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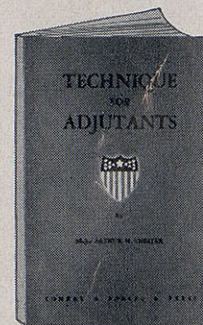
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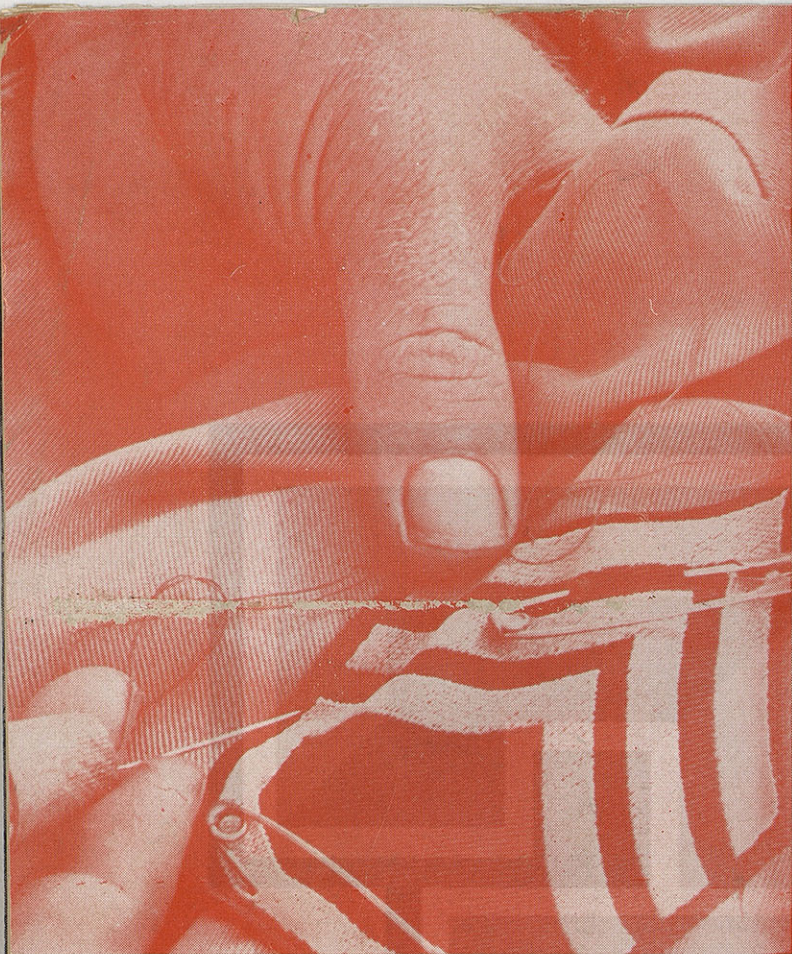
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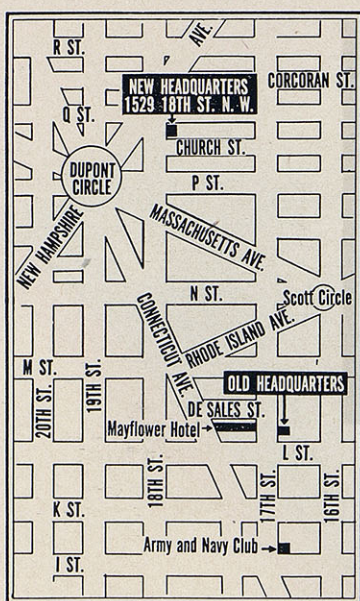
YOUR Association and JOURNAL now have a new home. Early in August, The Association of the U. S. Army and COMBAT FORCES JOURNAL moved to 1529 Eighteenth Street, Northwest, from the Infantry Building at 1115 Seventeenth Street, Northwest.

Your new headquarters is a five-story town house, which was the residence of the late Chief Justice Charles Evans Hughes during his four years as Secretary of State. The late Frank B. Kellogg also lived there when he held the same office.

The new place is slightly larger than the Infantry Building and much better adapted to the work of your Association and its staff. It is a handsome residential type of building rather than an office building, and a more appropriate headquarters for such a national institution as our Association. We hope that all members of the Association who come to Washington will visit the new headquarters. There will be parking space reserved for one or two visitors' cars at a time.

About five years ago, the Executive Council of the former Infantry Association began to realize that the Infantry Building was not as suitable as other available buildings might be for an Association headquarters. A long search followed, until finally the new place was purchased and the Infantry Building sold. In the exchange, the high real-estate market enabled the Association to sell the Infantry Building at considerable advantage.

The Infantry Building was built in 1923, after the Infantry Association had occupied rented quarters since its organization in 1904. It was added to in 1941. The erection of the Infantry Building across from the Mayflower Hotel was a matter of great pride to the Association, and many of those who were instrumental in its building will note with some regret the change to a new headquarters. But the old-timers who have seen the new place have all approved the move, and the whole search for and purchase of the new home has had the unanimous approval of your Executive Council.



THE location of the new headquarters is about five blocks from the old, in a part of town into which many other non-profit institutions have recently been moving. As shown on the accompanying map, it is two very short blocks from Dupont Circle and readily reached by public transportation, and it is in the first-fare taxi zone from downtown. Capital Transit "L-2" busses pass its door going to and from 13th & Pennsylvania Avenue, Northwest, and upper Connecticut Avenue. The Mount Pleasant streetcar line from the downtown area and Union Station stops in the Dupont Circle underpass only a short walk from the new offices. Crosstown—"G-2"—busses move up and down P Street, Northwest, between Georgetown and the central part of the city.

Those who write us will note that the new address—1529 Eighteenth Street, Northwest—is in the same postal zone as our former address—Zone 6.

The new telephone number of the Association and JOURNAL is Columbia 8607.

The interior of the Association's new home is particularly attractive. The most striking feature is the five-story winding staircase which is elliptical in form. There is also a passenger elevator.

The two-story brick coach house in the rear will be used for storage and handling of the Association's many publications in book and pamphlet form.

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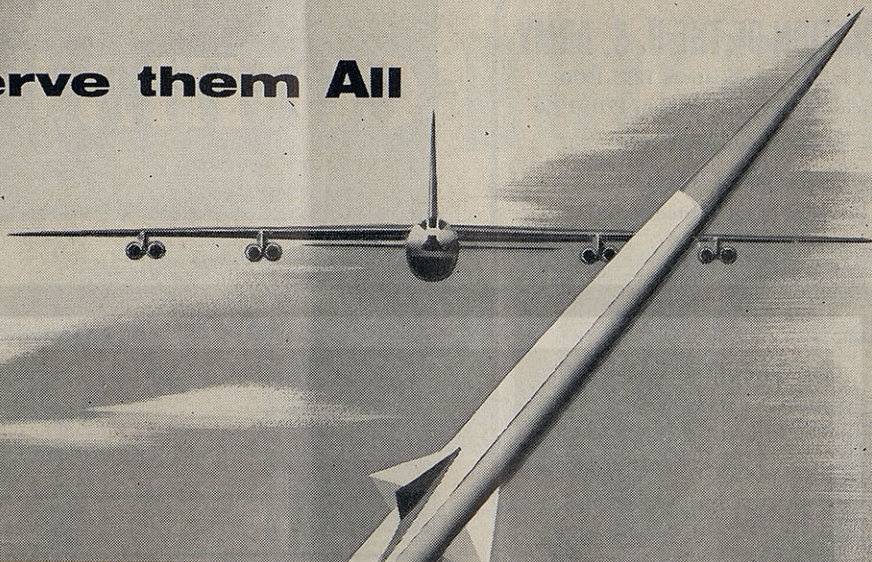
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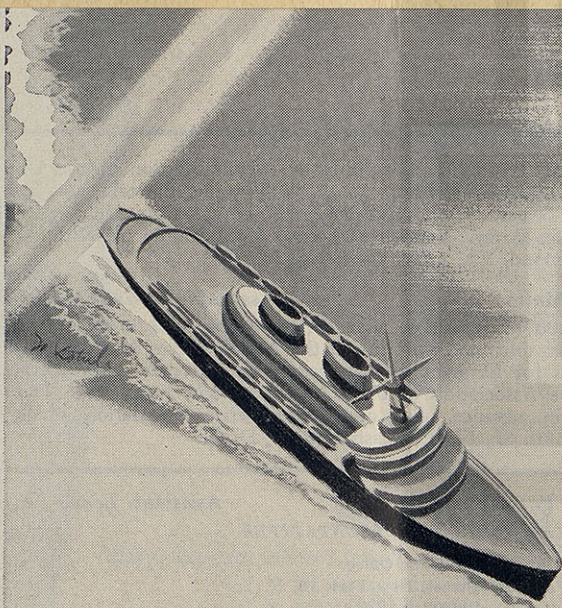
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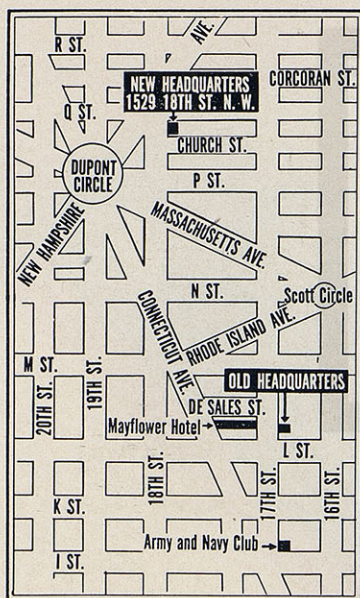
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THE location of the new headquarters is about five blocks from the old, in a part of town into which many other non-profit institutions have recently been moving. As shown on the accompanying map, it is two very short blocks from Dupont Circle and readily reached by public transportation, and it is in the first-fare taxi zone from downtown. Capital Transit "L-2" busses pass its door going to and from 13th & Pennsylvania Avenue, Northwest, and upper Connecticut Avenue. The Mount Pleasant streetcar line from the downtown area and Union Station stops in the Dupont Circle underpass only a short walk from the new offices. Crosstown—"G-2"—busses move up and down P Street, Northwest, between Georgetown and the central part of the city.

Those who write us will note that the new address—1529 Eighteenth Street, Northwest—is in the same postal zone as our former address—Zone 6.

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The interior of the Association's new home is particularly attractive. The most striking feature is the five-story winding staircase which is elliptical in form. There is also a passenger elevator.

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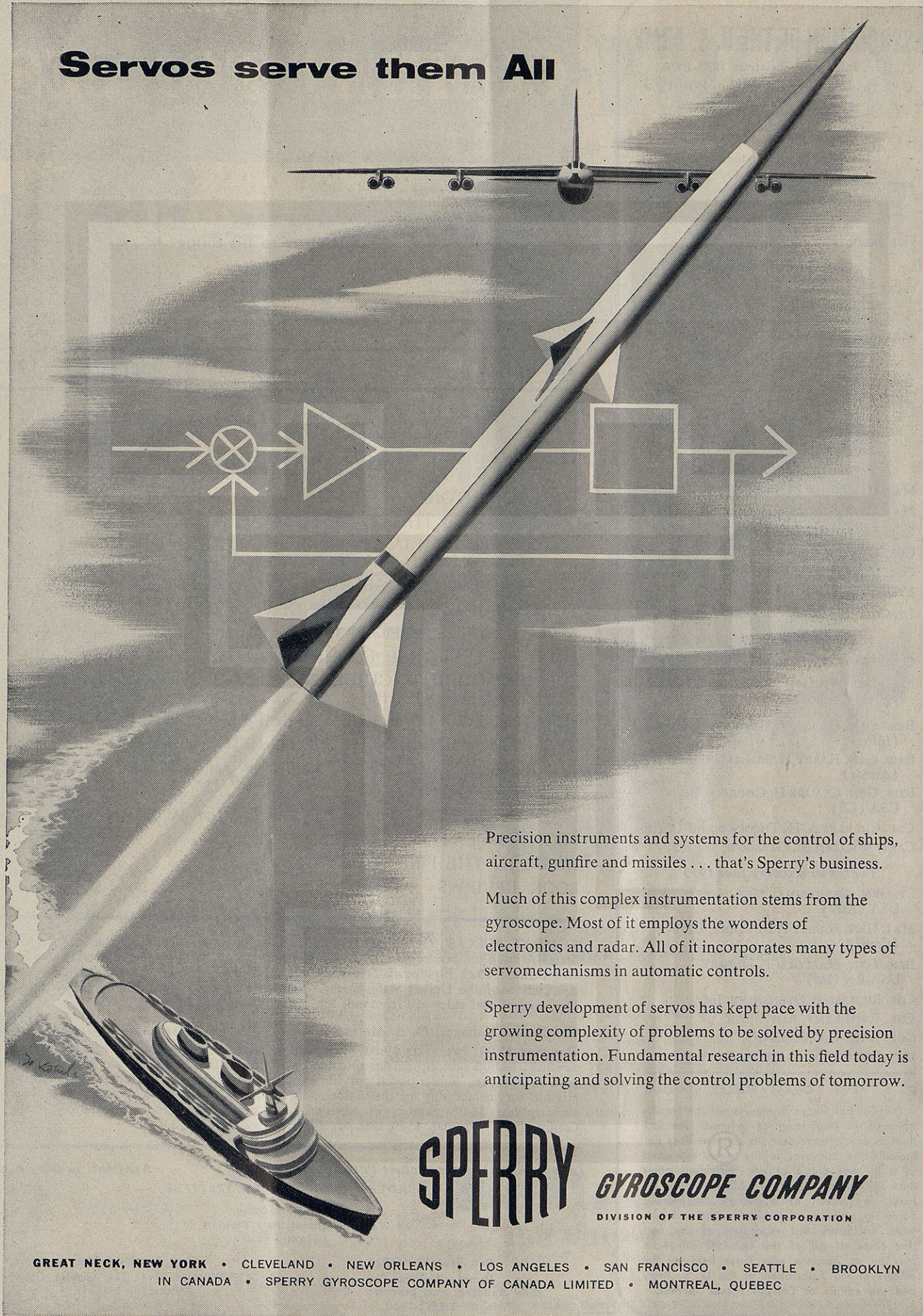
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September, 1952

COVER: The Eighth Army in Korea. (Department of Defense photos by Signal Corps cameramen.)

