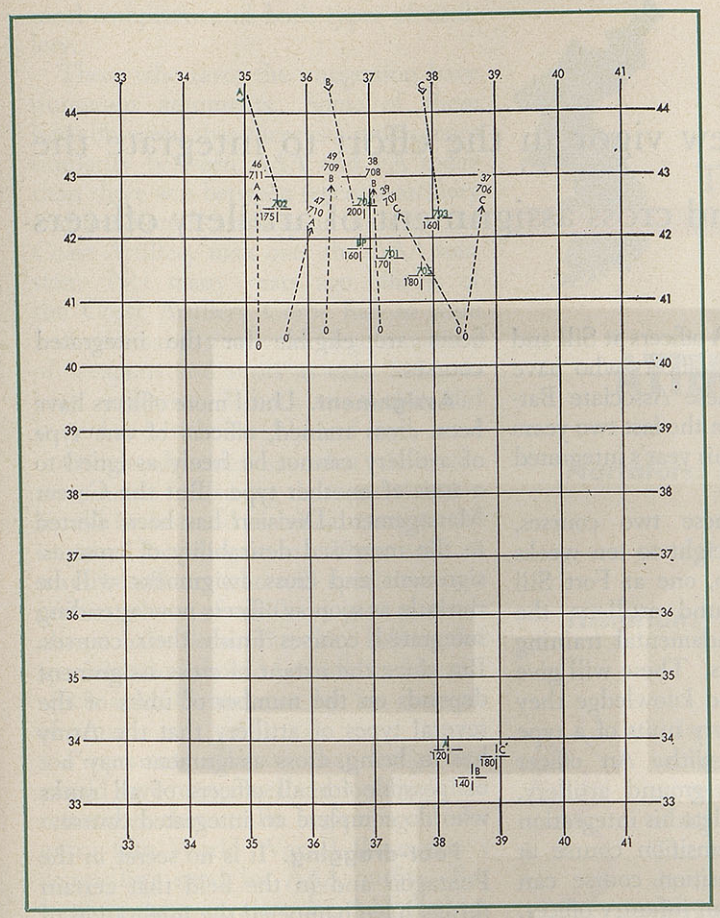
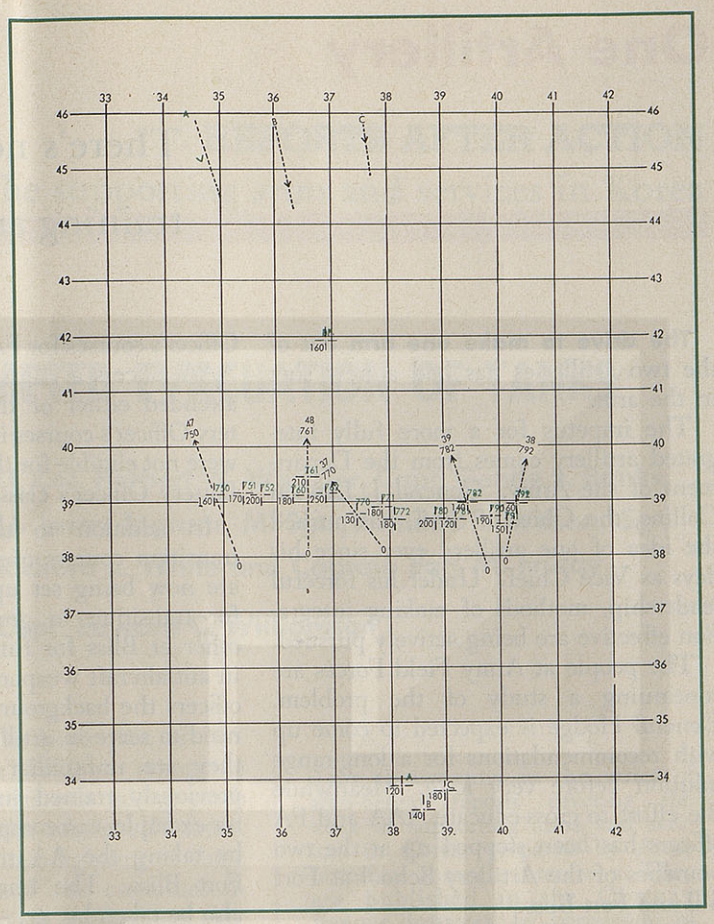




The modification of the target grid system consists of covering the target area with frosted acetate and drawing the observer-target line for each target on the acetate. Shifts are made by using a coordinate square held parallel to the OT line and measuring the observer's shifts on the acetate itself.

In order to facilitate the operation of this system we designed two instruments: a transparent slotted target grid with movable pointer and a transparent plastic cross. Their use is described in detail in the following paragraphs.

The transparent slotted target grid with a movable pointer (*Figure 1*) is made of firm, transparent plastic. The slot is bevelled and the opening is of pencil point width. The movable pointer pivots freely about the center of the instrument. The pointer arm is offset so that one edge runs directly through the center.

The transparent plastic cross has a 1/25,000 yard scale on each of the eight plotting sides (*Figure 2*). Each arm of the cross has five inscribed orienting lines parallel to the plotting edges; these lines insure the rapid alignment of the cross in the plotting position. In the event that a shift greater than 1,000 yards in deflection or range is received, the orienting lines spaced at 100-yard intervals may be used to extend the range of the cross an additional 1,000 yards.

These two instruments together with the acetate cover insure rapid, accurate plotting of an indefinite number of missions on the same chart.

TO explain more fully the application of this system, let us follow the horizontal control operator as he handles a fire mission. As soon as the mission comes into the fire direction center, he swings the movable pointer to the correct azimuth. He then places the transparent grid on the chart so that the observer-target line runs close to or on the initial plot and the edge of the movable pointer (now correctly oriented) runs along any north-south grid line, with the pointer pointing north. He then draws the observer-target line on the chart by running his pencil along the slot. He identifies the line by marking the target end of the line with the observer's designation (later he will also mark the concentration number and unit to fire assigned by the S3). He now has materialized the observer-target line on the chart and is ready to make a shift from a previous concentration. To make any shift he places the cross on the chart with one of the edges or orienting lines parallel to the OT line. He then measures and plots the shift.

In the event that the target is designated by coordinates or polar plot, he will plot the target first, give the necessary data to the computers, and then draw his OT line as described above. (*Figure 3 shows a chart set up with six simultaneous will adjust missions being fired.*)

Another excellent application of this acetate-modified grid system is in the preparation of normal and alternate barrages and key defensive fires for nighttime defense (*Figure 4*). The concentrations are plotted, data are prepared, and the OT lines are drawn on the chart on the correct azimuth. This permits rapid application of shifts by the observer and avoids harassing the observer (when under fire or attack) to ask him for the azimuth which should already be a matter of record in the fire direction center. *Figure 5* is a suggested concentration record which keeps pertinent data recorded for each mission. Since illumination concentrations are from 155 howitzer units, their concentration numbers differ. By using this record, the observer need only call for illumination on his own unit's concentration number and not have to recall additional illumination concentration numbers.

We have successfully used this acetate-grid system, firing 11 missions at the same time on two firing charts with absolutely no confusion.

One Artillery

There's new vigor in the effort to integrate the training and cross assignment of artillery officers

The drive to make one arm out of the two artilleries has had a new shot in the arm.

The impetus for a more fully integrated artillery comes from the Department of the Army. General J. Lawton Collins, the Chief of Staff, has pushed the idea of one artillery ever since his days as Vice Chief. Under his forceful leadership, methods of making integration effective are being actively pursued.

The people at Army Field Forces are continuing a study of the problem. General Hodge is expected to come up with recommendations for a long-range solution before very long. Meanwhile the effort to cross-educate AAA and FA officers has been stepped up at the two branches of the Artillery School at Fort Sill and Fort Bliss.

Integrated Courses. First there is the integrated Advanced Officer's Course which has been running since 1947 (except for 1950-51, the first year of Korea). This year's Advanced Course is for 36 weeks and, like all integrated courses part of it is conducted at Fort Bliss and part at Fort Sill.

But to get the cross-education program rolling on a broader basis and complete the career pattern for artillery officers, an integrated Battery Officer's course is also now in session. This course of 32 weeks is for officers with seven years of service or less. Since it partly duplicates the 15-week Associate Battery Officer's courses for FA officers at Sill and AAA officers at Bliss, officers who have attended either of these Associate Battery Officer's courses in the last two years were not eligible for this year's integrated Battery Officer's class.

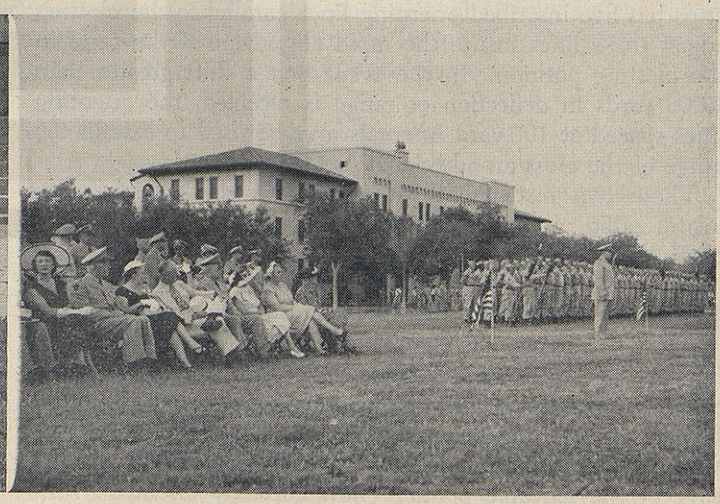
In addition to these two courses, transition courses of eight to ten weeks are now being set up, one at Fort Sill for transition to ground artillery, the other at Bliss for fundamental training in antiaircraft weapons. These will give officers the background knowledge they need to serve in artillery units of a type they are unfamiliar with. An officer previously trained in ground artillery, for example, can complete his integration by taking the AA transition course at Fort Bliss. The transition course can also be taken by, say, an infantry officer, to give him basic training in the type of artillery for which he takes the course. Officers under the rank of colonel may be placed in transition courses. Successful completion of the course will relieve an officer (above the rank of second lieutenant) from the current stipulation requiring his completion of an associate course. Officers who complete the transition course will be considered as meeting requirements for overseas service.

As a general policy, only career officers are eligible for the integrated courses.

Assignment. Until more officers have been cross trained, officers of one type of artillery cannot be freely assigned to a unit of another type. But the Career Management Division has been alerted to the increased desirability of cross assignment and cross assignment will be the rule as soon as officers now attending integrated courses finish their courses. But since the extent of cross assignment depends on the number of units of the several types of artillery that the Army has in being, cross assignment may not be possible for all officers of all ranks who do complete an integrated course.