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★ To the Editors . . . ★

"Glory through Gadgets"

To the Editors:

You might like to know that much comment has been caused by "Glory Through Gadgets" at this fountainhead. I for one must shout a loud *huzzah!* for Captain Jones. He has told us the truth, there is no compromise.

We won't act upon Jones's wisdom, and that's a pity. We'll plod along as we always have and then look hurt—as in 1945—when "our boys" want out as fast as possible and the "honorable profession of arms" gets the usual black eye.

Senior officers who could do something will agree with Jones. But they won't act. They (like so many of us) close their eyes to the unbuttoned, unpolished, long-haired, product of "Doolittleism" found in any public place today. Or worse, they will issue orders that treat the symptoms, not the cause.

MAJ. STIFFBACK

The Infantry School
Fort Benning, Ga.

To the Editors:

I should like to give Jones a resounding pat on the back for that "Glory Through Gadgets."

In my opinion, he put his finger on the root of this matter when he suggested a housecleaning of the roster of infantry officers.

I know of several cases where men were commissioned from civilian life to perform some sort of special assignment (not involving combat) and were handed muskets to wear. For them, infantry was a "carrier" branch.

There are lots of others assigned to infantry units who are misfits and should be removed from the infantry and put somewhere else.

We all know that a unit is a reflection of the officers who command it. Give us tough, fit officers who have pride in themselves and are proud to be infantrymen and you'll find the problem a lot closer to a solution.

MAJ. JAMES J. MULLEN

The Army General School
Fort Riley, Kan.

To the Editors:

"Glory Through Gadgets" by Captain F. P. Jones in the July issue was timely and amusing, if not very enlightening. Captain Jones cites a case of one "typical" soldier in his first year in the Army. It would be nice if all good soldiers could make sergeant first class in one year. Nor would we be in such dire need of parachutists if even a small number of men coming into the Army were willing to volunteer to jump, so it isn't too likely that our young lad will get into the troopers. If he isn't in the airborne he shouldn't wear the wings, parachutist's patch, French Fourragère, Distinguished Unit Citation, or jump boots.

Now we come to the Expert Infantryman Badge. I wonder just how many men assigned to the infantry have the Expert Infantryman Badge? Very few, but our boy was a good soldier and he received his. He made corporal in one year and might make sergeant a few months later if he keeps his nose clean. Now what does our boy look like with the Clark Gadgets? He has the blue piping on the cap and a blue Fourragère, Expert Infantryman Badge, combat boots, and he is a corporal. He may or may not wear the epaulets of a combat leader. Now compare him with the man in the smart-looking blue uniform of the Air Force or the average Marine, with his dozen sharpshooter medals. The few men that do all of the things cited would be outstanding soldiers and would be no more than the expected sharp airborne soldier of today. Today about the only true *esprit de dogface* in the entire Army is in the airborne. So, maybe these gadgets are needed to lift the morale of the infantry, or maybe it is something deeper.

We still don't have the interest in the infantry that is needed. Before there can ever be any real interest to get into the infantry, and enable the Army to have the crack assault troops that it so badly needs, it must be shown to the men who are in the infantry that the Army needs them; that the Army respects them; that they are doing and always have done the real job of defending America. Mr. Herbert Hoover in a political speech not too long ago quoted a Defense Department circular that said the services exist to support the infantryman; the man with the rifle, the man with the mortar. He then ridiculed that circular. His belief is that we don't actually need ground armies, for air and naval strength can protect us against our enemies. He also stated that it was not the ground armies that would protect this country against their enemies, but modern weapons.

Men who have fought in war know that super weapons don't win a war, that the best they do is soften up the enemy, that the rifleman is the one who actually defeats the enemy. If Mr. Hoover's opinion is shared by the top people in our government, then what can a fellow starting out in the Army believe? I don't blame him for not wanting to get into the infantry with that kind of recommendation.

Here is an example of how the army congratulates good infantrymen, men who volunteered to go to Korea and fight to end this terrible war. In the fall of 1950, shortly after the Korean conflict started, the call went out for parachutists with complete light-weapons infantry background to volunteer for the Rangers. Their mission was to operate behind the enemy lines in Korea and to specialize in night operations against the enemy. It was stated to each volunteer that he more than likely would be on his way to Korea within a few months and he wouldn't be

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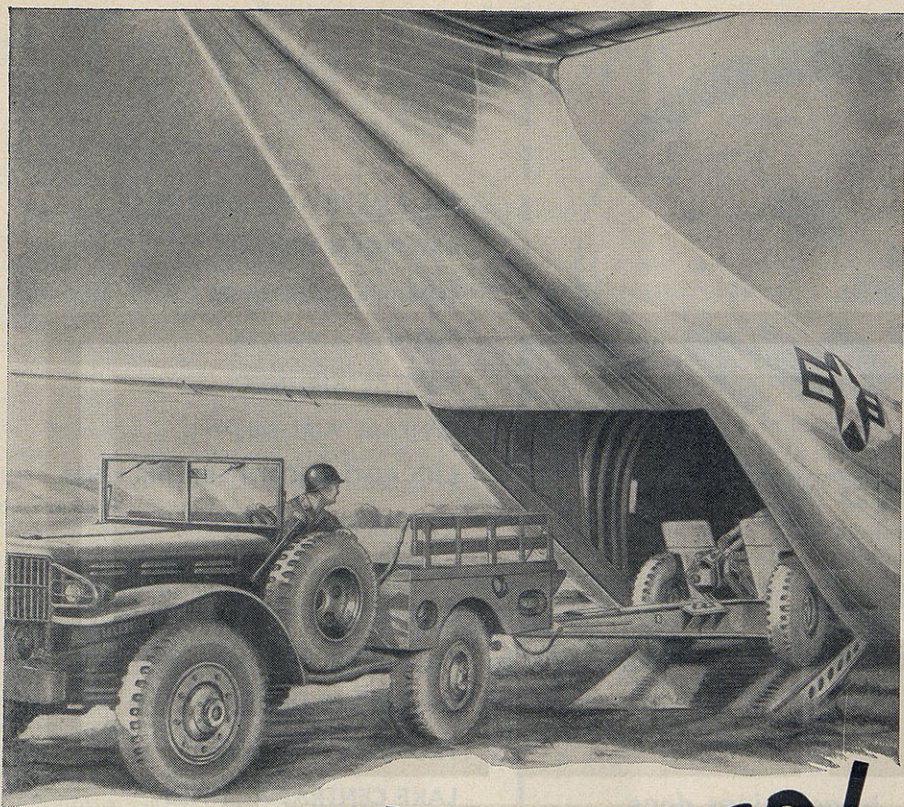
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building roads or directing traffic—and I mean no discredit upon the Engineers or the Military Police. These volunteers went through possibly the toughest physical training that has ever been given in the Army. They then went to Korea, as Rangers to fight as Rangers, and to stay Rangers. But after these Ranger companies got into action in Korea they were always greatly under strength because of insufficient replacements to fill their ranks. Regular replacements didn't want any part of the Rangers and the men in the States weren't volunteering for the Rangers for maybe it was just too tough for them, or maybe it is right back to our problem: the regular infantry and specialized infantry units just don't have anything to offer men who can get just as much glory by serving in the 999th Quartermaster Shower Detachment.

Finally they inactivated the Ranger companies, mainly because they didn't have the replacements with the training or the men with an urge to be crack infantrymen.

But the most amazing thing is what they did with these inactivated Rangers who had volunteered to come to Korea and fight as Rangers. These men didn't have quite enough time to rotate to the States, so the Army transferred them out of the combat zone to Japan as replacements to the 187th Airborne. I wonder if such a reverse replacement scheme has ever been practical? These Rangers, possibly the best trained and seasoned infantrymen in the Army, deserved a better deal than that. These men are not likely to play hero and volunteer again. The Rangers I know feel the same way: they aren't about to join the call for any more crack assault units until the Army shows them that they can at least give them a fair shake.

Let's face it: the rest of the services exist to support the infantry and when more people realize that then, and only then, will the infantry be respectable. That is the only way you will ever get any *esprit* in the infantry. During the last war there was a propaganda campaign telling us not to "run down your buddy in the Quartermaster, Military Police, Engineers, Ordnance and other noncombat type units. He keeps you moving and he feeds you. You ought to be thankful." That is all true. But if a man can be in a non-combat unit and get the same credit for battle as the man in the infantry, what incentive is there to be an infantryman? When the idea gets around that the infantry is the pinwheel and everyone else is supporting them, then men of high calibre will want to go into the infantry. It is something to be proud of now, but only the men who have been in combat with the infantry or men in specialized combat units recognize that pride and wear it as it should be worn.

SFC ERNEST REED




Milwaukee, Wisc.

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Army Aviation

To the Editors:

It is time for the Army to create its own aviation that will bomb and strafe the enemy in the front lines. Just as it has organic engineers, artillery and armor, each division should have an organic aviation battalion specifically designed to provide the infantryman with the closest type of air support.

This close-support aviation would not infringe upon the job of the Air Force. It would stick strictly to its job of supporting the infantryman, thereby freeing the tactical air force for its primary mission of gaining air superiority and isolating the battlefield. In fact, Army planes, being highly vulnerable to enemy jets, would depend on the tactical air force for protection from enemy aircraft.

Only with organic aviation can the infantryman obtain the kind of close air support he needs. This would give the Army division commander air support for his troops when and where he wanted it, without resort to the intricate request channels and joint operations center now used. His flyers, trained as part of his division and used to working with forward observers and air observers, would have the intense *esprit* of the division at heart.

The Army aviation battalion should have a plane similar to the Fletcher FD 25 "Defender," a piston-driven fighter "carrying the punch of a heavy tank at one-twentieth the cost of such a tank." This slower, cheaper aircraft is more suited for the specialized job of close air support than present Air Force types. It gives the aviator more time to identify his ground target, and it can cruise longer at low altitudes. It can operate from shorter, rougher strips closer to division headquarters. And it can deliver as much fire power as its big brothers in the Air Force.

The addition of close support aviation battalions will increase the fighting efficiency of infantry divisions. The Army already has, in its light aviation sections, trained flyers and mechanics who could form the cadre of these new battalions.

CAPT. JOHN G. CLEVELAND

Hq. 55 Engr C Gp
APO 46, c/o PM, NYC

Combat Pay

To the Editors:

Let me in on this brawl on combat pay. You have had dozens of plans, from insurance to out-and-out raise of pay for everyone in crossed rifles. Why not just change the T/O?

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|--------|------|-------|-------|-------|-------|-------|-------|
| Bn. | BG | Col | Maj | Col | LtCol | BG | Maj |
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BETWEEN VARIOUS COMPANIES IN THE INFANTRY

| CO | Rifle | HW | HQ Bn & Rgt | Service |
|--------|-------|-------|-------------|---------|
| Pt | Maj | Capt | 1stLt | 1stLt |
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Give all grades overseas pay with a differential depending on the zone: 10 per cent for combat zone; 5 per cent for communications zone; 2 per cent for zone of the interior.

These changes in grades will assure the rifle companies of plenty of volunteers.

I know nothing of Navy and Air Force organization. Someone else will have to decide on the changes for them, but flight pay based on a few hours per month flying time is ridiculous and should be cut off.

LT. H. A. SMILEY

Rt. No. 1, Box 368
Chico, Calif.

Two Hands in Pistol Shooting

To the Editors:

The Infantry School *Quarterly* ran a nice short article on the use of the pistol recently. It was full of dope on how to hit bull's-eyes and the like, and very much on the ball.

The only thing I can find wrong with this is that the idea of firing a pistol in the manner of formal pistol shooting, like the NRA and Olympic matches, ain't quite the ticket.

I have seen lots of people burn up ammo trying to limit their hits to the space in the target frame, and cheering wildly if they got one in the 4 ring. The Erie Ordnance Depot used to have some old shell hoist frames where the company did its yearly firing and the frames would ring continuously like gongs during rapid fire. Modern marksmanship is on the same level.

The manual has a short course of combat firing, nine whole entire rounds per course, as I recall it. The average bolo does not wear L target centers on his baggy blouse, so let's play with the silhouette target. Let's also heave the one-handed idea out the window. Let our would-be Wild Bills use both hands, rest the piece on whatever the lay of the land allows. Include a routine which requires the pistol to be drawn, fired fast, and quickly recharged and fired again, such as the 7-yard stage in the practical pistol course, used by the FBI and cops.

Very few of us who carry pistols will ever shoot in the National Matches. So let's be more practical and less stylish. Or else issue shotguns to all who bolo.

WO JOHN P. CONLON

(Expert one time in 13 years)

37th Infantry Div.
Camp Polk, La.

A Outrance

To the Editors:

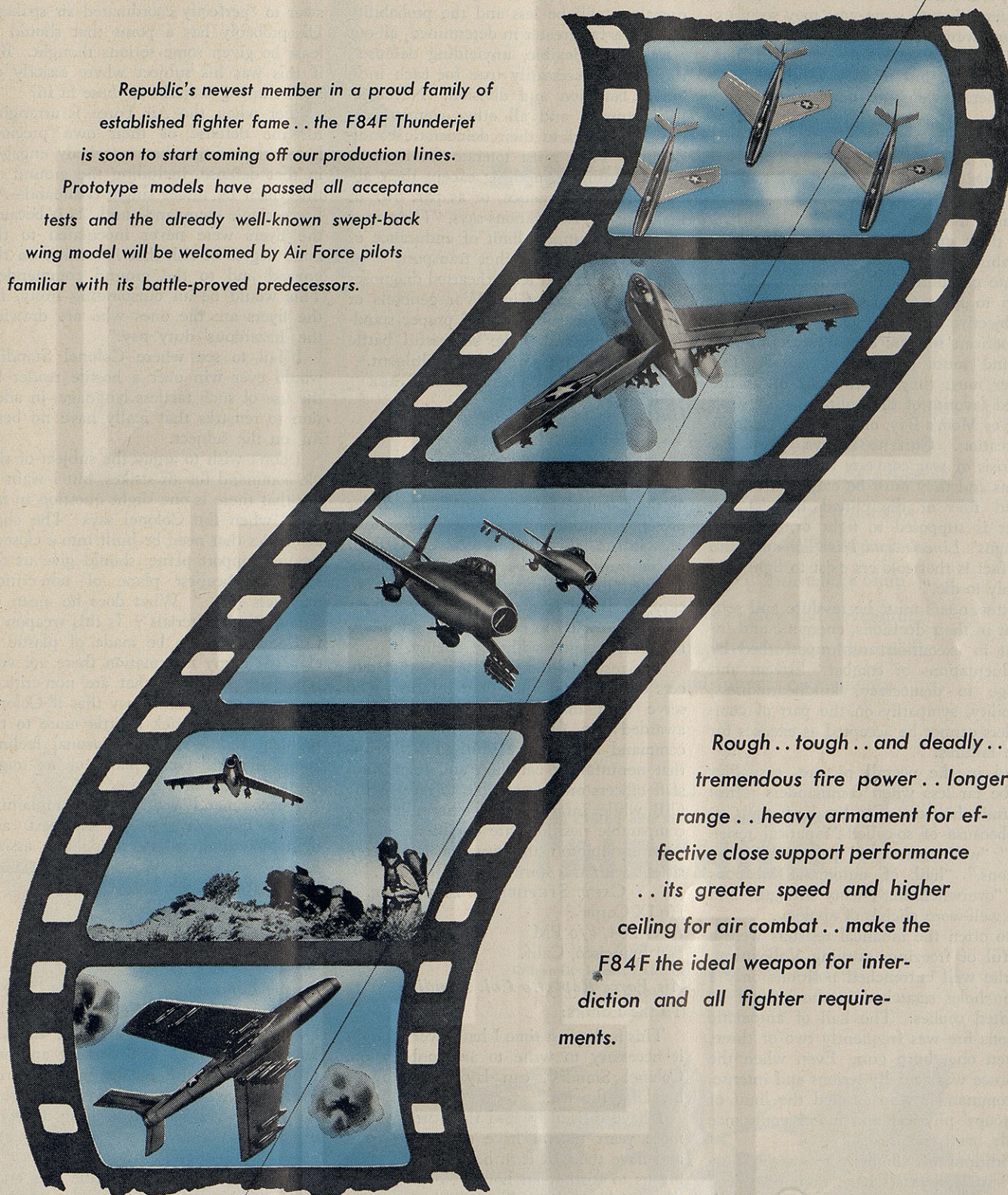
In a recent review of the interesting new work *Lincoln and His Generals*, Henry Seidel Canby says that T. Harry Williams, the author, "makes clear that the reluctance of the Northern generals to follow through seems to have been due in part to their conditioning in a democratic and, in general, humanitarian society, where soldiers were regarded not as the

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'cannon fodder' of the old wars, but as citizens like themselves."

We found such failures in both World Wars, too. There were notable exceptions, of course, though some who may seem exceptions were not. Sometimes the "drive" was due to ignorance of the enemy strength and situation, but in most of those cases the generals were not outstandingly successful.

Whether due to "conditioning," moral timidity, fear of newspaper reactions or misgivings as to the courage and stamina of their troops, our commanders seldom demand unsparing, relentless exertions from their soldiers. Obstinacy, obduracy, inflexibility, we find often. But tenacious, resolute exaction of the soldier's due obligation to fight (to die perhaps) to take his objective and keep going—is rare.

American soldiers are not cannon fodder and must not be so treated. But neither must they be thought of as the spoiled favorite of the politicians, or King Voter or Mom's Boy, or as demagogic lords of creation. Citizens always, yes. But the crisis of war converts them into men-at-arms and they must be employed in the age-old role of disciplined fighters. A fighter is supposed to fight or, to quote Williams's *Lincoln and His Generals*, "the hard fact is that soldiers exist to fight and possibly to die."

Commanders must be resolute and self-reliant in their decisions, energetic and insistent in execution and unperturbed by the fluctuations of combat. Esteem and homage to democracy, kindheartedness, amiability, sympathy on the part of commanders cannot be accepted as excuses for battle failures.

And in the overall picture, casualties will be far less when commanders refuse to permit their troops to break off their attack because of so-called "fanatical resistance," "well entrenched prepared enemy positions," "hail of automatic weapons fire," "overwhelming enemy strength" and other well-worn clichés of apology.

Too often the fanatical resistors were a handful of freezing, starving Volksturm, and the well entrenched positions only a few foxholes scratched in the ground by dispirited coolies. The hail of automatic weapons fire was frequently two or three, or even one, burp gun. Even when the resistance was actually serious and intense, the commander who exacted the limit of his troops' physical and moral endurance usually overcame it.

Withdrawals, flights, retreats, "bug-outs," surrenders all have their own well worn vocabulary of exculpation—"encircled by the enemy," "overpowering fire," "heavy casualties," "assault by compact masses," etc.

Toleration of unnecessary withdrawals is shameful and particularly vicious in that sound, brave troops, on the right and left of such shabby, faithless recreants, themselves become involved. "A unit entrusted with the defense of a tactical locality under no circumstances abandons it unless

authorized to do so by higher authority. Important localities must be defended to the last man." See Par. 264, FM 7-40.

Unfortunately, although the overall casualties will be less and the probability of success far greater in determined, all-out attacks or inflexible, unyielding defenses, this is not necessarily true for each individual battalion and division. Nevertheless, generals and all other commanders must not yield to their democratic conditioning. They must tolerate from troops and subordinates nothing except their absolute top performance, or as par. 507 of Field Service Regulations says, "They must push to the utmost limit of endurance of troops, vehicles and other transport."

Too lenient and tenderhearted diagnoses of failures of our Civil War generals or any others are subversive of proper standards of command. The successful battle commander is unsparing, not indulgent.

COL. ROBERT I. STACK

Unfairness in CIB Regulations

To the Editors:

It seems to me that there is a certain degree of injustice in regard to the award of the Combat Infantryman Badge under present regulations. These regulations state in substance that to receive a CIB an officer must either be an infantry officer assigned to a unit engaged with the enemy, or if he is not an infantry officer, that he must be in command of an infantry unit engaged with the enemy.

The result of the regulation is that officers of branches other than infantry who serve with infantry units may not be awarded the CIB unless they actually command an infantry unit. That means that noninfantry battalion and regimental staff officers are not eligible to receive the CIB while infantry staff officers holding comparable positions are eligible.

In my opinion, this situation is not consistent with the spirit of the CIB. . . .

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

Air Force Reply to Col. Standish

To the Editors:

This is the first time I have ever thought it necessary to write to any publication. Colonel Standish can lay claim to my breaking the ice.

I have diligently read the JOURNAL for more years than I have subscribed to it and have thought it to be one of the best means to further an honorable profession. As an Air Force officer with no prior ground force background I have studied the JOURNAL because it has given me much information as well as a realization of Field Forces problems which the Air Force is directly concerned with.

Unfortunately I have observed the JOURNAL degenerate, in part at least, from a basic professional manual, instructive, powerfully useful, and thought-provoking, to a quasi-bitch sheet where brothers-in-

arms take out their vengeance on things they do not like. This is what I mean:

Colonel Standish gives forth with a fine article on what he believes to be the answer to "perfectly coordinated air strikes." He probably has a point that should at least be given some serious thought. But if this was his subject where exactly do such slurring remarks as these fit in?

"For when the Air Force is arranging for the defense of their own precious hides, they insist that everybody engaged in that defense, including the ground artillerymen be under single command—Air Force single command" and "Is it because the flyers were never inoculated to the same degree of risk that is routine on the ground and to the ground commander? This would be an outstanding irony, for the flyers are the ones who are drawing the 'hazardous' duty pay."

I fail to see where Colonel Standish would ever win over a hostile reader by the use of such tactless language, in addition to remarks that really have no bearing on the subject.

I don't wish to argue the subject of single command for air strikes, but I want to say that there is one slight question in my mind when the Colonel says "The characteristics that need be built into a close-in ground support plane, should give us the smallest, cheapest plane of non-critical materials . . ." What does he mean by "non-critical materials"? Is this weapon of Col. Standish's to be made of plastic or clay? It is my information there are very few materials today that are non-critical.

In closing I wish to say that if Colonel Standish would stick a little more to the problem and less to his personal feelings about the Air Force many of us might think a little more of him.

I recommend a little less complaining in the COMBAT FORCES JOURNAL and more downright useful leadership assists.

CAPT. WALTER ECHWALD
Hq Sq 1605 Air Base Group
APO 406, c/o PM
New York, N. Y.

Sunglasses and Honor Guard

To the Editors:

A few weeks ago I was in Washington, D. C. and I visited the grave of the Unknown Soldier. I was amazed and surprised to find the honor guard wearing sunglasses while on the very important detail. I say important leaving all sentiment out, because the post is undoubtedly one of the nation's shrines and a must for foreign VIP. I can't imagine the guard of Buckingham Palace wearing sunglasses at the famous changing of the guard. If a two-hour tour without sunglasses is too much of an ordeal for the nation's number one honor guard, I suggest that the 82d Airborne Division furnish the honor guard, I'm sure they could walk their post without sunglasses.

LT. HAROLD A. LANGERMAN
APO 613, c/o PM
San Francisco, Calif.

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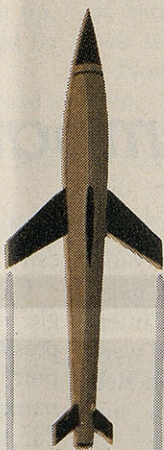
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BIRTH OF A BIRD

In the case of guided missiles, the "Birth of a Bird" is not something which happens in a few spring weeks. Creation of a new guided missile is a long and intricate project, one calling for a team of engineers, like that at Fairchild's Guided Missiles Division, which is skilled in many phases of engineering—one which knows how to weld electronics, aerodynamics, rocketry and a host of other specialties into missile systems that tomorrow will be front line defenders of freedom. With experience dating back into World War II, Fairchild's team of missile engineers today is designing and developing not only guided missiles but also complete missile systems including ground and support components.