Foot-dragging. It is no secret in the Pentagon and in the field that certain things have hampered the integration of the two types of artillery. Some say that the techniques of the two are so different that one officer cannot be expected to master both—that there simply isn't enough time in a single academic year for officers to get more than a fundamental grounding in the functions and methods of operation of both types of artillery. To sum up these opinions, it is fair to say that some officers think integration would result in a gradual lowering of the high standards of tech-

Where artillerymen are trained: Commemorative marker in front of McNair Hall at Fort Sill and a vista of the new administration building at Fort Bliss.



nical competence of both types of artillery.

Those who favor the integration have numerous arguments. Some of them have observed that there is a much more similarity between AAA and FA today than there was between seacoast artillery and antiaircraft artillery at the time the Coast Artillery took over the AAA mission. Not many years ago officers of the Coast Artillery Corps had to train and command nearly as large a variety of weapons and units as exist today in both artilleries. What's more, they did it, and did it thoroughly and well.

Other advocates say that there are no grounds for fearing that specialization would be lost and technical competence impaired by integration. There will always be officers who will specialize in a certain phase of artillery, just as there always have been. But they believe the specialization should be indicated by the officer's MOS and not by his insignia of arm.

Proponents also say that integration would save manpower and money. They remember that at the beginning of our entry into World War II there was a compelling need for AAA outfits. But later in the war, after the AAF had attained control of the air, the need for large numbers of AAA units decreased. And at this same time the need for FA units and replacements was increasing because the full power of our attack was in progress in Europe and the Pacific. If the artilleries had been integrated in 1944 the conversion of AAA batteries, battalions and groups into FA batteries, battalions and groups could have been more easily effected.

Many AAA officers, particularly of field grade, are strong supporters of integration because they think AAA officers have been unjustly deprived of opportunities to rise to high combat command, which of course, is not a matter that can be blamed on any aspect of the artillery question. They believe that full integration will give them a better chance to rise to high command of combined arms.

Towards Unity. There are soldiers who foresee the day when the splinters of arms and services in the Army will be smoothed away and disappear until the Army becomes a sound and seasoned unity. If the artilleries can be successfully integrated, two such splinters will be gone and there can be hopes that the example will lead to further integration.

It's good to see how many artillerymen of good will are pitching in to reach a solid solution.

REPORTS AFTER ACTION

The supporting arms and services in Korea

ATTEMPTED EVACUATION OF TANKS

Narrators: **Lt. Col. Herbert W. Wurtzler, Capt. Gentle S. Banks, Lt. Leroy Ingram, M/Sgt. William T. Wilson, Sgt. Richard L. White and Captain Earl M. Friday**

Historian: **Capt. Edward C. Williamson**

THIS IS ANOTHER in the series of after-action reports covering the work of supporting arms and services in Korea, prepared by Army historians through interviews. They are published in the COMBAT FORCES JOURNAL by permission of the Office of the Chief of Military History, Department of the Army.

In the latter part of November 1950, a retrograde movement was taking place along the whole UN front. The bitter fighting of these days, and the casualties in men which resulted, are generally well known. Something of the cost in equipment and matériel should be mentioned.

The 44th Ordnance Depot Company had occupied the buildings of the Military Academy of the North Korean Army in Pyongyang for some weeks prior to the retreat. The fifteen to twenty acre drill field was used as a collecting point for disabled ordnance equipment. Here were massed for repair 30 or more tanks, 500 vehicles, an eight-inch howitzer, and three or four 105mm howitzers. None was operational. There were also 2,000 boxes of engines, transmissions, differentials, and transfer cases.

The 44th Ordnance Depot Company began its evacuation with insufficient transportation to move even its organic equipment. The collecting point was closed, nothing more was accepted, and every unit had to get its disabled equipment to safety as best it could. There was little hope now for anything stored or disabled in Pyongyang. On 2 December, the gates of the collecting point were thrown open and cannibalization invited. Demolition crews later destroyed what remained.

CAPTAIN EDWARD C. WILLIAMSON was a member of the 4th Historical Detachment, EUSAK, when he prepared the study on which this article is based.

The retrograde movement brought the 57th Ordnance Recovery Company of I Corps to Pyongyang and it, too, settled at the Military Academy. The normal mission of the company was to provide battlefield recovery of tanks, and to augment the recovery facilities of corps and divisional ordnance units. Capt. Willard Baker was company commander. Even though the men of the 57th were quartered indoors they were very uncomfortable, for the buildings were drafty and the men had not yet received their winter clothing.

In spite of the improbability of evacuating the equipment already in Pyongyang, the 57th Ordnance Recovery Company still attempted to help units which were having difficulties. At 1600, November 29, Captain Lawrence, motor officer of the 6th Heavy Tank Battalion, rushed into Captain Baker's CP and excitedly reported that he had nine tanks limping down the Sukchon and Sunchon roads. Captain Baker turned to his operations officer, Lt. Gentle S. Banks, and said, "Do you think we can help them?" Banks replied, "I think so, Cap'n."

While Baker and the mess sergeant got Captain Lawrence some food, Lieu-

tenant Banks called Lts. Robert L. Brown and Leroy Ingram to the motor pool. After the three officers had checked the recovery equipment, Banks assigned Ingram to the Sunchon MSR and Brown to the Sukchon route.

Brown and Ingram moved north with five tractors. Their greatest problem was the southbound traffic. The tank transporter tractors crowded the road as they moved along. At 1900, a colonel of the 5th RCT stopped Ingram. Although the road at this point was seventeen to eighteen feet wide, the colonel informed Ingram, "This is a tactical withdrawal. Pull over and give the traffic going south the right of way." Ingram halted his tractors for about twenty minutes, but at a convenient break in the traffic he moved on. On the way he heard slurring remarks from individual drivers, but was not halted again. At 2300, nine miles north of Pyongyang, he discovered some of the ailing tanks. The drivers, cold, tired, and dispirited, had pulled off the road and started a fire.

On the Sukchon MSR, Brown made one halt because of a traffic jam. At 2130, thirteen miles north of Pyongyang, he met the crippled tanks.

As long as possible the lieutenants let the tanks limp along, then towed them where they could go no farther. At Pyongyang the tanks crossed the Taedong River and went to the Taedong marshalling yards where the tanks and their crews were left. Both tank groups reached the railroad yards by 2400.

TO get the tanks loaded and dispatched, the 57th called the 8046th Ordnance Field Group and requested that coordination and details be arranged. The following morning (30 November) Ingram and Banks went to the rail transportation officer to check the availability of flatcars for the evacuation of the tanks of the 6th Heavy Tank Battalion. Here Banks learned that no arrangements had been made, that loading facilities and cars were not available at the Taedong station, and that the RTO personnel didn't care much about the fate of the tanks. As a result, Banks decided to move the tanks to Sadon Station—a small marshalling yard five miles east. En route the lead tank damaged a small bridge, and the convoy had to halt until the engineers made some hasty repairs. The march was completed by 1130, then the ordnance tractors returned to the Military Academy and brought their organic trailers across the Taedong River. It was now essential to get the 57th's own evacuation

under way for the Class 50 bridge was soon to be removed.

At Sadon Station a Transportation Corps officer, Lieutenant Fluker, was acting-RTO. He informed Banks that Eighth Army G4 had given the Air Force priority in loading at Sadon Station. The Air Force had an assortment of equipment at the yards, some vehicles, but a lot of items like mess tables, Korean chairs, and office equipment. Banks pointed out to Fluker that most of the Air Force equipment was boxed and could be loaded without tying up the only ramp.

Fluker replied, "In spite of the fact that you need the ramp to load the tanks, you don't have any cars anyway." Banks answered that if he could obtain cars he would be able to start loading at once, but once the Air Force began they probably would not give up the use of the ramp. Fluker agreed to confer with the Air Force lieutenant colonel in charge of loading to see if he was willing to leave the ramp open for loading tanks. Banks heard the colonel state flatly that he had a priority and he wanted both the ramp and all the cars. From the tone of the conversation Banks did not figure that it would be worth while to speak to the colonel personally. The Air Force used the ramp.

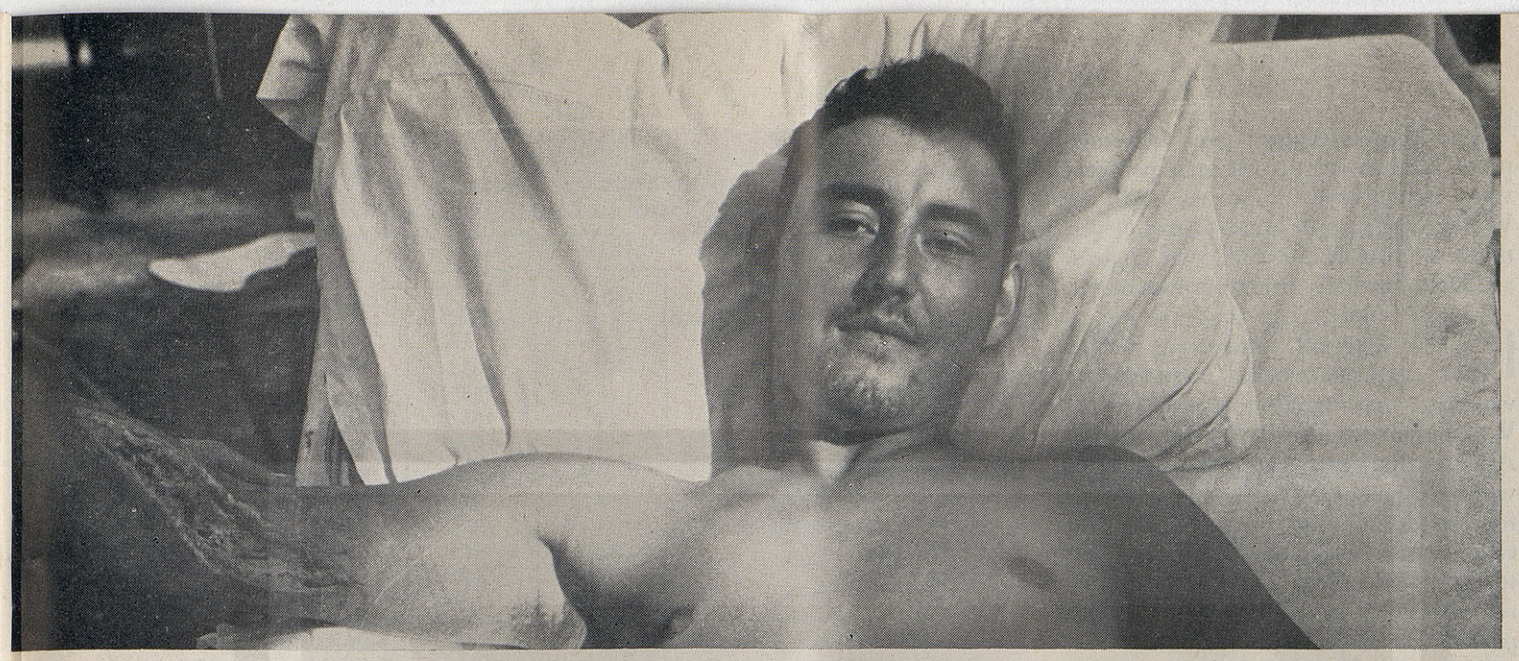
Nothing more in the way of loading could be done at this time, but at 2000 hours, 1 December, a switch engine arrived with six flatcar loads of replacement tanks which were consigned to the 6th and 70th Tank Battalions. The ramp was now available, for the Air Force had pulled out of the Pyongyang area, abandoning much of its equipment. The ordnance company helped unload the replacement tanks—planning to re-use the flatcars to evacuate the disabled tanks. But two of the replacement tanks could not be started. They too had to be reloaded for evacuation. These, with five other tanks which had been brought to the Sadon yards from the collecting point, made a total of sixteen tanks (15 M46, 1 M26) to be loaded.