ENGINE AND AIRPLANE CORPORATION

FAIRCHILD

Guided Missiles Division

Wyandanch, L. I., N. Y.

Other Divisions: Aircraft Division, Hagerstown, Md.

Engine Division, Farmingdale, N. Y.

Stratos Division, Bay Shore, L.I., N. Y.



Comment for the Combat Forces

Forgotten Wars

WHEN the pangs of conscience gnaw at our busy, prosperous, election-year-happy citizens they speak of Korea as the "forgotten war." Some of the men included in that label feel even stronger about it and speak of it in stronger terms.

But whether it is balm for the citizen's guilty conscience or for the soldier's understood resentment, "forgotten wars" are an old story to the U. S. Army. The men at Valley Forge were "forgotten" and very often so were the generations of men between 1776 and 1890 who fought the Indians on the ever-advancing frontier. The soldiers in the Philippines in the early years of this century were "forgotten" in the same sense, and so were the soldiers who went into Siberia and Manchuria at the end of the First World War. There were many "forgotten" fronts in the Second World War.

To fight, suffer, and risk death in a "forgotten war" takes more iron determination, fortitude and self-reliance than fighting as a member of a great crusade with avowed and well-publicized ends in view. But on the record the lasting benefits of what has been won in "forgotten wars" of the past compares very favorably with what has been achieved from the wars that were not forgotten while they lasted.

The men who have fought and who fight in Korea today can take wry pride that theirs is sometimes called a "forgotten war." That term has been a proud name since way back when.

Operation 78

EVERYTIME we read that General Van Fleet has again warned that the Reds have used the period of truce talks to build up their strength we fret about it and wonder what all the implications can be.

One thing we do infer from the warnings—and we think fairly—is that Operation Strangle, the much publicized air interdiction campaign launched a year ago, hasn't lived up to its glowing promises.

You will recall that Operation Strangle began with considerable fanfare. Ground

commanders were limited to the number of air support missions they could demand of the Air Force so that more planes could be devoted to the interdiction program. Red supply lines were to be attacked relentlessly and the Red forces in Korea bled of supplies and reinforcements.

One observer returned from Korea to enthusiastically recount how our planes became airborne every fifteen minutes, night and day, patrolling railroads, roads and trails in the Red's communications zone. In two weeks last September, he reported, our aircraft sighted 40,000 motor vehicles in North Korea and destroyed 7,000 of them. This, he exulted, was a "war of attrition, waged from a third dimension."

We haven't heard anything from Operation Strangle in months. But we do hear General Van Fleet very clearly when he warns that the Reds are stronger than before and getting stronger. And stronger, we note, not just in riflemen who can swarm through Korean hills and valleys undetected from the air, but stronger in artillery; big

artillery that takes ammunition that can't be hand-carried from the Yalu.

Can we surmise that Operation Strangle has been quietly strangled? It seems possible for now we are told that Operation 78 (that's our own off-the-cuff name for it) is coming up. Operation 78 is the list of seventy-eight Korean cities which are to be obliterated by our bombers after the inhabitants have been given sufficient warning of our intent.

That should win the war . . .

1529 18th Street, Northwest

IF you are one of those readers who turn to the heart of the magazine when you open it, you may have missed the announcement on the inside front cover that your Association of the U. S. Army and the COMBAT FORCES JOURNAL are now in new quarters at 1529 Eighteenth Street, Northwest. For the details about the new headquarters turn back to the inside front cover.

Soldier's Load

ABOUT two years and a half ago we gave a large part of one issue of the JOURNAL to an extensive combat study of the soldier's load. This article received much applause. It added a good deal of steam to the work already going on toward improving the soldier's load.

Next month we are going to report on what Army Field Forces Board No. 3, at The Infantry Center at Benning, has accomplished—and it is a lot. We especially commend the Board's thorough analysis of the problem, which shows a far-ranging imagination—the freedom and extension of thought which must be allowed whenever a military problem is tackled—no matter how simple and basic that problem seems at first glance. It is written by Major Richard T. Mathews.

One side of the soldier's load problem, emphasized in Major Mathews's article, but stated pretty much as a question, concerns whether light materials can be made available for the lighter equipment needed.

We say the Army *must* have those lighter materials—that the great mistakes of World War II, in giving the Air Force top priority on every type of such

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SOLDIERS



These are the names of four soldiers awarded the Medal of Honor for acts of heroism above and beyond the call of duty in Korea. These bring to fifty-three the number of soldiers awarded the Medal of Honor in the Korean conflict.

CORPORAL RONALD E. ROSSER
Heavy Mortar Company, 38th Infantry

PRIVATE FIRST CLASS DAVID M. SMITH
Company E, 9th Infantry
(Posthumous)

SERGEANT FIRST CLASS TONY K. BURRIS
Company L, 38th Infantry
(Posthumous)

SERGEANT LEROY A. MENDONCA
Company B, 7th Infantry
(Posthumous)

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If there is any general priority set up, then the Army combat soldier should be No. 1 on the list.

He has to carry the stuff. He doesn't have several thousand horsepower to tote it for him. He lugs it himself and often he lugs it all day.

We congratulate AFF Board No. 3 on its first-rate work on this important problem. And the JOURNAL likes to take a little credit for itself, because of the many times we have pointed to the soldier's load as a vital, battlefield problem.

Friend to the Army

THEY wanted to make me a colonel in this second war. But I said 'No; I want to be able to talk to the generals the same way I would to the corporals.' In this spirit Dr. Walter Van Dyke Bingham, who died in July, returned as World War II began, to the military work he had entered upon in the days of the First World War.

In that war, he was Executive Secretary of the Committee on Classification of Personnel in the Army in the first year, and did, in 1918, accept a commission as lieutenant colonel in the Personnel Branch of the Army General Staff. In World War II, he was Chief Psychologist in the office of The Adjutant General, and Chairman of the National Research Council's Committee on the Classification of Military Personnel. He continued in the post-war years as consultant to the Army Department on similar matters. Between wars, despite a busy and honored academic career, the further problems of military personnel classification remained for him a principal interest. In his later years the nearly parallel questions to be found in industry also occupied much of his thought and energy.

More than any other man, Walter Bingham contributed to the solution of the never-ending problems of keeping the square military pegs out of the round holes and putting them into the square ones where they belonged. He planned, conducted and supervised the most extensive research into these problems.

Even during the months of illness that closed his life, Dr. Bingham kept turning his able mind to the great personnel problems that are still unsolved—in particular the need to find ways of selecting true fighting men for fighting work. He read with deep interest the recent articles of Colonel Standish, and began at once to consider what lines of research might be followed, what batteries of psychological tests

might be arrived at, to detect in advance of battle the men who would fight the best when the hours of combat came.

Now the work must go on without him. But go on it undoubtedly will, for his impress was not that of a lone worker. Men of the staffs he trained will carry it on, remembering always the devoted scientific attention their old chief gave to one of his country's most demanding puzzles—how to use each soldier best, in war and peace.

Waste

PORTIONS of the fortieth report of the Johnson Preparedness Subcommittee which digs into the services' uses of manpower have been criticised in the press. Mr. Hanson Baldwin of *The New York Times*, for example, wrote of the report's occasional indulgence in "generalizations and oversimplifications," of "inaccuracies or extreme statements, sometimes on the basis of superficial examination."

We indulge in no such criticism. But we do say that if we were detailed to look for instances of wasteful uses of manpower in the Army we would not spend any time studying the printed tables of organization of the infantry battalion.

We wouldn't, for example, list 203 jobs in the battalion as "support jobs" where, presumably, some savings could be made.

Before we would note that there are 103 men in the battalion performing communications jobs, some of which might be abolished or consolidated, we would ask experienced battalion and company commanders and platoon leaders if they always had all the communications they needed in combat. We would ask if communications forward, backward and laterally saves lives and wins battles. We would ask if the forty-nine messengers listed in the table of organization ever fire their weapons at the enemy, carry ammunition, or perform duties other than carrying messages.

Before we would note that there are twenty administrative jobs in the battalion we would ask experienced infantry officers if the sergeant major and five first sergeants did nothing but perform "support" jobs.

We would also ask the same question about the forty-three men assigned to the operation and maintenance of motor vehicles in the battalion.

We would have to have a lot of good sound information from the field before we would criticise a table of organiza-

tion. And unless we had that kind of information we would never say that "We cannot consider a battalion to be at a high peak of efficiency when more than one-fourth of its personnel find combating the enemy a secondary task." Indeed we would never say that.

Nor would we ever say—or would an experienced soldier with sound judgment ever say—"We cannot consider a division efficiently organized when a potential enemy division can outgun it by ten per cent on a man-for-man basis."

No experienced soldier would maintain that two unlike (in numbers, equipment, methods of training and indoctrination) infantry divisions can be compared on the basis of their respective tables of organization and equipment. No experienced soldier would ever say that the division with the most riflemen and howitzers and the fewest radios, motor trucks, shower units, postal detachments and chaplains would defeat the division that had fewer riflemen and howitzers and more radios, motor trucks, shower units, postal detachments and chaplains.

However, an experienced soldier confronted with the fact that an army of thirteen divisions had fought an army of eighty-two divisions to a standstill would unhesitatingly say that the army of thirteen divisions used its fire power to greater advantage, whether it had more or fewer rifles and howitzers and tanks per division.

The experienced soldier might say that the thirteen-division army was superior partly because it had 103 communications men in every rifle battalion.

He also might say that the superiority was partly because the smaller army had more trucks and helicopters.

He might say that it was because the men of the smaller army were better trained and its commanders were better tacticians and strategists. He might say that it was because the army's leaders (with the support of the civil authority and the citizens) saw to it that the men got warm clothes, good food, religious services of their choice, letters from home, good doctors and nurses, and a feeling that they were individuals and not faceless cattle to be driven to slaughter.

An experienced soldier of sound judgment might conclude that the smaller army licked the bigger one because it was wasteful of everything except its heritage that machines are made to serve men and not men machines, and that the lives of soldiers are precious and the most valuable commodity the army and the nation have.

WITH LIVE POP-UP TARGETS

Thirty-soldiers did what they were trained to do, so taking the hill was just like a

School Problem in Surprise and Marching Fire

Lieutenant David R. Hughes

THIS is not the story of a hill heroically taken, nor of a new tactical maneuver. It is the story of an everyday attack by a rifle platoon in which every man did what he was supposed to do. That makes it a success story. But because it is simply a story of simple tactics properly executed, I think it is unique. I was the platoon commander.

The platoon was the 2d of Company K, 7th Cavalry Regiment. The place was near Chunchon, Korea. The time was 8 April 1951, just after the second crossing of the 38th parallel.

The story would be incomplete without a picture of the platoon's noncoms.

Irvine, my platoon sergeant, was a reliable infantryman, 32 years old. The squad leaders were a study in contrast. Pfc. Ridner was a 35-year-old veteran of Burma and Merrill's Marauders. He was new to the unit, had never been in a Korean fire fight, but with his experience commanded well a squad of young raw replacements. Sgt. Thomas, only 18, full of guts and experience in this war. Sgt. Rose, 22 years old, was a newly minted squad leader whose pre-Korean assignment was as a clerk. Sgt. Stitler, ex-battleship fire control man, really ramrodded the heavily loaded ammo bearers of his weapons squad.

The platoon was not a solidly veteran

platoon. Of the thirty men available on that day (we were chronically under-strength) seven had never been near a fire fight, only eight were "basic" infantrymen. Their average age was 21. From top to bottom it was a typical platoon.

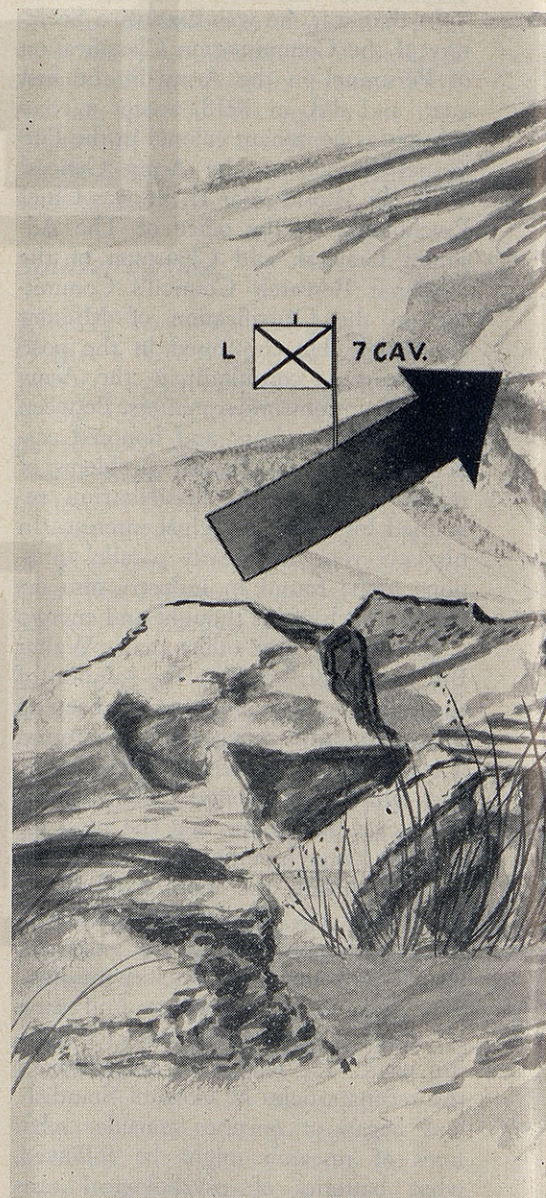
The regiment had been attacking in the mountain sector, north of Chunchon. The 3d Battalion had a narrow sector but was up against an entrenched enemy on a mountain range of sharp ridges, often impassable due to jutting rock formations. Company K had "ridge run" for two days in an advance of 7,000 yards including two stiff fire fights on 700-meter mountains.

The came Hill 878.

There were two south approaches to the hill, both up rock ridges. Picture three peaks in a line, joined by ridges 200 meters lower than the peak. We were perimtered on the close one. The center, 860, was a pinnacle. The third, 878, was connected to 860 by a 300-yard bare ridge. The only other approach was from the valley on the west, over exposed heavily defended terrain. If the rock pinnacle of 860 could be cracked, 878 would be easy. But 860 was tough. It had five or six AW positions, impregnable among the rocks, and unapproachable by more than one man at a time.

Companies I and L hammered at the two approaches for two days without success. Artillery, ineffective against the Rock, had more effect on 878.

The battalion on the right continued to advance and by 7 April, its left flank



LIEUTENANT DAVID R. HUGHES, Infantry, served in Korea with Company K, 7th Cavalry. He is a member of the West Point class of 1950 and is now on duty at Fort Benning, Ga.

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was becoming dangerously exposed to the enemy on 878 and north of it.

SO a plan developed. After an early-morning air strike, artillery, and mortar preparation, Company L would assault 860 to gain a jump-off point against 878. At the same time a fast, light rifle platoon would take a roundabout route and end up directly north of 878, behind the enemy. It would move up as close as possible and at the moment Company L put the main effort across the 300-yard ridge at the face of the hill, the platoon would drive in from the rear, overrunning the rear slope positions, and the enemy who tried to escape to the north.

My platoon was chosen for the encircling movement. I had my choice of routes to my jump-off point. I chose a north valley going out, an overland path due west and a wooded finger that stuck north from 878. The plan was sound but if it misfired my platoon would be cut off with at least two enemy companies, dug in on the peak, able to hit it with everything they had.

The morning of the 8th dawned cold and windy. The ridge we were on was socked in by thick mountain fog and my first thought was that we would lose the air strike.

I dropped our extra platoon equipment, drew two assault rations and checked my thirty shivering men. Two bandoleers and a full belt for M1s, four boxes of caliber .30 machine gun ammunition, four rounds of 3.5-inch bazooka, full loads for the BARs and full clips for the carbines. Two grenades for everybody, with extra white phosphorus, and a yellow marking smoke for me. I didn't ask for a 57mm recoilless or other attachments because we had to move fast, and even the relatively light 57 would slow us down. I had cut the machine gun and bazooka load in order to keep fresh bearers all the way up the tortuous 2,500-foot mountain. My platoon runner carried the air panel, radio operator his SCR 300 with extra-long antenna and the attached medic carried his bag of supplies. Because we were under strength, I carried a sniper's rifle to have more firepower and to have a bayonet if it became necessary.

WE moved out at 0700, rushing by battalion, without even a chance for me to orient my squad leaders. But I would find a chance for that. After moving through the last squad outpost, I led the platoon down one of the fingers leading to the valley, and stopped five minutes later. Since we were going to

be in enemy territory for the next twelve hours, I wanted to tell every man the mission, situation, and what I intended and expected. I had them lock and load, put two clips on their bandoleer strap, straighten the cotter pins on their grenades and loosen their clothing. Most of our march would be single file, so I put them initially in 1, 2, 3, 4, squad order, myself at the head with runner and radioman. The platoon sergeant brought up the rear.

Then I took ten minutes to tell them that we had a Ranger-type mission, and to succeed we would have to move quickly and quietly, and be alert for ambushes from our flanks. Squad leaders would look to the front, second man right, third man left, two yards between men and no loud talking. I oriented them as to terrain and where to go in case they became separated. I emphasized marching fire in the attack and the weakness of the Chinese grenade. The seven new men looked uneasy. I told them that surprise was in our favor, if we kept fire discipline.

Then we filed down through the mist to the quiet valley. By 0815 we had left the fog and I could see an air panel about 3,000 yards northeast on a low hill. That was a leading element of the 1st Battalion. The sound of sporadic fire came from that direction. At the first break, I oriented the squad leaders on our map, now that we could see the ground, gave them the grid code and re-emphasized alertness and speed.

By the time we reached the valley, 3,000 yards north of 878, the fog was gone and AT-6s and L-5s searched the area. We moved smoothly through wooded areas, calling back our position every thirty minutes.

We saw nothing hostile until 0925, when my platoon sergeant passed up the word that figures were moving along the high ground to our far front. I scanned the hill and picked up Chinese in their characteristic flop hats. But they did not appear to have seen us.

At 0935, we ran into a two-platoon patrol from Company B. It was heading for a nearby objective. I had not been told about it so its leader and I made a little operations coordination which consumed thirty minutes of calling back to our companies and getting missions straightened out. Due to the great amount of traffic on our assigned radio channel, one company radio and mine, dropped five channels. No one cut in on us all day.

As we moved out, mortar fire began falling close by. After a quick look at the terrain, I decided to try a little sub-

terfuge and so began following Company B in file along the path which led west and slightly north toward their objective. When we crossed a deep draw directly north of my objective and in slight defilade from it, I turned sharp left and under the cover of foliage and terrain, moved 1,000 yards south to the foot of 878. The mortar fire continued to follow Company B. It looked like the Chinese had lost us in the draw.

AT 1015 we reached the base of the 600-yard finger that ran to the top of 878. We had come across a number of camouflaged supply and food dugouts along the stream beds, but observed no very recent activity or anything that hinted of defensive positions on the slope. After a short break, while I reported my position, studied my approach route, and gave the company time to radio instructions, we started up the ridge. I still led the single-file column so I could more carefully observe the untrodden path in front of me. Almost every ridge line, hilltop and valley in Korea has some kind of trail along the natural terrain, and by closely observing these paths, the amount of traffic could often be determined. The nose of land in front of us was heavily wooded but all the underbrush had been burnt away by either Napalm or artillery and the path was covered by a coat of ash. Feeling like a Boy Scout working for a merit badge, I got down and examined the trail. No fresh marks. I decided that the path was not used by the enemy and that we could expect to find their ridge line outposts closer to the top. That information helped me estimate better when to stop and deploy for an assault. I did not want to move in single file until the point contacted the enemy. Previous skirmishes had proved that it took the enemy just a wee bit less time to move into defensive positions after we alerted their outposts than it did for us to deploy for a running assault. If I could outguess their positions, I would increase our chances of catching them off balance. Every advantage had to be in our favor because we were a tiny force on a big mountain.

Halfway up the ridge I sent a three-man point twenty yards ahead and had the last man watch me for "stop," "go" and "down" hand signals. I put the 3d Squad in front and placed my 3.5 team in their midst. It could be used, as I had often used it before, as an anti-dugout or anti-personnel weapon. I required the gunner to assemble his weapon and had him carry one round with him. If we should be pinned down,

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he still could fire almost immediately. Then I brought up the 2d Squad, followed by the weapons squad (now consisting of the machine gun and ammunition). Last in the file was the untried 1st Squad, followed by my platoon sergeant and the medic.

All this took about three minutes, but it might save ten minutes of maneuvering under fire. We had moved out when I received an order from the company to hold up "about 200 meters" from my objective. I decided that that meant the artillery was getting ready and maybe even air might get in before the attack. It was 1120. An AT-6 began buzzing the mountain. Air must be close by. I moved another 100 yards and then dispersed the platoon, off the path, told them to eat, keep quiet and out of sight. I put the yellow panel out but off the ridge where it could only be seen from high above. Then I reported in by radio. No orders were issued to me but at 1145 four F-80s streaked over 878, and Napalm, rockets, and caliber .50 slugs smothered the slope. They came from the south flying directly at us and the fire hit only 300 yards from us. One rocket whooshed over us, but fell far down behind. We watched a few Chinks dash around on the ridge trying to get in their holes, and around the burning Napalm. That was the first time I had ever seen enemy moving around under close air support. It strengthened my conviction that the hill was crawling with Chinese.

Now the artillery came in at high angle. Then a short pounding with 4.2-inch mortars. We caught the overs, but didn't get hurt. But it was worth even a few casualties to keep their heads down and demoralize them with heavy stuff. It also would lull the enemy into thinking no one could be very close to them.

AT 1213 the artillery and mortar let up. I could not directly observe the effect but I knew the air strike and artillery bombardment could only be capitalized by a quick attack. I hoped that the main effort was under way.

I did not know then that Company L could not even approach their first objective.

At 1228 the company commander called with a terse "Move Out."

The word was passed back, men saddled up and waited. I motioned the point to move and we started on the last leg.

We had progressed about seventy-five yards up the slope when the point man froze. I looked past him through my binoculars. Not twenty yards ahead in

the thick trees, were two enemy soldiers sitting and chatting on the edge of a small dugout. They had not seen us. I raised my sniper rifle and shattered the quiet with two shots. One Chinese dropped and the other took off without delay, but the point man hit him before he could run a dozen steps.

The point squad ran forward firing from the hip at every sign of cover or concealment. I ran the 2d Squad up on the right. There was scarcely a need for orders. The training in principles and the briefing was paying off. In a moment we had moved fifty yards up the slope covering every point of the terrain with fire.

The machine gunner had dashed forward and set up with only a gesture as an order. Soon his chattering weapon was flushing the surprised Chinese out of their holes. Thirty more yards and we reached a T ridge where the squads reached a full skirmish deployment and brought maximum fire to the front. The din was terrific and only the snap of the closest enemy bullets could be heard. Every man was firing, watching the smash of the bullets on the limestone rock. It assisted the adjustment of the fire. The enemy ran helter-skelter in front of us, throwing grenades and firing spasmodically but we cut them down with the volume of our fire. Many were hit even after they had pulled the pins of their potato mashers. Five minutes after our assault began, I heard the loud crump of mortar behind us on the ridge; there wasn't thirty yards between the end rear of the platoon and the front and those searching mortar hits followed us all the way to the top without ever getting up to the tail of the column. The 1st Squad leader, Ridner, kept yelling a terrifying battle cry as he ran. Sergeant Thomas munched a candy bar between the shots of his measured fire. Sergeant Rose kept up a screaming flurry of Japanese and Chinese and directed his BAR with his right hand. They could not pin us down. An enemy weapon on the ridge began chewing up the ground between the men. Our machine gun took it under fire while two men ran at it from the right and two from the left. The machine gunner put a steady stream of slugs into the position until the men were a scant five yards away. The Chinese gunner never had a chance. That was close support.

Between commands, I reminded them (at the top of my lungs) of only two things: no casualties yet, and we must get to the top before they organize. We had run 300 yards up the steep slope in a very short time and now had

reached the backbone ridge and a solid network of defenses. But the attack lagged to a walk as the exhausted men spread out to cover the hill mass. I called back and passed the last squad through to take up the marching fire.

WE charged the highest ground. How we ran up that last slope, I'll never know, but we did, all the way all at once. Even the bazooka man got in on the assault. He ran forward, tube on his left shoulder and a spitting .45 in his right hand. In fifteen minutes, we had wrested the top of the hill from the mass of defenders.

The men quickly dropped into the holes in a rough perimeter and shot down the Chinks that swarmed on the mountain from every direction including the one from which we had come. Dead enemy and equipment were everywhere. The ammo bearers rushed up to resupply our weapons.

I closed off the perimeter as the squads reorganized, redistributed ammo and counted heads. Everyone was present, a few bullet bruises but no one hit hard. I radioed in our situation.

Heavy small-arms fire began coming in from all points. We had pushed back the sea but it was coming back in again. I jumped up to fire at a soldier running down the slope when a blast knocked me down. White phosphorus! And a big one at that. Acrid smoke covered the platoon. Two figures jumped out of a dugout close by and started running. The medic emptied his carbine into them and they hit heavily. Wham! Another round of white phosphorus splattered over a half dozen men. They rolled in the dirt to flick the particles off.