After the replacement tanks had been unloaded the ordnance company began loading. The night was dark and cold, and as a result only two tanks were loaded during the entire night. The next morning (2 December) the loading proceeded more rapidly, especially since some of the tanks to be evacuated were started and pulled others up the ramp and onto the flatcars. The operating tank then moved forward to a second flatcar and two tanks were thus loaded in one ramp operation. Even so, it was slow work, for it was a problem finding cars and moving them to the ramp. In this operation flatcars were used that normally would have been considered too light. All paper work was dispensed with and the sixteen tanks were loaded by 1130, 3 December. It was fortunate that the work was completed at this time, for the 57th Ordnance Recovery Company was under strict orders to leave the Pyongyang area not later than 1200.

Banks notified Fluker when the tanks were loaded and ready to be moved south. At the same time he stressed the importance of getting the tanks out. It was imperative that the tanks not fall into enemy hands because of secret features on the M46. Banks gained the impression, however, that the tanks would not receive a sufficiently high priority of movement. Consequently, he attempted to telephone the I Corps ordnance officer, Lt. Col. Herbert W. Wurtzler.

Though Colonel Wurtzler was not at his office the message was relayed to him. He notified Eighth Army headquarters that the tanks were loaded and ready to go. They assured him that every effort would be made to get a locomotive to pull the tanks south. The RTO at Sariwon personally informed Colonel Wurtzler that he would send a locomotive to Sadon Station. Three engines were dispatched on 4 December, but apparently the priority on moving tanks was not high enough to claim any of the locomotives. On 4 December the last train went south from the Pyongyang area.

On 6 December, I Corps ordnance section received a report from the Air Force that it had destroyed sixteen American tanks near Pyongyang. That must have been the fate of the tanks which the 57th had tried so gallantly to save.



The Killed, Wounded, Injured and Sick of World War II

A review by G. V.

THERE may be a better discussion of it later, some years from now. But this book will be the bible on World War II casualties for years to come. The authors have put an enormous amount of work into it, and their analysis of the available figures is quite unbiased.

I will make just one fairly major criticism. I think the authors duck away a little too fast from the big arguments about casualties. For example, are the ground combat risks greater than the risks in the air? This one they refuse to get into at all—on the grounds that no data exist on the two casualty sources which can be accurately compared. This would seem to support the opinion that such statistics as the Air Force witnesses gave to Congress last spring are probably without sufficient foundation.

We must remember that this is essentially a medical book—written by a former Medical Administrative Corps officer who is a member of the National Research Council, and a former Medical Corps officer, now professor of surgery at Baylor University's College of Medicine—and that it is published by a medical publisher. The slant of the book is therefore very much toward the use of the information in it by the Medical Services, and it is invaluable to them. And we should therefore be thankful that the writers have paid as much attention as they have to the matters of deepest interest to the combat soldier.

Where possible, figures are given for previous wars as well as World War II. The authors are careful to say that the older information is not precisely comparable. But the differences shown between past and recent wars are so great in several important respects that the advances of military medical science and efficiency are not to be doubted. Here are two principal points. Deaths per 1,000 men per year from enemy action were over three times as great in the Civil War as in World War II. These figures include the killed in action as well as the wounded who died later. True, a bigger part of the troops were in the lines in those days; but when we also note the difference in these wars between the wounded who died we have even better evidence of the medical improvements. Over three times as many died in the Civil War, and nearly two times as many in World War I, as died in World War II.

BATTLE CASUALTIES: Incidence, Mortality, and Logistic Considerations: By Capt. Gilbert W. Beebe and Col. Michael E. De Bakey. (Forewords by Major Gen. R. W. Bliss, The Surgeon General, U. S. Army, and Brig. Gen. Albert G. Love, U. S. Army (retired).) Charles C. Thomas, Publisher. 275 pages; 100 statistical tables; 37 graphical diagrams; Glossary of terms and abbreviations; $10.50.

The disease figures are additional proof. Deaths per 1,000 men per year were twenty-seven times as great in World War I and a hundred and eleven times as great in the Civil War (figures available for the Northern armies only).

IT is also especially interesting to find that certain over-all figures for wounded were much greater for World War I than for World War II. In the AEF of the First War, the number of wounded per 1,000 strength per year for the duration of the war was over twice as great as for the European Theater in World War II. But again we remember that in the First War a greater part of the troops were up front.

Data for the different branches of the Army bear out much of what has been estimated or announced in the past.

In all theaters, taking all arms and services, the number of wounded per 1,000 per year was as follows: enlisted men, 71.8; officers 56.4. On this page is a table from the book which shows a breakdown by branches, with the European theater given separately because the figures there were so much higher.

The cavalry figures, of course, are for the relatively small number of units in the war which still carried the honored cavalry designation, including the 1st Cavalry Division. The comparatively high figures for field artillery officers give a clear indication of the front-line participation by artillery forward observers and others. The figures for Air Corps officers as compared to enlisted men indicate the large proportion of officer flyers.

So far as different parts of the infantry are concerned, the authors give several breakdowns that show what a great difference there is between front-line and other infantry duty. For every 100 riflemen wounded, 66 automatic riflemen were wounded, and 48 squad leaders, 37 platoon sergeants, 33 litter bearers, 32 ammunition handlers, 27 messengers, 17 surgical technicians, and 8 cooks. When we figure that there was one platoon sergeant for every 230 or so riflemen, it is plain that platoon sergeants were hit about ten times as often as riflemen, and squad leaders about five times as often. Remembering also the relative fewness of litter bearers and messengers, we see that these men were hit at least as often as riflemen. Cooks, too, come up pretty close to the rifleman, but then some cooks fought a lot.

UNHAPPILY there are no figures for small units as such, whether armor, artillery or infantry. The smallest unit considered is the regiment. On the average, ten times as many regimental troops were wounded per day as division troops and twelve times as many regimental troops as corps or army troops.

The comparative theater and campaign figures are also interesting. The highest per day per 1,000 casualty rates by far of any battles were those of Tarawa and Iwo Jima with Tarawa three times as great. But in these battles the percentage of fighting troops was high and that of supporting troops low, and the fighting period relatively short and hot. Except for the high Marine figures in several island battles and the high Army rates on Eniwetok and Makin, the wounded rate was consistently higher in the European theater than in the Pacific. And remarkably, the Army rate for killed and wounded for two divisions that fought the last ninety days on Guadalcanal was slightly higher than that of the Marines who were there for some 100 days before the Army. This is still further evidence that the several historical accounts which say the Army merely cleaned up after the Marines are completely inaccurate. In the second phase, the two Army divisions (and one Marine regiment) captured the remaining five-sixths of the island—and suffered a higher casualty rate.

The book also contains a lot of material on numbers and percentages wounded by different enemy weapons. In the First and Third Armies (probably indicative of the rest) over twice as many men were wounded by shell fragments as by bullets, and shellfire wounded fifteen times as many as bombs did. The bullet-shell fragment figures are a reversal of World War I in which bullets wounded twice as many as shell fragments did, despite the heavy concentrations of artillery. Improved artillery weapons and methods and the great increase in number of mortars and tanks are all important factors in this shift to the shell as the most effective weapon. In the Pacific, the ratio of shell to bullet casualties was somewhat lower (about 150 to 100), but in the Mediterranean theater shell-caused casualties were five times as great as bullet casualties. But bullets are still the more deadly of the two, killing a slightly higher percentage of men hit.

THERE is a great deal more data than the few items I have recounted and the book concludes with an excellent analysis of the light cast by the new data on several logistic problems. These are by no means solely of interest to the medicos. They are stated in proposition form; for example: "If combat soldiers with simple though extensive wounds can receive adequate and prompt initial surgery and then be evacuated to fixed beds where they may remain approximately fifteen days, a high percentage can be returned to duty status."

Behind these cold figures lie the total tragedies of war. But within them, too, is the experience, now recorded and analyzed, through which recovery rates can be raised still higher. Indeed this is actually happening in Korea.

In conclusion, it seems a pity that the cost of preparing the tabular and other data in this book was so high that the publishers must put a price on it of $10.50. True, that is not a high price as *medical* books go, and this is a medical book, though one of wide interest to all kinds of other soldiers than the medical ones.

WOUNDED PER THOUSAND STRENGTH OVERSEAS PER YEAR BY ARM OR SERVICE, DECEMBER 1941 THROUGH MARCH 1945, ALL THEATERS AND ETO

Arm or Service	All Theaters		ETO	
	Officers	Enlisted Men	Officers	Enlisted Men
All Arms and Services	56.4	71.8	87.3	123.6
Infantry	251.0	264.9	422.2	454.4
Armored	—*	228.5	—*	327.7
Cavalry	165.1	163.1	235.7	191.6
Field Artillery	88.1	50.7	124.3	66.8
Air Corps	35.9	9.9	44.3	12.0
Chemical Warfare	31.0	29.6	35.5	34.2
Medical Department	9.2	26.7	13.2	41.2
Engineers	28.0	21.8	43.6	33.7
Coast Artillery	10.6	9.7	24.1	24.8
Other	4.8	3.8	6.4	4.5

*During World War II officers assigned to armored units were carried under such arms as Infantry and Cavalry, and the designation "Armored" was used only for enlisted personnel.

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Three Cold War Victories

The transport airplane has won three cold war campaigns, and its ability to do so is highly significant to the Army

Defense leaders from Secretary Lovett on down have been stressing that our armed forces are faced with two critical tasks. The first of these is preparing to win a hot war, should it be forced upon us. The second is to win the cold war we are presently engaged in. The Korean conflict is a hot extension of the cold war and exemplifies how one can become the other by act or design of the leaders of the Soviet Union. To overlook the cold war is fatal. For victory there could put the Soviet Union in an invincible position.

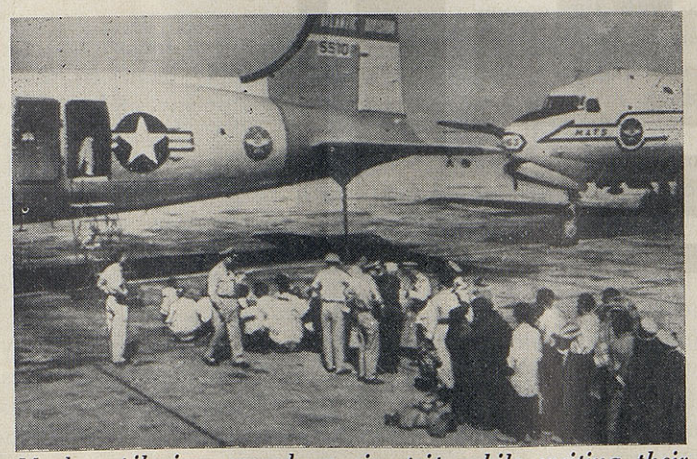
The cold war is new, different and difficult. The problem of building the forces to fight a hot war we know well how to do, and this occupies a large part of our national attention. Yet the force we are building must consist of weapons that can win either hot or cold war. In three cold war victories of the West a weapon in which the Army has an outstanding interest played the stellar role. This weapon is the transport airplane, especially the large-doored, cargo-carrying plane that is so vital in ground warfare. The cold war victories achieved by these planes have been out of all proportion to their production priorities.

The first great cold war victory of the West was Operation Vittles, the breaking of the Soviet blockade of Berlin. During it as many as 178 four-engined C-54s made 13,800 trips a month to keep Berlin and our Army outposts in Berlin supplied. The Russians, who had thought to drive the West from this psychologically important outpost, could and did bar our use of surface approaches to Berlin but they were impotent to stop us from flying in—short of starting a shooting war—and finally they backed down. It was a great moral victory for the West.

Yet the Berlin air lift raised certain questions. Where were the new transports for which the Army and certain sections of the Air Force has been begging since the middle of World War II? Where were the planes with ramps and clamshell doors, the pack-plane with detachable cargo pod, all of which would have tremendously simplified the airlift operation? The Allies had won an impressive victory but the job was made difficult by the lack of proper equipment.

The final week of August of this year saw the same C-54s forging another impressive cold war victory, this time in the critical Middle East. Some 3,000 Moslem pilgrims had found themselves stranded in Beirut, Lebanon, unable to make Mecca in time for the commencement of the Holy Week, when expected commercial air transportation failed to materialize. The United States Ambassador to Lebanon asked the Lebanese government if it would accept U. S. air transportation. His offer was enthusiastically accepted.

Within three days 14 C-54s were ferrying pilgrims between Beirut and Jidda, a mere 40 miles from Mecca. The rapid coordination between the State and Defense Departments that resulted in the order to send the planes was handled at the Secretary level. The fact that the planes were on their way two days after the cabled request was received from Beirut is an impressive example of how red tape can be cut when speed is essential to a cold war victory. The good will these 14 C-54s produced in the Arab world might mean that the oil of Iran is denied to the Soviet Union.



Moslem pilgrims crowd an air strip while waiting their turn to board Air Force transports that flew them to Mecca.

A third victory of the West is particularly interesting because it involves the transportation of airborne troops by air to seize a cold war objective. At the end of October 1951 the British flew some 5,000 infantrymen in a little less than a week's time to the Suez Canal area, when it looked as if the Egyptians might try to seize the Canal. Here speed was essential. Had the Egyptians been able to grab the relatively undefended canal, diplomatic considerations might have made it impossible to dislodge them. The airborne brigade from Cyprus and the Guards units from Tripoli where able to get to the Suez faster than the Egyptians who had the canal in their own back yard. The situation stabilized and another cold war victory could be credited to the ability of air power to transport men and machines fast.

That is the lesson of all three of these victories. In each the transport plane was the weapon of victory. It follows that if the West is to win future cold war victories it must have adequate air transport.

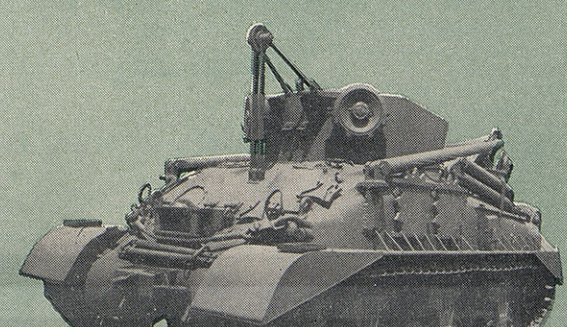
For the Army, fighting in Korea and standing guard in Europe, air transport is of vital interest. Not only it is a major cold war weapon, its capacity for airborne operations and aerial resupply makes it a major Army hot war weapon also. Here Korea experience is significant. The Army in the front lines in both the cold and hot war has perhaps the greatest stake of any service in adequate air transport.

CAPT. ARTHUR T. HADLEY
Armor—USAR (inactive)

ARMOR In KOREA

The Maintenance Platoon

Lieutenant Colonel Carroll McFalls, Jr.



Here are some ideas, based on experience, of how a few changes in organization and better equipment can keep more tanks rolling—where it counts—in the combat zone.

IN Korea, the Maintenance Platoon of the 70th Tank Battalion was tested with a heavier volume of work under adverse conditions than any maintenance platoon in the U. S. Army.

The 70th Battalion was equipped with rebuilt tanks of an obsolete model and spare parts were in critically short supply. Unpredictable and rapid variations in weather—from torrential rains in summer to sub-zero cold in winter—constantly harassed its efforts. The rugged terrain and poor roads provided tests rarely encountered in the Second World War. Although organization of the maintenance platoon lends itself to efficient operation, it could not have functioned efficiently under these conditions without highly trained men. Its efficiency depended largely on the knowledge of its individual members. Their "know-how" was the most important single contributing factor to the success of the platoon—and the entire battalion.

The Maintenance Platoon is organized into three sub-units: recovery section, mechanic section, and allied trades section.

The recovery section has two recovery vehicles, M32, with a three-man crew for each, and two 10-ton wreckers with drivers.

The mechanic section is composed of the remaining wheel and tracked vehicle mechanics.

The allied trades section, a good term considering its uses, is made up of two welders, two turret mechanics, an ordnance parts supply man, and a radio repairman. Normally the radio repairman works with the communications section of the battalion, but he is placed within the allied trades section in order to have a single unit which can simultaneously recover disabled vehicles and repair them. The three sections, with the exception of the parts supply man and the radio repairman, are each so organized that they con be separated into two subsections, quickly and without loss of efficiency.

In addition to the platoon, we had the good luck of having the services of the entire tank section of the division ordnance maintenance company. This was because there were no tank companies in the regiments. This made it possible for the battalion to keep the number of tanks it had to send back for repairs to a minimum.

Some improvements or additions would have greatly increased the effectiveness of our maintenance platoon. These include:

The present electric welding equipment in the platoon consists of a Hobert welding machine, mounted on a 2½-ton truck. Sometimes when we wanted to weld a damaged vehicle at the point where it broke down, we found that the 2½-ton truck could not get over the rough terrain. The ¼-ton truck can get over almost any terrain suitable for armor, and so a portable electric welding outfit mounted on a ¼-ton would permit welding operations in practically any terrain and under all conditions of weather. Also a jeep has a much lower silhouette than a 6x6.

Spare parts are a critical item and there is need for an assistant ordnance parts supply man. In the interest of supply economy, and to prevent "moonlight requisitioning," record keeping and parts are kept under lock and key. The only person authorized to issue parts or to draw parts from the supporting ordnance company, is the parts supply man. When he is absent there is no one to issue parts or to draw them. An assistant would solve this difficulty.

The two recovery vehicles need an additional mechanic. A two-man mechanic team for each such vehicle would, of course, permit more rapid recovery operations, especially important under actual combat conditions.

LIEUTENANT COLONEL CARROLL MCFALLS, JR., Armor, commanded the 70th Tank Battalion, 1st Cavalry Division, in Korea. He enlisted in the Army in 1937, was commissioned in 1942, and integrated into the Regular Army in 1947. During the Second World War he served in the 3d Infantry Division as an infantry platoon leader and company commander and as a battalion and regimental operations officer.

While mentioning the recovery vehicles, it must be said that the M32 is *inadequate* as a battlefield recovery vehicle. Its tracks are too narrow to give sufficient flotation. The horsepower is too low to enable the vehicle to retrieve mired tanks or to tow partially disabled tanks across difficult ground. We found in nearly all instances that it was far more satisfactory to use another tank or even two to recover tanks that were mired down or seriously disabled. This procedure cannot always be used, nor is it particularly recommended, when the tanks are needed for a tactical mission. But if the M32 cannot do the job and if extra tanks are not available, the business of recovery has to wait until the enemy permits us to take care of our maintenance. Further, the winch of the M32 is not strong enought to do the jobs expected of it. This battalion has lost recovery vehicles on several occasions and this adds up to a double loss—the tank and the M32.

It is foolish to expect that a vehicle which cannot get across difficult ground *alone*, to do it while towing a dead weight equal to its own.

What is needed is a vehicle with great flotation capabilities, and with a high horsepower, designed *from the ground up* as a recovery vehicle. The use of the chassis or suspension system of any of our present tanks as the nucleus for a recovery vehicle will only result, as it has in the past, in a hybrid vehicle which is completely unable to accomplish the mission for which it is intended. Military characteristics necessary for a recovery vehicle should be studied and developed, and a vehicle designed and built for that specific purpose.

One example of a needed change is the lowly vise. On the present recovery vehicle the vise is mounted on the right front fender. Why can't it be put inside the vehicle where the user is protected from enemy fire? The following are the primary military characteristics which I consider necessary in a specially built recovery vehicle:

(1) Armor protection, to include overhead protection for the crew.
(2) Greater horsepower, utilizing the same *type* engine as standard tanks in order to reduce parts inventories.
(3) Wider tracks to give greater flotation capabilities than the tanks which are to be recovered.
(4) A large enough working space inside the hull of the vehicle.
(5) A more powerful winch.
(6) A hydraulic A-frame.
(7) Strong towing pintles.
(8) Maximum tool installation *inside* the vehicle (the vise is *one* example).
(9) Minimum weight commensurate with the above characteristics.