A burp gun cut off the tree over the machine gunner emplaced on the forward slope.

THINGS were getting tight. Surprise had worn off and we were a stationary target now.

I peered through the smoke for signs of the friendly main effort; Sergeant Irvine called back over his shoulder, "Here they come." It was a counterattack. Figures ran up the slope on three sides. Everyone waited and then opened up at killing range. The thirty-odd enemy kept coming. The 1st Squad BAR man was shot dead as he went back for ammo. He was our first casualty. The medic pulled him out as an ammo bearer covered them. I called for the bazooka. Welch, the gunner, jumped up and ran to the edge of the perimeter, aimed at four men grouped together and fired. They all went down. He reloaded

and fired again at the sound of an automatic weapon. It stopped. The attack faltered and broke. Welch got down again, trembling but unscathed. His breast pocket was shot away.

Now ammo was low. Another WP sprayed the platoon. Where was Company L?

The radioman, medic, and I sat back to back in the center of the oblong perimeter, to defend against Chinese who kept jumping up out of the platoon circle from deep interconnected dugouts. None got away.

I called back to the Company. I was told that the terrain had stopped the main attack after a hundred yard advance toward the rock. They could not even support by fire. I pleaded over the air for more ammo, more men, more information.

HOW long could we stay without help? Two hours at most. We were outnumbered ten to one. Two clips was the average ammo load left. I was instructed to wait. The air was silent. Then another counterattack came up at us, twice as strong. We threw everything the enemy had left behind back at them. Their own grenades, a Bren gun fired by the assistant gunner, their rifles, plus more rounds from the bazooka. We drove them back.

The machine gunner with a hundred rounds left borrowed a rifle to snipe at individual hostiles. The ejection was clogged and he kept forgetting to pull back the bolt. Somebody yelled a nervous jest at him. He answered, "Well, I'm scared, damn it." We all felt like the little man who waited for the big one to get up off the floor. A few more attacks and we would have to resort to a dangerous type of defense. We were in deep holes, fairly protected, while the enemy was in the open. We could call our own artillery down on ourselves.

I reached for the radio but just as I was ready to transmit, a message came through to withdraw immediately. No help could reach us before night. I was told to call back when we had cleared the top so artillery could be put on it. I rogered. The wounded man said he could walk. I looked for a way out. Only one; a ten-foot drop off the north edge, a vertical slope of a hundred yards, then a deep draw to the right of the ridge we had come up.

The order of withdrawal would be 1, 2, 3, 4—bazooka and the machine gun going last. Everyone rolled their remaining grenades over by the machine gun position. We were ready in a minute. Then someone yelled. I looked down

the hill through the smoke. Here they came again, thick as only Chinese can be. Only 200 yards away. They were wearing steel helmets. They were not remnants of the first two counterattacks, but a fresh unit.

I had two choices. Stay and stop this attack to buy time but risk casualties, or get out now while we could go unburdened with wounded. Taking the body of the dead man was out of the question now. If we didn't get far enough away before the enemy regained the top, we would be fired on, in the back, in enfilade.

I gambled. The 1st Squad took off, unobserved, leaping and sliding down the slope. The wounded man, though shot clean through, jumped too. The 2d and 3d Squads and ammo bearers went. Four of us remained by the machine gun and threw the grenades at the crowding enemy. The gun went through all its ammo; two last bazooka rounds were fired, a dozen grenades thrown. The attackers slowed up. There were gaps in the advancing line.

I looked back. Everyone was gone. I yelled and the gunner grabbed the weapon and tripod and sailed over the bank followed by the 3.5 man and radio. As soon as the snub of the machine gun disappeared from the ridge, the Chinks rushed. I grabbed the only thing left, my yellow smoke signal grenade and let it fly above their heads. Then I emptied my rifle at the nearest one. The grenade went off about four feet above the ground and bounded into their midst. The lack of explosion so surprised them that the center jumped for cover awaiting a detonation. I turned and dove off the edge of the cliff.

The slope was a sled, muddy from winter snow, and I skidded the hundred yards in seconds, slamming unceremoniously into the last man as we reached the draw. All was well. We moved fast, but within a minute a call came in from the OP. The Chinks were on top already, firing down at us. I knew that well enough. Bullets whipped over us and a few grenades burst far up behind on the slope. I called for artillery. One more minute and we were out of line of sight, comparatively safe. The artillery began pounding the hill behind us and the firing on us ceased.

THE wounded man was still going but losing blood fast. I decided to make a straight line for Red Battalion where they could evacuate him. We covered the 2,500 yards and relaxed for the first time since morning. Everyone was tired

but well satisfied. My men knew they had done a good job.

After a rest we set out again for our own company perimeter 3,000 yards away. By 2000 hours we were back and the platoon moved into the center of the perimeter for a night of rest. I reported to the company commander and the day's work was over.

The enemy pulled off the hill during the night for a 4,000-yard withdrawal and we walked up 878 unopposed the next day. One Chinese who had deserted in the night was picked up.

Intelligence finally computed the results. We had attacked a battalion 500 strong. In the PW's own unit (a 50-man mortar platoon) we had inflicted twenty casualties. We counted thirty-five enemy dead, and knowing how the enemy unfailingly removed their casualties from the battlefield, we knew the number of casualties they had experienced must have been great. Either extreme urgency or the necessity of removing their wounded caused them to leave the bodies behind.

We had one killed and one wounded.

WHY did we succeed? Morale, resistance and situation were normal. The action was extraordinary only in the demands placed upon a small combat unit. I think it was the functioning of principles. Two simple but decisive principles: Surprise and marching fire. The surprise reduced the enemy's power to get set. The marching fire kept him off balance all the way. The cohesion of the platoon kept the attack strong at the decisive point. The luck involved was the fortune that favors thoroughness.

That we could not hold the hill indefinitely, was not the fault of the thirty men who took it. Had we fired less in the attack, the enemy would certainly have been able to inflict more casualties. As it was, the twenty-three riflemen fired an unprecedented (for a running assault) 4,000 rounds of ball ammunition in twenty minutes. The BARs and machine gun put out another 3,000 slugs. This weighed heavily in the success. Every man fired his weapon.

We had taken the hill against terrific odds. Not by heroism, because the most amazing revelation was, that after the engagement, no one could find the basis for a single decoration; thirty men had done what soldiers are taught to do.

The payoff came the next day when a former Fort Benning private came up to me and said with a sort of awe, "Gee, Lieutenant, that was nothing but a school problem with the best pop-up targets I ever saw!" He was right.

COMBAT FORCES JOURNAL

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Three mortar fragments were removed from this vest after the soldier wearing it came back from a night patrol.



A Filipino of the PEF shows where a grenade fragment hit the nylon armor vest he was wearing on patrol.



Statistics suggest that proper body armor can become as essential to the soldier as the steel helmet.

Medical Corps studies of "how and by what"

soldiers are wounded and killed points to

THE NEED FOR BODY ARMOR

Lieutenant Colonel Robert H. Holmes

PROGRESS in combat medicine and surgery has been so rapid that the mortality rate among casualties wounded in action has reached the impressive incidence of 23 per 1000 in Korea as compared with 45 per 1000 in World War II. Although gratifying and laudable, this progress in medical care must soon reach a point of optimum and ultimate efficiency. In order to reduce the mortality rate further, attention must be given to the possibilities of wound protection, reduction in wound severity, and means of faster battlefield salvage. The helicopter undoubtedly has already done much to accelerate evacuation of casualties and this has contributed significantly to the present reduced mortality rate.

The remaining possibility for further reduction lies in the use of body armor

for combat personnel. Much progress has already been made in its design, production, and use in Korea under combat conditions. Although it is too early for final evaluations of its effectiveness, the Marines have recently standardized body armor as an official item of equipment, and both Army and Marines have ex-

tensive trials in progress in Korea and in experimental laboratories.

The study of the causes of battlefield casualties—the kind and severity of wounds caused by different types of missiles and the proportionate frequency that parts of the body are hit—leads inescapably to the belief that effective

An infantry sergeant who wore body armor on a patrol is interviewed by a member of a BOAR team. Questions are designed to obtain combat men's reactions and to obtain suggestions as to how the armor may be improved.



LIEUTENANT COLONEL ROBERT H. HOLMES, Medical Corps, is a pathologist in the Armed Forces Institute of Pathology. He has been a member of several Medical Corps research teams in Korea and is presently there on another mission. This article is based on a paper Colonel Holmes read at the annual convention of the American Medical Association in Chicago on 9 June 1952.

SEPTEMBER, 1952



A member of a Body Armor Research (Operation BOAR) describes the nylon armor vest to a 3d Infantry Division unit which men of the unit will use on patrols.

body armor will save lives, just as the introduction of the steel helmet saved lives.

BATTLEFIELD casualty rates rise and fall in direct relation to the type of combat tactics. In all previous wars, generalizations concerning casualty prediction have been treacherous. Korea is no exception. In a war of maneuver, "yo-yo combat" as it were, fierce fights occur primarily for controlling landscape. Both sides have suffered staggering losses from massive withdrawals and also assaults; yet both have carried on similar actions with minimal losses. Patrolling is slow and ceaseless, and so is its casualty incidence.

It is tantalizing to note the amazing consistencies among the many vagaries of warfare. For instance, there has been an average of 350 casualties per week during the winter months with about 75 of them killed in action. This indicates a ratio of one killed to four-plus wounded. Presumably this represents a fairly accurate medical estimate of stabilized mountain warfare employing primarily aggressive patrolling and limited offensive combat tactics. Strangely enough, however, this ratio is close to that for all casualties sustained in the Korean conflict under all tactical circumstances. Furthermore, this ratio of

one killed to four-plus wounded represents the mortality-morbidity ratio of World War II. It is similarly of cogent interest that the anatomic regional fre-

An infantry corporal shows a BOAR man where a mortar fragment hit his armor vest during a patrol. Some men think the vest is uncomfortable, stiff and hot to wear. But they want to wear it for the protection it gives them.



quency of wounding has been approximately of the same order throughout the Civil War, World Wars I and II, and now the Korean affair.

One of the first facts to emphasize in a consideration of the circumstances of wounding is that the infantry comprises only 20 percent of total army strength, yet it suffers about 70 percent of the total casualties. The medical problem of battlefield recovery and evacuation, therefore, must begin with an understanding of "how, when, and by what" these soldiers are wounded.

Combat tactics in Korea, in spite of the stigma of stalemate, have had a challenging versatility. Such a gamut of action may be considered under the following titles: patrolling, perimeter defense, assault, limited offensive, holding action or defense, withdrawal and envelopment. Each type combat implies variable wounding circumstances, variable weapon frequency and, therefore, variable wound type and wound distribution.

The Wounding Agent

A KNOWLEDGE of the type of combat engaged in at the time of wounding will give a strong clue as to what possibilities among the various weapons must be considered. Contrary to what too many believe, without supporting data, most casualties have a fairly good idea of what hit them. Aside from head in-



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ONE MAN IS KILLED FOR EVERY FOUR WOUNDED



juries with disorientation, or casualties *in extremis*, less than ten percent fail to state rather positively and rationally the identity of the wounding weapon.

In the broadest sense, combat weapons are divided into two categories, namely, small arms and artillery. It is essential not only for detailed wound analysis, but also for the simple and basic factor of accuracy in the medical history to know just which of these weapon categories supplied the wounding missile. Identification of this agent immediately implies considerable data relative to enemy action and also much insight into the actual nature of the wound. There are some features of wounds produced by small arms as contrasted to shell fragments which are distinctive.

The list of weapons causing most wounds is not too formidable. At the onset of the present conflict in Korea, the North Korean Army was completely equipped by the Soviet Union. Since it is probable that such will continue to be the case, primary attention should be paid to these weapons, which are, in general, of a very reliable nature. They seem crude in workmanship, but this does not appreciably impair their functioning and accuracy.

Small Arms: Such weapons include the pistol, submachine gun, or so-called "burp gun," the rifle, light and heavy machine guns, and occasionally obsolete antitank rifles.

Artillery: Until recently little heavy artillery was furnished to Korean troops by the Soviet. The artillery had been of light and medium caliber with much dependence on mortar fire. The principal mortars employed are the 82mm, and the 120mm. The latter has been used with significant wounding effect. Antitank guns of 45mm and 76.2mm caliber are used as well as field guns of 76.2mm and 122mm caliber. The enemy is now reported to have large quantities of heavy artillery but no significant wounding effect has yet occurred.

Grenades: These follow the standard

models of fragmentation and concussion type similar to those used by U. N. troops. They are used in abundance, and, though reported to be less powerful than ours, are capable wounding agents.