A recovery vehicle built around these ideas, and after constant consultation *with combat units using the vehicle*, would tremendously ease recovery, evacuation, and maintenance. This is as much a dollar problem as any in the Army. It is false economy to have a mass-produced vehicle designed for a job it cannot do.

It's the job of the maintenance platoon to keep these tanks rolling and firing.

CIVIL CONTROL OF MILTARY POWER

(Continued from page 21)

questionably accepted by every American has surely been underscored, in most dramatic fashion, by the relief of General MacArthur. Certainly it should now be possible to comment, without the risk of fanning once more into flame such embers of that incident as survive, that it never occurred to any of that eminent soldier's supporters, least of all to himself, that it was either appropriate—or possible—for him to defeat the President except through constitutional means and the machinery of conventions and elections. That circumstance alone should be dispositive of fears of military upheaval. Indeed, even the amenities are more carefully observed as the nation grows older: General Eisenhower resigned from the Army after his nomination; General McClellan did not resign until after losing the election in 1864; and General Scott remained on the active list notwithstanding winning the nomination and then losing the election, in 1852.

The crisis that confronts us, the very real specter of the garrison state, is not of our making; our present armaments are dictated by the need for survival. It were well for Dean Smith and the Chicago faculty to grasp this unpleasant but basic fact, and to recognize as well the responsibilities which are ours as the strongest nation of the free world. Specifically, although in 1918 our Army was placed under the command of a French marshal, in 1944, the British Army (and what we had equipped of what was left of the French) was placed under the command of an American general. Similarly, whereas in 1918 we contributed a squadron to the British North Sea Fleet, in 1945 British ships were serving as a portion of our Pacific Fleet. When the nations of Europe campaigned against the Boxers in 1900, the overall commander was a German field marshal; today American officers command UN forces in Korea, and NATO forces in Europe.

The eighteenth century issue of civilian versus military has long since been settled in our country. What we need today is intelligent guidance to assist us in finding workable solutions for the insistent twentieth century issues of national and international organization for military strength and efficiency. In that field, Dean Smith's book, interesting and stimulating though it is, affords us no help at all.

FRONT and CENTER

Civilian Committees

The trend seems to be towards more and more commissions and committees of citizens armed with the authority of the Secretary of Defense to look over the shoulders of military commanders and civilian administrators of the military departments.

In recent weeks Mr. Lovett has announced he will establish an advisory commission of 10 civilians and one retired general officer to review tables of organization and equipment of the armed forces.

It is expected that Mr. Lovett will also appoint a civilian commission to study the problem of incentive and hazardous duty pay.

Both of these moves were recommended by the Preparedness Subcommittee of the Senate Armed Services Committee.

The Johnson Subcommittee has also recommended the appointment of a committee to study the nation's air strategy, aircraft research and development and design procedures. It also recommends the appointment of a "czar" to speed up military aircraft production.

Other civilian groups are already in existence and others may be created to study other military problems. For an exploration of what this can mean to the armed services and the nation see the article on page 17 of this issue.

Army Aircraft to TC

Procurement, supply and maintenance of all Army aircraft—fixed-wing and helicopter—have been transferred from Ordnance Corps to the Transportation Corps. This gives a using service—TC operates transportation helicopter companies—responsibility from the battlefield back to the factory.

Other arms and services using either fixed-wing planes or helicopters will receive them from the Transportation Corps which will also be responsible for their maintenance and repair.

All Ordnance units and individuals engaged in Army Aviation functions will be transferred to the Transportation Corps by 30 June 1953.

1954 Budget

This is the season of the year when the Department of Defense goes over the separate budget proposals of the Army, Navy and Air Force and prepares to submit them to the Bureau of the Budget, the President and, through him, to Congress.

What the new budgets of the three services contain is unknown, but the probabilities are that they are comparable to the 1953 appropriations voted by the Congress.

The Air Force, strong for more money to build up to 143 wings, is expected to make an all-out effort to get a larger chunk of defense dollars.

The Navy wants four big carriers of the *Forrestal* class—two have been authorized and are under construction.

The Army, which had to cut back its manpower program in fiscal 1953 and couldn't increase its active force by one infantry division as it had hoped, will have to face the ever-present yearnings of congressmen and the American public for smaller forces and greater numbers of special weapons.

Congress made a deeper cut in the Army's 1953 request than it did in the requests of the other two services. Here are the figures:

	President's Budget	*Congressional Appropriation*	*Amount of Reduction*
		(in billion dollars)	
Army	$14.3	$12.2	$2.1
Navy	13.9	12.8	1.1
Air Force	22.5	21.1	1.4
Totals	$50.7	$46.1	$4.6

(These figures do not include appropriations for the Department of Defense and certain other military agencies. Nor do they provide for the war in Korea. Funds for that will be requested in a special message to the new Congress.)

The services this year have had expenses not recognized in the original budget: combat and mustering-out pay and the "cost of living" raise. Unless these costs are covered in a separate appropriation the Army will indeed be short of funds.

As Mr. Pace recently noted, the two-year service requirement and Korean rotation policy is a deep and costly drain on the Army. He said that the Army will lose about 750,000 men this fiscal year. It has been estimated that it takes 100,000 personnel spaces to keep the Korean rotation procedure in operation. Rotation in other parts of the world has had to be slowed down to maintain the Korea rate. The drain on an Army of 1,552,000 by these personnel policies is very evident.

Enlisted MOSs Merged

By merging related enlisted military occupational specialties the Army is simplifying its career fields. To do this "supervisory" and "journeyman" MOSs are now merged into one MOS, using, in most instances, the title of the former supervisory position. The first digit of each enlisted MOS now indicates the highest pay grade and supervisory level attainable within that specialty but the pay grades held by men in those positions indicate their degree of skill and responsibility.

Here are three examples of the merging of related skills:

Old Code	*Old Title*	*New Code*	*New Title*
	Armored Career Field		
1616	Armored Operations Chief	1616	Armored Operations and Intelligence Specialist
4616	Armored Operations Assistant		
1736	Armored Intelligence Chief		
	Artillery Career Field		
1577	Chief Artillery Survey Spec.	1577	Artillery Survey Specialist
3577	Artillery Survey Spec.		
5577	Artillery Rodman & Tapeman		
	Infantry Career Field		
1745	Light Weapons Infantry Leader	1745	Light Weapons Infantryman
4745	Light Weapons Infantryman		

The Infantry School

The 1952-53 academic year has begun at The Infantry School with 386 U.S. and 24 Allied officers enrolled in the 34-week advanced course.

Altogether TIS expects to give instruction to some 50,000 students during the academic year.

About 6,000 will graduate from the 22-week OCS classes of which 40 are scheduled during the year.

Some 5,000 company grade officers will attend 25 scheduled 15-week associate courses.

The Airborne Department will graduate 15,000 paratroopers from 50 three-week basic course classes.

About 750 National Guard and ORC field officers are expected to attend three-month associate advanced courses.

The Ranger Department will train 900 men at Fort Benning, Eglin AFB, Fla., and the mountain camp at Dahlonega, Ga. Nine Ranger classes are scheduled.

The Automotive Department anticipates the graduation of 400 officers and men.

The Communications Department will graduate about 1,000 students from the three courses it offers officers and men.

The light and heavy weapons Infantry Leader courses of 14 weeks will be attended by 1,600 enlisted men in eight different classes.

Some 20,000 students are expected to enroll for short courses offered by TIS during the academic year. These courses include refresher classes for reservists returning to active duty, orientation courses for personnel from other stations, and special courses for Allied students.

Training Films. TIS has distributed the following films: FB 249 Reducing Enemy Log Bunkers in Korea, FB 7-1677 Regimental Tank Company in Attack, and FB 21-1741 Seeing in the Dark.

Note on FB 249: This film uses animation and live action scenes to show in detail how log bunkers in Korea can be attacked successfully. The film shows the

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Permanent Colonels

The Army board headed by General Wade H. Haislip, retired, finished going over the records of the 900 permanent colonels with 30 years of service and five years or more in grade, and submitted its recommendations to the Secretary of the Army.

These colonels were slated for retirement by 30 July 1953 under the "forced" requirements of the Officers' Personnel Act of 1947. Some of these colonels are in their early 50s; others are nearing 60 and would be eligible to retire for age within a few years if kept on active duty. However, an Executive Order has made it possible to retain in service 60 per cent of these officers during the national emergency. By the time this appears the names of the officers selected for retention may be announced.

Among them are a large number of officers with superior ratings both in combat and elsewhere. Among them are many who are now generals (temporary) and who have served as general officers in a superior manner for several years.

The same provisions also affect some 50 general officers (permanent grade) with 35 years of service and five years in grade. They also affect some Air Force colonels and generals.

The Artillery School

New Basic Course. An Artillery officer basic course was re-introduced into the TAS curriculum on 25 August. This is the old basic course, missing from the curriculum since June 1950. During the intervening years, all battery grade officers have had to get along with the Associate Basic Course which lasted 15 weeks. The course was re-introduced because the Artillery officer advanced course was too advanced for many artillery officers. This basic course will develop battery commanders and provide training for junior officers in the elementary principles and techniques of artillery.

Instruction will include the organization and tactical employment of artillery batteries and battalions; principles of defensive and offensive combat; principles of communication and duties of communication personnel; training in artillery gunnery procedures; and general characteristics of FA, AA, and GM weapons and ammunition.

Army Team Sweeps Pistol Matches

The Army swept the 1952 National Pistol Team matches at Jacksonville, Fla., winning the caliber .22 championship with a new world's record score of 1,172 points out of 1,200 possible, and the caliber .38 and .45 matches. Shown above are the members of the caliber .22 team. Left to right: Lt. Col. Tom J. Sharpe, Ft. Sill; M/Sgt. Huelet Benner, Ft. Kobbe; Col. Perry D. Swindler, Ft. Benning, team captain; WOJG Oscar K. Weinmeister, Ft. Knox; and Capt. Ben C. Curtis, Ft. Bragg. Other members of the team included Maj. William Hancock, FECOM; Lt. Col. Chester T. Harvie, Ft. Sill; and PFC Thomas F. Buckmaster, Ft. Rucker. M/Sgt. Benner lost his individual national championship to a newcomer, William T. Toney, Jr., of the U.S. Border Patrol. Capt. Curtis won the National Trophy Match which followed the pistol championships. The Marine Corps team placed second in all three team matches. The Army's second team placed third in the caliber .38 and .45 events and fifth in the caliber .22 competition.

L-20 Transition Training. TAS is conducting transition training in the L-20 Beaver for aviators from various army areas and members of the Department of Air Training, TAS. The Beaver is a metal passenger-cargo plane designed to replace the L-17. The instruction is designed to qualify students to give similar training in the L-20 to other aviators and mechanics.

The L-20 is to be issued to all units authorized multiplace airplanes. Equipped with a Pratt & Whitney 450-hp Wasp Jr. engine, it can carry a pilot and six passengers. It is easily converted to a cargo or "hospital" plane by removing the four back seats. It cruises at about 140 mph, has a range of 500 miles, and carries 95 gallons of fuel. It is equipped with the latest radio instruments, including the omnirange receiver.

Shorts

Release of Reservists. Many reserve officers called to active duty involuntarily can expect to be released during the next few months. This is possible, the Army announced, because many officers on active duty have elected to extend their service, and by the influx of new officers from the ROTC and OCS. The new schedule will cut their periods of service by two or three months.

Medical Service officers and some procurement, research and development specialists cannot be granted early release because the Army lacks replacements in these fields. Other involuntarily called up reserve officers will be released, some by the end of November and others by the end of March 1953. In the latter category are officers who served less than one year during the Second World War while the officers to be released by the end of November served at least a year during the Second World War. Officers now overseas but eligible for release will be started back to the States not later than 30 November.

Snow Storm. Exercise Snow Storm scheduled for Camp Drum, N. Y., in February is designed to test doctrine and training methods in day and night cold-weather operations, defense against atomic, chemical, biological and radiological attacks, airborne operations, aerial reconnaissance of ground targets for tactical atomic weapons, and logistical support training including the use of helicopters and cargo aircraft. Participating outfits will include the 82d Airborne Division and the 278th Regimental Combat Team.

Promotions. Asst. Sec. of the Army Fred Korth, noting that budgetary ceilings had delayed "well deserved promotions," hopes that "within the next few months we wil be able to make these promotions." He said that promotion policy for reserve officers on active duty "will parallel that of the regular establishment" and that "a new reserve promotion system will be instituted for the ORC and National Guard."

Irons in the Fire

"Army Mule"

The Transportation and Medical Corps are looking forward to the "Army Mule," the latest thing in the Army's transportation pool. The H-25A helicopter, produced by Piasecki, can carry from four to six men plus a crew of two and will be used to haul troops and supplies to the front as well as to evacuate the wounded. Top speed is rated at 90 knots with 70 knots the normal cruising speed. A large rescue hatch (48 inches x 26 inches) is located at the forward end of the cabin in the right side of the floor and a hydraulic hoist permits aerial hoisting of personnel, litters or loads up to 400 pounds through the hatch into the cabin.

Plastic Casts

A new plastic powder, called Melmac Orthopedic Composition, for new type plastic casts has been announced by the American Cyanamid Company. The strength of the new composition is such that casts may be up to ⅔ lighter in weight and even though they make thinner casts, they provide adequate immobility and support within a few hours after application, permitting earlier release of patients. The composition is porous enough to permit evaporation of moisture from the skin and are water resistant.

Bagged Blood

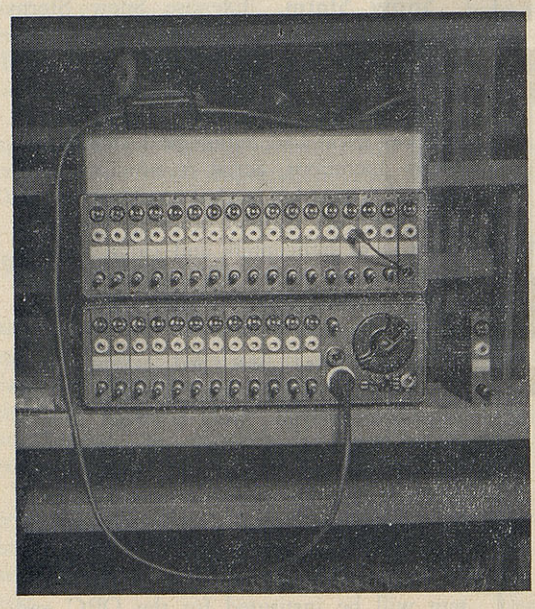
Medical Corps is testing plastic bags as possible replacements for glass containers of whole blood for battlefield transfusions. The bags are less likely to break, and require less shipping space. They also facilitate transfusion by hand or body pressure.

Hot Stove

Quartermaster Corps reports high satisfaction among Korean veterans with the M1950 one-burner stove. Weighing 22 ounces (just half of the Coleman stove), it produces a much hotter flame. The stove's generator will last for 100 hours and can be pumped up by a man wearing heavy gloves. The legs and container supports fold up like the Coleman stove and it fits in the same sort of container.

Capable Cable

Signal Corps is well pleased with the performance of the new "Spiral-4" cable now being used in Korea. Besides carrying three times the load carried by old cable, the new cable has a specially designed connector which makes connections fit tightly together with a twisting motion. Not only does this connector eliminate the scraping, cutting, and taping operations of the past, but it keeps out dust and moisture better and makes a joint as strong as the cable itself.



New Switchboard

The Artillery School is teaching the operation of the SB-22/PT switchboard, the latest item in field wire communication. This portable, monocord, magneto telephone switchboard gives the combat commander a switching central with twice the line capacity yet one-half the weight of older type switchboards (BD-71 and BD-72). It weighs 30 pounds compared to the 50-pound BD-71 and the 70-pound BD-72. It will accommodate 12 circuits, the same capacity as the 72, and exactly twice that of the 71. However, two SB-22s, properly mounted, can carry 29 circuits. The small size of the new board (approximately 18 inches x 12 inches x 6 inches), along with its light weight, facilitates continuous communication in combat situations. It is immersion-proof and can withstand river crossings and rainy weather. Another feature includes facilities whereby the field radio sets may be remotely controlled, and the voice frequency (V-F) teletypewriter circuits can be connected. This increases flexibility in communication. No special mounting equipment is required to operate the SB-22. All equipment associated with each line circuit is mounted in a metal container, called a line pack, which is plugged into the switchboard. Switchboard equipment associated with the operator's circuit, except the headset, is mounted in a metal container, called the operator's pack, which is plugged into the switchboard. The use of these plug-in units permits rapid replacement of defective equipment.

Two-Place Hornet

Army Field Forces is awaiting delivery of two, 2-place ram jet helicopters by Hiller Helicopters. They will be service evaluated at Fort Bragg, N. C. Designated the HJ-1, Hiller-Hornet has a 12-pound ram-jet engine mounted on the tip of each of two 23-foot rotor blades. It has only two hand controls, no foot controls. Its weight is about 360 pounds and it can carry a useful load of 600 pounds at a maximum forward speed of 80 miles an hour. Suggested tactical uses include command liaison, reconnaissance, wire laying, artillery observation and evacuation of wounded. The Navy as the contracting agent ordered two of them for the Army, two for the Navy and one for the Marine Corps. Delivery is expected by June 1953.

Shirt Testers

The Quartermaster Board at Fort Lee, Va., is looking for a lighter cooler cotton shirt and has a hundred officers and men wearing two new experimental fabrics.

Pocket Preserver

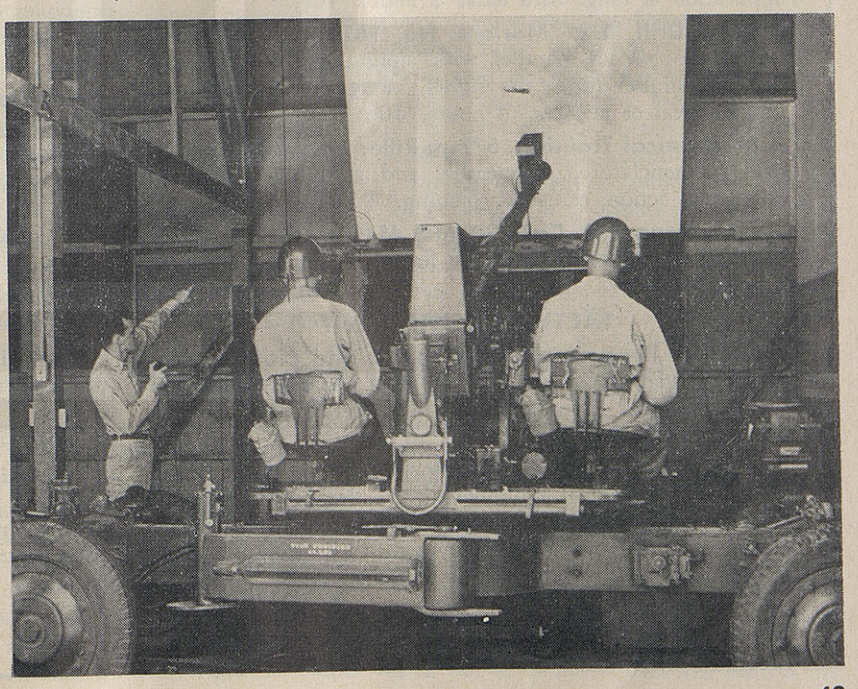
RES-Q-PAK is the commercial name for a new pocket-size life preserver now being marketed for use by fishermen, airmen, boaters and swimmers. Deflated it's no larger than a pack of cigarettes. Just a squeeze inflates the Vinylite water wing with carbon dioxide and the manufacturer claims that it will support a fully-clothed 250-pound man.

Body Armor

The Eighth Army is going to get 25,000 of the Navy-developed body armor from the Marine Corps pending further field test and production development of the Army's experimental armor. The Navy armor uses rigid fibre glass plates curved to fit the contours of the body while the Army type armor is made of 12 layers of flexible, spot-laminated nylon duck. Limited procurement of the Army's armor will continue; 1,400 of the vests were ordered earlier this year. A single type of body armor to be used by all of the services may evolve from continuing research and development efforts.

Ammo Savers

At the Antiaircraft Artillery Replacement Training Center at Fort Bliss, Tex., trainee-gunners "fire" their weapons at airplanes "flying" across a motion picture screen—and save the government about $835,000 a month by not shooting up live ammunition. The electronic equipment they use was developed by the Navy during the Second World War. At Bliss it is used with both caliber .50 machine guns and 40mm guns. When an airplane "flies" across the motion picture screen the complex electronic equipment establishes a correct "lead zone" invisible to the gunner. When it is "fired," tracer projecters go into action, showing the line of fire in correct relationship to where the gun is fired. The special projection system and special glasses worn by the gunner give the gunner a perception of distance that is exactly like he sees when firing live ammunition at an actual target. To further simulate actual firing conditions, the gunner hears both the sound of the attacking aircraft and the gun firing. There is even a recoil. The electronic system records "ammunition" fired so that the gunner can check on his accuracy.