Relative Morbidity and Mortality of Wounding Agents: It has been shown in all conflicts since the Civil War that shell fragments cause the greatest number of wounds and small arms cause the greatest number of deaths.

The relative morbidity of small arms to shell fragmentation is about 1:4.

The relative mortality of small arms to shell fragmentation is about 2:1.

Thus far in the Korean war, mortars, particularly the 120mm, and grenades have accounted for the majority of wounds caused by shell fragments. The light machine gun and the automatic rifle, or "burp gun," have accounted for the majority of killed in action due to small arms.

It is worthy of emphasis that small-arms fire in the present survey accounted for about 65 percent of the killed in action and shell fragments the remaining 35 percent. Among the wounded in action there is a sharp reversal in incidence of the wounding agent, and shell fragments account for about 75

percent of the casualties, and small-arms fire the remaining 25 percent. Naturally these figures will vary somewhat with the type combat tactics, but are quite applicable to continued aggressive land warfare. In combat where patrolling action predominates, casualty incidence due to small-arms fire tends to rise, but even this is partially balanced by an increase in casualties from land mines. The latest casualty survey in Korea conducted by Maj. William F. Enos, Lt. George Coe, and Lt. Col. W. W. Cox, U. S. Army Medical Corps, indicates a much higher incidence of killed in action due to shell fragments, and a higher percentage of wounds involving the thorax.

Classification of Wounds

THERE are four classifications of war wounds. Here is a brief description of each:


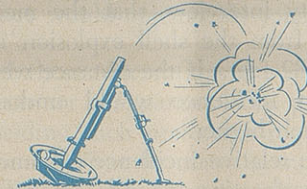
Non-penetrating wounds. This type of wound is usually caused by blast. It includes contusions and concussion—any type of injury which does not break the skin.

Penetrating wounds. These are wounds made by a missile which penetrates the skin but does not pass through the body and come out the other side.

Perforating wounds. These are wounds made by a missile which penetrates the skin, passes through and comes out the other side. There are three types of perforating wounds:

- (1) small wound of entrance and small wound of exit. These "tunnel" wounds are usually caused by high-velocity small-arms fire;
- (2) small wound of entrance and large wound of exit. These are most often caused by high-velocity

WEAPONS THAT KILL AND WOUND U. S. SOLDIERS

| | Percent killed in action ¹ | Percent wounded in action |
|---|--|------------------------------|
|  Small-arms fire | 65 | 25 |
|  Shell fragments from artillery and mortar fire, grenades and land mines | 35 | 75 |

¹Recent reports indicate that the figures in this column are now 50% in each category—due to increased Communist artillery fire.

HOW SOLDIERS ARE HURT IN KOREA

PATROLLING BY U. S. TROOPS



The land mine is dreaded by patrols. Its blast effect and metallic fragments cause feet and legs to be blown off. The blast or concussion of a mine is usually severe. Lower nephron nephrosis (a serious injury to the kidneys) is frequent. The mortality rate for extremity wounds is significant. Enemy ambush is another hazard. The weapons are usually hidden light machine guns or automatic rifles. The killed-in-action rate may be high in such a situation. Occasionally a patrol may enter an area "zeroed in" by enemy mortars or artillery. In such circumstances there are usually many men wounded, but the mortality rate is low.

ATTACK BY U. N. TROOPS

Mortar and artillery fire falls on attackers as they approach the forward slope of the objective. Machine-gun fire opens up as the crest of objective is reached. Automatic rifle fire and grenades are next. On the objective "burp" gun fire and grenades cause the most casualties. The "safe area" at the bottom of the objective—"safe" from enemy small arms fire—is not always safe. For it is in this area that attackers sometimes suffer casualties from "shorts" of their own mortar and artillery support.



DEFENSE BY U. N. TROOPS



Enemy mortar and artillery fire is placed on defensive machine-gun positions causing casualties among the crews. Enemy infiltrates our positions, using cover and concealment. He then opens up with "burp" gun fire at 50 to 100 yards and throws grenades into our emplacements and fortified positions. Sometimes his advance is covered by machine-gun fire that seeks out our advanced defenses. At times enemy countermortar fire on our supporting mortars has caused heavy casualties among mortar crews.

locity but small shell fragments or small-arms fire at close range; (3) large wound of entrance and large wound of exit. These are most often caused by large shell fragments or ricocheting small-arms fire.

Mutilating wounds. These are wounds that cause a marked disfiguring of the body or cause an actual loss of part of the body, usually an arm or leg.

SURVEYS of wounded men show there is a wound incidence per casualty of 1.7 percent. The number of wounds, particularly to the thorax and abdomen, is closely related to the mortality rate, that is, the rate almost dou-

bles if more than one wound occurs. In view of the fact that 75 percent or more of all wounds are caused by shell fragments, it is remarkable that the wound incidence per casualty is not higher; however, this figure tends to substantiate the observation obtained through casualty interview, that the mean distance from the shell explosion is from 26 to 32 feet. If the distance were less, wound incidence would undoubtedly be much higher.

The relative incidence of penetrating and perforating wounds among casualties wounded in action is 4 penetrating wounds to 1 perforating wound. This is an adjusted figure, corrected to provide for the fact that extremity wounds com-

prise about two-thirds of all wounds in action. The ratios of penetrating to perforating wounds in different parts of the body are:

Head—penetrating 15, perforating 1
Thorax—penetrating 8, perforating 1
Abdomen—penetrating 4, perforating 1

Extremities—penetrating 3, perforating 1

These figures are mean values for all types of infantry combat and will vary with any specific engagement. It should not be concluded that all perforating wounds are worse than penetrating wounds. While it is logical to presume that most perforating wounds are caused by missiles of higher velocity than cause most penetrating wounds, greater damage does not always result from perforating wounds. Sometimes relatively slight damage is caused by a "through and through" wound of the thorax in contrast to the severe destruction of some penetrating wounds of the abdomen.

Body Armor

THE need for some form of body armor to be worn by field troops is simple and urgent. The hospital mortality rate for wounded in action casualties has reached the amazingly low figure of 2 percent, a 50 percent reduction from the mortality rate of World War II. This fact is a tribute to the excellence and progress of medical science, but it also clearly indicates that any further significant reduction in total mortality rate among combat wounded must come from that group dying before hospital admission. As previously shown for World War II and the early phase of aggressive warfare in Korea, the battlefield mortality has been 20 to 25 percent of all those wounded in action. In the past year of truce negotiations and limited combat activity in Korea this figure has fallen to about 15 percent. It is from this group, therefore, that the greatest reduction in total mortality must be made.

Reduction of the killed in action rate is the most urgent problem confronting field medicine. The possibilities for accomplishing this are few. They are as follows:

- (1) Prevention of wounds.
- (2) Reduction in number and severity of wounds.
- (3) Faster battlefield recovery of those wounded.

Much progress has already been made in the techniques of battlefield recovery by means of helicopter evacuation; and this has undoubtedly played a part in

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the reduction of hospital mortality. It is apparent that the remaining possibility for reduction in killed in action lies in the exploitation of body armor, or wound prevention.

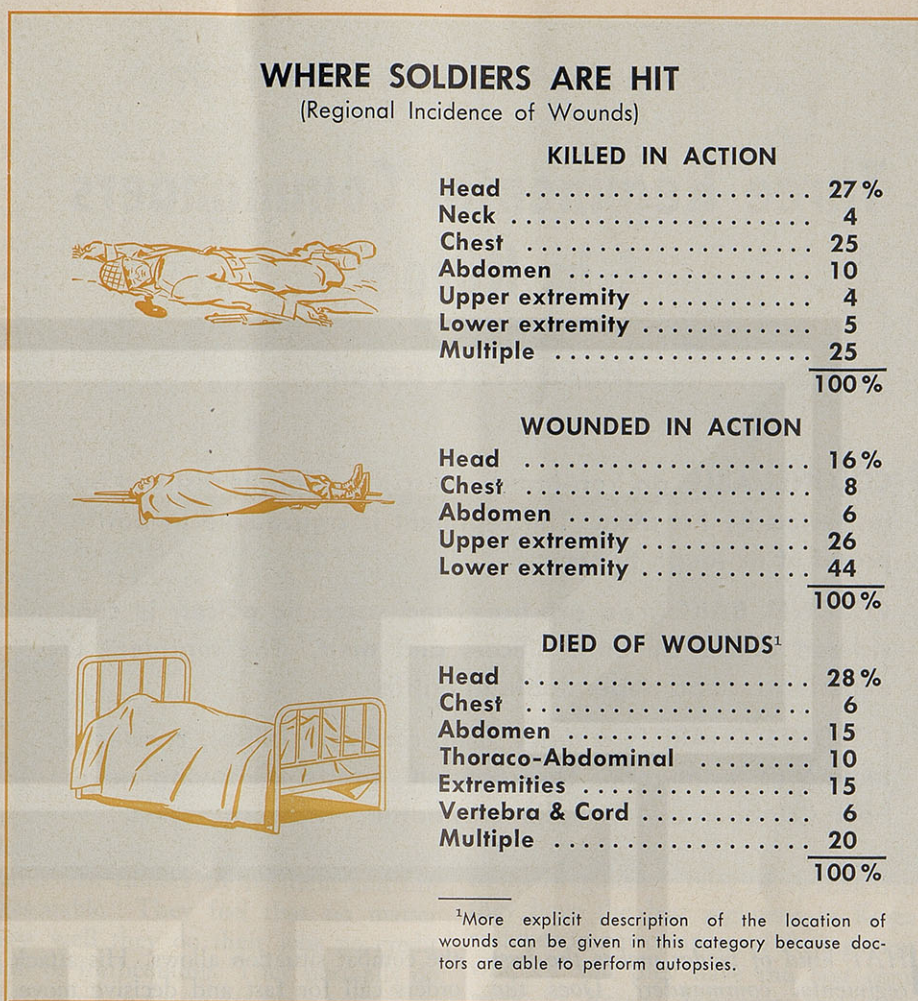
The concept of body armor in warfare is ageless. Even in the Civil War there is valid authentication of the use of metal body armor to protect the thorax and abdomen, and adequate records to substantiate its effectiveness. Some experimentation with various metals and designs was sponsored by the Germans and Allies in World War I, and toward the last of World War II a fairly large number of thoraco-abdominal vests were made by the U. S. Forces but never satisfactorily tried upon the field of battle.

One branch of the armed forces, the Air Force, has already had considerable experience with body armor and standardized its use among aircraft personnel in World War II. An official estimate shows a probable 55 percent effectiveness in casualty reduction. Weight of the protective item is, of course, not as significant a factor among airborne personnel as among field forces.

In modern warfare top priority has been given to speed in maneuver, and a vigorous campaign has been waged to reduce the weight of impedimenta carried by the infantryman. At the same time, there has been a tremendous increase in fire power from modern weapons, or, in other words, greatly augmented density of wounding agents. Since most casualties result from shell fragments, that is, random fire to a degree, rather than aimed fire, the chance factor for wounding bears a direct relationship to the density of missiles.

Wound ballistics studies, experimental and field research under combat conditions directed by the Surgeon General, Department of the Army, have established the anatomic regional frequency and distribution of wounds, the relative incidence of wounding agents, the circumstances of wounding, and a classification of the type wounds produced. It is upon such studies that the feasibility of body armor has been proposed.

The helmet has been long accepted as essential to the battle dress, yet wounds to the thorax account for almost as many killed in action as do wounds to the head. Wounds to the thorax and abdomen combined are known to account for about one-third of the killed in action, and the most recent survey indicates an even higher percentage. Among the total wounded in action, the thorax and abdomen combined ac-



count for about 15 percent, and of those dying of wounds after reaching a hospital, about 30 percent.

It has been previously shown that under current battle conditions shell fragments cause about 75 percent of all wounds and about 35 percent of all killed in action. Later studies indicate that the second figure may be as much as 50 percent. That 75 percent of all wounds are of a penetrating type with the missile lodging within the tissues implies a velocity ordinarily less than that of a missile producing a perforating wound. The average distance from the shell explosion to the casualties caused by fragments has been determined to be from 8 to 10 meters and the wound incidence per casualty of 1.7 percent suggests that this distance is reasonably accurate. If the distance were less, wound incidence would appreciably increase.

FROM these observations the need for body armor is apparent. The problem of providing such protection requires a coordinated effort by many branches of the military service, because the design of the body armor must be a compromise between the ideal in protection and the practical in use. The maneuverability and effectiveness of the combat

man must be preserved.

In June 1951, a joint Army-Navy mission was dispatched to Korea to conduct the first controlled field trial of body armor under combat conditions. The body armor, a thoraco-abdominal vest weighing about six pounds and with protective qualities superior to those of the helmet in current use, was to be worn by combat medical personnel and also other members of all the Arms and Services.