'Portobel' Trainer

The Antiaircraft Artillery Journal reports that the 34th AAA Brigade in Europe has adopted the British-built "Portobel" machine gun trainer. It is designed to provide M16 and M55 quadruple caliber .50 machine gunners with practice in tracking targets with speeds up to 500 miles per hour on any type of course. The apparatus consists of an airtight fabric dome 30 feet in diameter and 20 feet in height which is fully inflated when in use. Instruction is carried on inside the dome, the internal pressure of which is about one millibar greater than the external barometric pressure. Interior of the dome is illuminated to resemble the sky and is finished with a white rubber surface which makes a good screen. A 35mm projector throws pictures of attacking aircraft onto a motorized mirror which moves in azimuth and elevation while reflecting on the inner surface of the dome. A yellow spot becomes visible when the aircraft comes within range of the gun. If the gun has been aimed correctly, the reticle should coincide with the yellow spot on the film. This spot is normally not visible to the gunners as they wear spectacles which filter out the yellow color.

NEW INSTRUCTIONAL MATERIAL PREPARED BY THE INFANTRY SCHOOL

The following new instructional material suitable for non-resident as well as resident instruction may be ordered from the **Book Department, The Infantry School, Fort Benning, Ga.,** at the prices shown. (The COMBAT FORCES Book Service regrets that it cannot handle orders for these pamphlets.)

WEAPONS DEPARTMENT

Mechanical Training, BAR: No. 1108. General data; nomenclature, disassembly, assembly of operating group and buffer and rate reducing group; functioning of operating group, gas adjustments; stoppages, immediate action, and field expedients; spare parts and accessories. 4 hours. 10¢

Marksmanship, Preparatory Training, M1 Rifle: No. 1123. Trigger squeeze in all positions; taking positions rapidly. 4 hours. 10¢

Marksmanship, Preparatory Training, M1 Rifle: No. 1125. Sustained fire; examination prior to range firing. 4 hours. 10¢

Marksmanship, Instruction Practice, M1 Rifle: No. 1128. Zeroing and practice firing on known distance range; care and cleaning. 8 hours. 10¢

Marksmanship, 1000", BAR: No. 1135. Range procedure, safety regulations, 1000" instruction practice, BAR. 3 hours. 10¢

Marksmanship, Instruction Practice, on known distance range. 4 hours. 10¢

Marksmanship, Record & Record Practice, Known Distance Firing, BAR: No. 1140. Record practice, Table III, TC 7, DA, 21 Apr 1950. 4 hours. 10¢

Rifle Grenades: No. 1205. Introduction; types; characteristics; functioning; grenades; grenade launchers; M15 sight; demonstration and familiarization firing. 3 hours. 10¢

Rocket Launchers 2.36" and 3.5": No. 1221. Characteristics, demonstration firing; preparatory marksmanship; methods of instruction; boresighting launchers; practice tracking moving targets. Familiarization firing. 4 hours. 10¢

Crew Drill, Cal. .30 MG, M1919A6 and MG, M1917A1: No. 1314. Examination of equipment, action and out of action, measuring and laying off angles. 8 hours. 10¢

Technique of Fire, MG Cal. .30: No. 1379N. Night application of range card data. 2 hours. 10¢

Crew Drill, 4.2" Mortars: No. 1616. Aiming circle; laying the platoon parallel with aiming circle; laying the platoon parallel using the sights; safety precautions; loading; removal of misfires. 4 hours. 10¢

Mechanical Training, 57mm Rifle: No. 1704. General data; nomenclature; disassembly and assembly; stoppages; immediate action; care and cleaning. 4 hours. 10¢

Marksmanship, Cal. .30 MG M1919A6: No. 1323. Instruction and record practice firing, Table I, Course A. 4 hours. 10¢

TACTICAL DEPARTMENT

Combat Formations, Rifle Squad and Platoon, No. 2002. Organization and equipment of the rifle squad and platoon; combat formations and their tactical uses; combat drill. 2 hours. 5¢

Heavy Weapons Company in Attack, No. 2163. Principles of tactical employment of the heavy weapons company in the attack; practical exercise requiring a reconnaissance and plan of employment; TF 1542, "Heavy Weapons Company in Attack." 4 hours. 5¢

Characteristics of Airborne Operations, No. 2320A. Basic concepts and characteristics of airborne operations. Comparison between the missions, preparation of attack, assembly techniques, and reinforcing agencies available to an airborne rifle company and an infantry division rifle company. TF 1-3711, "DZ Normandy." 2 hours. 5¢

Seminar, Offensive Tactics, No. 2388. Group discussion of tactical principles governing offensive action of infantry regiments. 2 hours. 10¢

Troop Leading, Battalion and Regiment in Defense, No. 2454A. Purpose of troop leading, the principles of troop leading, the subsequent steps in troop leading and their application to the battalion and regiment in the occupation and organization of a defensive position. 2 hours. 6¢

Retrograde Movements (Map Exercise), No. 2484A. Principles of retrograde movements to include: withdrawals and delaying action. A map exercise of a rifle company in a night withdrawal and in a delaying action. 4 hours. 60¢

Armored Infantry Rifle Company in Defense, No. 2607. Organization and conduct of mobile defense; employment of an armored infantry rifle company in the sustained and mobile defense. 2 hours. 15¢

Stream Crossing Expedients, No. 2711. Expedient methods of crossing personnel, light weapons, and vehicles over rivers. TF 7-1303, "Stream Crossing of Personnel." TF 7-1304, "Stream Crossing Expedients"—Part II—"Flotation of Weapons, Equipment, and Vehicles." 1 hour. 5¢

Employment of Orangic Engineers of Infantry Division in Defense, No. 2726. Review of organization and capabilities of the engineer combat battalion, divisional, principles of engineer employment, basic dispositions, logistical support, task assignment and engineer planning. 1 hour. 5¢

Employment of Organic Engineers of Infantry Division in Offense, No. 2728. Review of organization and capabilities of the engineer combat battalion, divisional, and principles of engineer employment. Engineer planning, reconnaissance, supply and missions in an offensive situation. 1 hour. 5¢

Rifle Company in Attack of a River Line, No. 2156. Principles governing river crossing operations with emphasis on reconnaissance, selection of crossing sites and objectives, formations, organization of waves, security measures, use of supporting weapons, timing, and execution. 2 hours. 25¢

Mine Warfare, No. 2705. Development of mine warfare, types of U. S. mines, employment of mines and authority for using mines, siting, marking, and recording of mine fields. 1 hour. 10¢

Front-Line Rifle Platoon in Defense, No. 2418. Tactical employment and organization of a front-line rifle platoon in defense to include organic personnel and weapons normally located in front-line platoon areas. 4 hours. 45¢

Front-Line Battalion in Defense, No. 2441 (Replaces 2458). A map exercise in which the student, acting as battalion commander, plans the organization of a front-line battalion defense and controls the conduct of the defense during the attack. 4 hours. 50¢

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PANZER LEADE
Foreword by
Translated by
Dutton, New
Index; $7.50

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★ BOOK REVIEWS ★

ORGANIZER OF ARMORED FORCES

PANZER LEADER. By General Heinz Guderian. Foreword by Captain B. H. Liddell Hart. Translated by Constantine Fitzgibbon. E. P. Dutton, New York. 528 Pages; Illustrated; Index; $7.50.

"With men of action, the place they fill in history is usually determined by the extent to which they have shaped history. Guderian's achievements—his effect on the Second World War, and on warfare—put him on the top level as a soldier. . . . He applied the idea of the independent use of armoured forces so fully and so decisively that he brought about victories which, measured by any standard, have hardly been matched in the records of warfare."

This quotation from Captain B. H. Liddell Hart's foreword to the autobiography of General Guderian puts the man in proper historical perspective. The pages that follow advance the book to the upper bracket among personal stories on the late global conflict, and, indeed, place it in the category of a military classic.

Heinz Guderian was a captain serving in various staff assignments when Allied tanks were breaking the trench stalemate of World War I and setting the stage for the era in which he was to make history. In these memoirs, Guderian disposes of his early life and his World War I service in something less than two pages. He does note the value of signals assignments in the early months of the war as grounding for his later specialization.

His second chapter on the creation of Germany's armored force is perhaps more important than any in the book, including those on operations, for it deals with the formative years when theory, doctrine, organization, equipment, research and development—those things of which operations are the outgrowth—were being hammered out in Germany. In retrospect it may well be said that the progressive development of Germany's panzer arm was a reflection of the image of Guderian's ideas.

Appropriately enough, Guderian is led to armor via the motor transport field. Assigned to the Motorized Transport Department in 1922, he became aware of the possibilities of tactical employment of motorized units, in addition to their use as supply troops, and despite the contrary opinion of his chief, "To hell with combat! They're supposed to carry flour!"

A review of Allied tank experience in World War I and a study of the writings of England's Fuller, Martel and Liddell Hart were a part of the germinating process. Guderian became one of a small group of farsighted and imaginative soldiers of various countries who recognized the possiblities of motorization in the ground combat picture. In the step-by-step evolution of his ideas, mobile warfare was the hinge of his thinking. But the way of the pioneer is never easy. Opposed to that concept was the prevalent consideration of the tank as an infantry-support weapon.

For Guderian, the transition from the theoretical to the practical came in 1928 when he first climbed into a tank. At this point, the long march in his crusade on behalf of the employment of armor as an independent arm really got down to cases. "It would be wrong to include tanks in infantry divisions. What was needed were armoured divisions which would include all the supporting arms needed to allow the tanks to fight with full effect."

Guderian carried the ball successively as Chief of Staff to the Armored Troops Command; Commander of the 2d Panzer Division; Commander of XVI Army Corps; and Chief of Mobile Troops. And thus arrived the moment when preparation must become demonstration.

Few soldiers in their careers are fortunate enough to have the opportunity to prove on the battlefield the "revolutionary" theories and practices which they have conceived and developed during long years of peacetime service. When war came, Guderian moved to the execution phase of his innovation. The opposition moved with him onto the battlefield, hedging and then increasingly confounded while the panzer leader produced major results as commander first of a corps, then of a panzer group, and finally of a panzer army.

A great part of *Panzer Leader* is devoted to the chronicling of day-to-day action. Although the general history of the war is known to the military man, this is the German view and there is much new material. The details of leadership, tactics and personalities combine into some of the most remunerative material to appear on the Polish Campaign, the lightning strike to the West and the larger campaign to the East. The operations in Russia have the added import deriving from postwar international developments.

Guderian brings to battlefield command the same driving energy that appears in his dedication to peacetime tasks. Throughout the book there emerges much of the story of broad differences in the direction of the war. It is interesting to note that during the campaign in the West in 1940, Guderian's complaint with his superiors is their over-caution. He senses that aggressive action will bring decisive results. The following year in the East he once again accomplishes great results while disagreeing with the conduct of operations. Guderian was never one to hesitate in voicing his views or criticism. This led to his dismissal. Later recall as Inspector-General of Armored Troops and finally as Chief of the General Staff were vindications which came too late in the game for the man and his country. Now, a decade later, his remarks on the rigidity of the Supreme Command, their practice of directing the war from headquarters far to the rear, their failure to accept the estimates of commanders at the front, and the serious supply problem and lack of winter clothing—all of this constitutes a severe indictment of a military command.

As the outstanding account from the German side on the late war, *Panzer Leader* is an important historical document. But its real significance lies not so much in its interpretation of a war as in its interpretation of warfare. The fact that a vocal minority advanced a theory that was vindicated, demonstrably, on the battlefields of history's greatest war; the fact that proven concepts remain to this moment unacceptable to certain of the (for whatever reason) unconvinced; the fact that any casual observer of today's military scene can come up with existing parallels to Guderian's difficulties in another day in promoting mobility; these are the points that make *Panzer Leader* a book for every military man—from the policy maker in our high councils down to the platoon leader who will inherit our command of tomorrow.—MAJOR WILLIAM GARDNER BELL

WHO'S WHO IN UNITED STATES POLITICS AND AMERICAN POLITICAL ALMANAC, including 1952 Supplement. Edited by Richard Nowinson and Ruth Thornquist Potter. Capitol House, Inc., in association with The Macmillan Co. 993 Pages; Illustrated; $25.00.

According to the cover blurb, this formidable volume includes "10,000 biographies of Republican, Democratic and minority party leaders; rosters of every state administration and every legislature; the names, addresses, and posts of every leading member of the Federal administration; the names and addresses of 25,000 members of Republican and Democratic federal, state, and local committees; the names, addresses, politics, terms of every senator, congressman, Supreme Court judge, district attorney, U. S. Marshal; the mayors and council members of the 15 largest cities; election statistics since George Washington's time; balloting of every Democratic and Republican convention since Jackson's and Lincoln's time; party platforms, traditions, organizations; and thousands of other facts, current and historic."

Inevitably, such a compilation fails to reflect the results of mutation and mortality in political life. Thus, while a picture on page 103 portrays Governor William Lee Knous of Colorado, that gentleman's biography at pages 177-178 shows that he has been a U. S. District Judge since April 1950. And the results of the 1950 elections, which are duly recorded in the supplement, are not carried over into supplemental biographies.

At $25, a volume like this can be sold only to organizations desiring mailing lists, but what with obsolescence at the time of publication, to say nothing of subsequent changes, it naturally loses considerable of its utility. An ex-Senator, of course, likes to be called "Senator" for the rest of his days, but he is apt to feel old scars if his

Off-Duty Reading

Fisherman, Spy-catcher, Priest and Commentator

ERNEST HEMINGWAY has turned to the sea for material for *The Old Man and the Sea* (Scribner's; $3.00). It is a little hard to say whether this is a long story or a short novel, but it should rank with his very best work. It is a story about an ancient Cuban fisherman and his three-day battle with a great marlin in the Gulf Stream. Here, beautifully developed and austerely written, is the everlasting battle of man against nature—a battle as deadly as any man wages against man, but without hate or malice. Any book, of course, always has to be compared to some other book. The only comparison we can make here is to say that *The Old Man and the Sea* reminds us of the very best of Hemingway's earlier short stories, with a little of Rachel Carson *(The Sea Around Us)* thrown in for good measure. We realize this sounds wildly improbable, but then so do most comparisons.

ONE of the most fascinating stories we've come across in a long time is *Spy-catcher,* by Colonel Oreste Pinto (Harper; $2.75). Colonel Pinto is a Dutchman with thirty years of counterintelligence experience. During World War II, he was first given the job of screening the thousands of refugees who poured into England after the fall of France. Later, he served as chief of the Dutch counterintelligence organization, attached to SHAEF. This book is a sampling of some of his more spectacular cases, most of which resulted in the conviction and death of the spies involved. Perhaps his most spectacular case was the apprehension of Christian "King Kong" Lindemans, huge hero of the Dutch Resistance. Colonel Pinto identifies Lindemans as the man who betrayed the Arnhem airdrop to the Germans, and tells the story of his arrest and confession. From here on things get a bit muddled. Lindemans' confession and files were lost, and Lindemans himself was not arraigned for formal trial until June, 1946, and then only under British newspaper pressure. Two days before his trial he committed suicide. It is a fascinating story.

EVERY so often somebody writes a book about soldiers, and right away he's another Ernie Pyle. We don't think *anybody* is going to be another Ernie Pyle, but that doesn't mean that nobody else can understand soldiers or write about them with the clarity and compassion of one who *does* understand them. Father Timothy J. Mulvey is a gifted writer, who sought and received the permission of his Church to go to Korea and write a book. *These Are Your Sons* (McGraw-Hill; $3.75) is the book. It is a series of episodes—individual exploits of soldiers, sailors, airmen, and marines, in battle and out, at work and at play. To the soldier, himself, this may sound a little like the poop the journeyman PIO dishes out for the hometown papers. It isn't. Father Mulvey is a perceptive man who understands war, and can write about the good and the bad in every soldier without judging him. He can write without self-consciousness of war's horror, for him and for others, and of the nobility it brings out in many men. *These Are Your Sons* is in its own right a splendid book on war. Father Mulvey is not another Ernie Pyle, but then, he does not need to be.

ERIC SEVAREID is well known to millions of radio listeners as a fine reporter and war correspondent. His current book, *In One Ear* (Knopf; $2.95), is a collection of his radio essays on a great variety of subjects—war and the state of the Union, politicians and pundits, America and civil rights, and the men who make the news. What he has to say he says with disarming casualness, but much of it is important and all of it is interesting. Here in a short book is America as Mr. Sevareid sees it, and we are happy to say that Mr. Sevareid, whose field of observation is as broad as he cares to make it, sees very clearly indeed.

O. C. S.

mail is still sent to the Capitol; while ex-Congressmen and ex-Governors promoted to the Senate Chamber will surely not relish being addressed at the House of Representatives and at the State House. After all, what colonel likes letters that still refer to him as "Lt. Col."?—F.B.W.

BOOKS RECEIVED

WORDS & WAYS OF AMERICAN ENGLISH. By Thomas Pyles. Random House. 310 Pages; Index; $3.50. "An absorbing, authoritative account of the origins and growth of the present state of the English language in America."

THE LIFE AND DEATH OF STALIN. By Louis Fischer. Harper & Brothers. 272 Pages; $3.50.

KOREA 1950. Office of The Chief of Military History. Government Printing Office. 281 Pages; Illustrated; $1.25. An official pictorial of the Army's effort in Korea.

THE TRAITORS. By Alan Moorehead. Charles Scribner's Sons. 222 Pages; Illustrated; Index; $3.50. The story of the men behind the atomic energy spy ring including Fuchs, May and Pontecorvo.

PICTOGRAPHS AND GRAPHS: How to Make and Use Them. By Rudolf Modley and Dyno Lowenstein. Harper & Brothers. 186 Pages; Illustrated; Index; $4.00. A necessary book for training aids personnel.

PHILOSOPHIC PROBLEMS OF NUCLEAR SCIENCE. By Werner Heisenberg. Pantheon Books, Inc. 126 Pages; Index; $2.75.

WARWHOOP. By MacKinlay Kantor. Random House. 246 Pages; $2.50. Two short novels of Indian fighing days.

PICTORIAL ASTRONOMY. By Dinsmore Alter and Clarence H. Cleminshaw. Thomas Y. Crowell Company. 296 Pages; Illustrated; Index; $4.50.

READING CRITICALLY IN THE FIELDS OF LITERATURE AND HISTORY. By Sylvia C. Kay. Twayne Publishers. 166 Pages; $2.50.

FORMOSA UNDER CHINESE NATIONALIST RULE. By Fred W. Riggs. The Macmillan Company. 195 Pages; $2.75.

THE DANGER WITHIN. By Michael Gilbert. Harper & Brothers. 244 Pages; $3.00. A prisoner of war novel.

THE CABINETMAKER'S TREASURY: A Practical Guide to the Reproduction of Fine Period Furniture. By F. E. Hoard and A. W. Marlow. The Macmillan Company. 267 Pages; Illustrated; Glossary; $6.00.

A HISTORY OF PORTUGAL. By Charles E. Nowell. D. Van Nostrand Company, Inc. 259 Pages; Illustrated; Index; $4.50.

GRENADINE'S SPAWN. By Robert C. Ruark. Doubleday & Company. 253 Pages; $3.00. For those who enjoyed *Grenadine Etching.*

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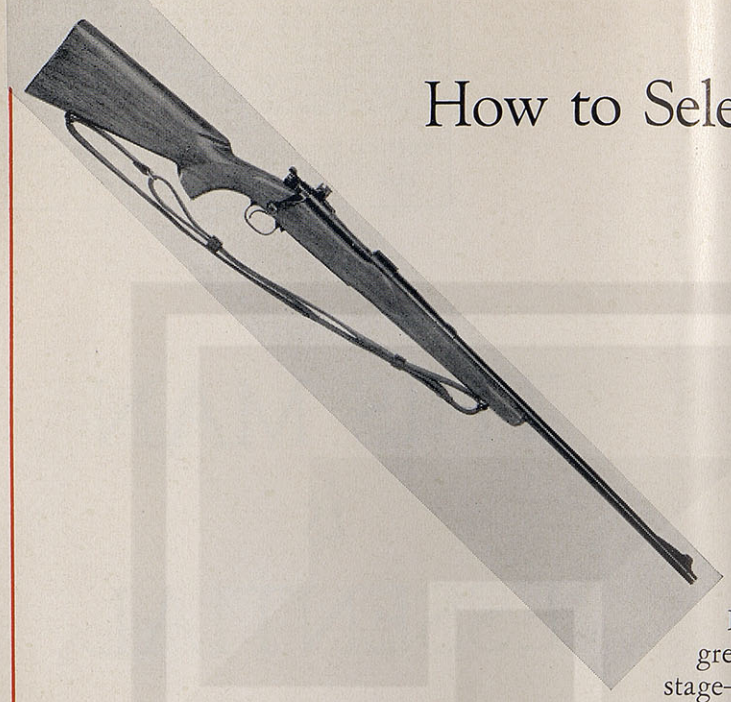

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