The field trial lasted for about two months and troops of the 2d Infantry Division and the 1st Marine Division were carefully indoctrinated in the use and value of the thoraco-abdominal vest. Upon conclusion of the trial, it was reported that the vest was desirable, acceptable, and could be worn without undue encumbrance or hindrance to job performance. The psychological effect was also favorable. Based upon these findings, more extensive trials have been initiated and are continuing. The design has undergone modification, but the same materials, compressed Fiberglas and Nylon, are being utilized. Results of the present trials by the Marines and the Army are restricted data, but it can be said that thus far indications are encouraging.

WHAT KIND OF A LEADER ARE YOU?

Three Regimental Commanders in Korea

Major W. C. Bryan

COLONEL ABLE, an iron-handed disciplinarian, is disliked but respected by his men. The regiment is aggressive in battle, proud of its tough fights.

COLONEL BAKER, an arbitrary and sarcastic officer, is considered unfair by both officers and men. The regiment is experienced and dependable in battle.

COLONEL CHARLIE, a quiet, firm, confident officer, creates a feeling of teamwork. The regiment, proud of having never been "clobbered," is cautious in battle.

WHAT kind of leader makes the best regimental commander? Does the leadership taught in our Army schools bring the best results in combat? What type of leader are you?

Here are three regimental commanders, each distinctly different. These impressions were gathered from actual observation of the commanders and their regiments during duty with each regiment. I have disguised them enough so as not to disclose the identity of either the commanders or their units.

COLONEL ABLE

COLONEL ABLE is in his early forties. He has attended most Army schools. He had not commanded a regiment in combat before Korea. He runs his regiment with an iron hand, demanding the utmost effort from his officers and men. His troops are never idle—command inspections, regimental parades, and constant hard training, whenever

MAJOR W. C. BRYAN, Infantry, made two short tours of duty in Korea as a member of Department of the Army research teams. He is now with MAAG in Belgium.

the combat situation allows. His attack orders call for fast and decisive movements. He requires constant improvement of defense positions.

Colonel Able's policies are clear-cut. Punishment for violations is severe; the penalty for unauthorized discharge of a firearm is a \$50 fine. He considers as his best battalion commander an officer who is noted for being hard, and he cites as proof, that battalion's bitter fight during the Communist attacks in the spring of 1951.

Customs of respect for the commander are rigidly enforced. At meals the staff is due at a scheduled time. They may not be served until the Colonel arrives, except when he is over ten minutes late, and when he enters, the staff rises and does not resume eating until the Colonel is served. The staff remains at the table until the Colonel finishes and leaves, unless some urgent matter arises. The Colonel dominates the conversation, but the talk is normally friendly. Sometimes he ribs the staff in a friendly way.

Colonel Able has selected his most forceful officer to be his S1. His S2 and S3 are both junior to the S1 and S4 and they carry less responsibility. Instructions to his staff are forcefully given and no doubt is left but that strict compliance is required.

Little happens in this regiment of which the Colonel is unaware. His in-

fluence is apparent in every activity. But he asks no more from his men than he does from himself. He sets the example.

Recently he complained strongly when he was awarded a decoration by the division commander. He had not earned the award, he thought, and getting it under such circumstances would make it harder to disapprove recommended decorations in his own unit that he might consider unwarranted.

He sometimes takes issue with the division commander, but normally carries out instructions from above without comment. His constant aim is to build and maintain a tough fighting regiment, second to none.

COLONEL ABLE'S regiment has been through as hard fighting and sustained as many casualties as any regiment in Korea. It has been "clobbered"; had as much as fifty percent casualties in a week, been filled up with replacements, and fought well two weeks later. It recovers from a tough battle very quickly.

The men in the regiment have a strong dislike for their commander, but due to the battles they have been through, they have a very definite respect also. They have a nickname for the regiment. "Deathtrap" conveys the same impression. The men believe their regiment is a hard-fighting outfit, but they do not like the constant training which they consider unnecessary. They feel that the regimental commander would sacrifice both himself and the regiment if necessary to accomplish the mission. Men from this regiment who have been casualties and are returning to duty want to come back to it. But they are more than normally glad to leave it to return to the States.

Officers and men alike are not afraid of a tough fight. They even look forward with anticipation to the next battle. They enjoy punishing the enemy and do so every chance they get. They enjoy discussing the battles they have been through and the casualties, both their own and those of the enemy. For example, the fact that a company lost all but eighteen men in one engagement is something the regiment is proud of. The men are proud of all the tough operations they have been through.

COLONEL BAKER

COLONEL BAKER is in his early fifties. He commanded a regiment in combat during World War II. He

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also had a regiment in the postwar years and he has commanded his present regiment during hard fighting in Korea.

Colonel Baker makes the decisions in his regiment. He often commands companies, and even platoons. He makes decisions without assistance from his staff, and when he makes one it stands. He issues orders when he has reached his decision, normally giving the units the minimum time for execution. He rarely uses warning orders.

Colonel Baker intensely dislikes all special-type units. He particularly dislikes special units attached to his regiment. Rangers, airborne units, and technical training parties are a complication—and not sufficiently helpful to warrant their existence. He wants units assigned to him to use as he sees fit.

He frequently finds fault with much that takes place in the combat area and in higher headquarters. But rarely does he admit any fault within his regiment. He encourages competition and assigns difficult tasks as a way to improve his unit. He deliberately makes tasks more difficult. He plays one battalion against another. He uses sarcasm and ridicule to sting his subordinates into greater effort. He finds fault frequently and praises rarely. He allows no suggestion of criticism of himself or his unit as a whole.

Colonel Baker has selected his most forceful officer as his S3. His staff rarely offers opposition to his decisions. The regimental staff is frequently restricted to the CP area and permission must be obtained from Colonel Baker to leave that area. He shows little confidence in his staff. For example, he personally keeps the list of officers eligible for rotation and personally decides who from that list is to be rotated and who is not. He applies regulations only in line with his own views. If they are not restrictive enough, and he usually thinks they aren't, he applies his own additional restrictions.

When an officer makes a mistake, Colonel Baker keeps a tight rein and a critical tongue on him for several weeks. Once his wrath has been aroused it continues until the officer, by diligent work, proves that the mistake was an exception and not the rule.

He puts considerable emphasis on the appearance of his unit. Three sentries are stationed at the entrance to his CP where one would be able to handle the traffic. A special distinguishing item of clothing is worn by the officers and men of the regiment. He places little emphasis on sanitation, and none at all on team sports, considering them

relatively unimportant to the men or the well-being of the regiment.

Colonel Baker is sincerely proud of his regiment and considers it the best in Korea. He personally talks with every group of replacements joining the regiment. He gives them the history of the unit and some tips on how to get along in the outfit and in combat.

He is thoroughly familiar with every type of combat. He knows the weapons and capabilities of infantry as well as any man in Korea. He is at his best, both in humor and in confidence, when the tactical situation looks darkest.

IN Colonel Baker's regiment there are constant crises. Someone or some unit always seems to be in trouble. The officers feel that they are expected to do unreasonable amounts of work. They spend much time trying to keep in the good graces of Colonel Baker, or attempting to stay away from him, if they are in disgrace.

Both officers and men of this regiment feel that they are not getting a square deal. So little information reaches the ranks that rumors are frequent and unreasonable. They feel that no matter how well they do their jobs no credit will be forthcoming. They normally do their work to please the regimental commander rather than to improve the unit. The most frequent question among both officers and men is: "When do I get rotated?" Few men feel pride in the unit and most would like to transfer from the regiment. Most officers would like to see the regimental commander transferred. They feel that he has worked so hard that he is unable, even when it is possible, to take it easy or let them take it easy. The officers feel that he favors one battalion by giving the other two the least desirable missions.

The regiment has been through some tough fighting in Korea and while not eager to come to grips with the enemy, has been dependable in battle.

COLONEL CHARLIE

COLONEL CHARLIE is in his late forties. He commanded a regiment in combat during World War II and for several months in Korea.

Colonel Charlie gives orders quietly but firmly. He rarely raises his voice but there is no doubt but that his instructions must be carried out. He leaves most decisions to his staff and battalion commanders. He intercedes only when

the plan is wrong or when he must make the decision. He believes that his officers and men should be kept busy. When the combat situation allows, close-order drill, squad and platoon problems, and practice marches are on the schedule.

Colonel Charlie believes that relaxation each day is essential. Moving pictures are shown even if only a few men can attend. During the quiet period, two shows a day are common. He puts emphasis on organized team sports.

He maintains his reserve constantly. He is on friendly, but not familiar terms with the staff and men. Discussions and arguments among the staff go on during meals, but the Colonel seldom joins in. He frequently demonstrates his confidence in his staff and his battalion commanders. He has selected his most forceful officer as his G1.

COLONEL CHARLIE'S regiment seems almost to run itself. The officers and men seem to exert no great effort, but the job gets done. Both men and officers have a great deal of pride in their regiment. They freely state that they have the best regiment in Korea and men in any company of the regiment will tell you they have the best company in Korea. Instances frequently occur in which men with minor wounds try to stay with the outfit instead of being evacuated.

This regiment has never been "clobbered" and is proud of that fact. It has been through hard fighting, but each time it has had relatively small casualties. In general the men prefer to defend rather than to attack.

Rather frequently the men express the opinion that most of the training and restrictions (such as the prohibitions against vehicles moving after dark) are unnecessary and that in that regard the regiment is a chicken outfit.

The most conspicuous characteristic of this regiment is its teamwork. When the regimental commander was changed recently, the regiment continued functioning as smoothly as before. It is a dependable, well trained, competent team.

THERE are three commanders. Each has impressed his personality on the officers and men of his regiment. One is forceful and tough, one is experienced but critical, and one is quiet but firm. Their regiments? One fights hard and recovers quickly, one fights well when it has to, and the other is dependable and competent. Which is the best regiment, and which the best commander?



REPORTS AFTER ACTION

The supporting arms and services in Korea

TRUCK PLATOON — Withdrawal from Taejon

Narrator: Lieut. Ralph C. Boyd

Historian: Capt. John G. Westover



In Japan I served as Motor Officer for the 24th Quartermaster Company and I got to know my men very well. My men drove, maintained, and repaired all of our vehicles. When the division was alerted for movement to Korea we reorganized into three truck platoons. I commanded one of these and had twenty men, eighteen 2½-ton trucks, a jeep, and nineteen trailers.

Before leaving Japan the trucks were loaded with supplies of all classes. We arrived in Pusan on 5 July 1950, and immediately the trucks were reloaded onto flatcars and started for the front. The supplies remained aboard and the lashing of the vehicles was as simple as we could make it. The drivers rode with their vehicles but they didn't get much rest before arriving at Taejon at 1100 on 6 July.

In Taejon we detrained the vehicles and unloaded the supplies. We then immediately reloaded the trucks with Class I and III supplies, mounted a battalion of the 21st Infantry, and started for Choch'iwon. On discharge of cargo and passengers the platoon was directed to augment the transportation of the 21st Infantry Regiment.

It was 2100 when we left Taejon and we entered Choch'iwon at 2300. In town, a regimental officer directed me

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.

to drive the infantry two miles farther north. Actually we detrucked the foot soldiers within a quarter of a mile of their defense positions. We heard sporadic small-arms fire.

After unloading the infantry our convoy became confused in the dark. Reorganization was slow. Most of the drivers had had no sleep for forty-eight hours or more, and as we started back to Choch'iwon the convoy was broken by a sleeping driver. As soon as I realized what had happened I sent SFC Willis D. Richardson, my platoon sergeant, to relieve the driver. The convoy arrived at Choch'iwon at daybreak of the 7th.

In Choch'iwon I reported to the S4 of the 21st, and he showed me where to unload the supplies. We were still unloading the trucks when the enemy attacked. The North Koreans penetrated our line and flanked us. Soon snipers were making the town very uncomfortable and communication with division was cut. The S4 ordered me to quit the unloading and take the remaining supplies to Pugang-ni. He gave me a detail of fourteen men to help with the unloading and to set up a guard. I was then to return my trucks to Taejon and report the situation to division.

Pugang-ni was just a village of fifty mud shacks perched on an incline to the left of the road. On the right was

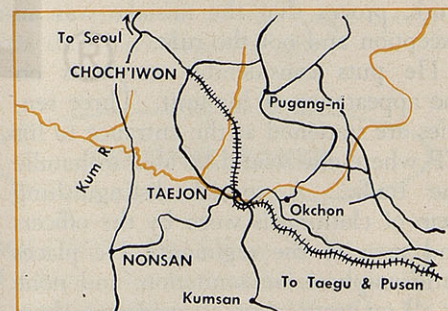
a rice paddy. The only location for a supply point was a small clearing about 100 feet square. I unloaded the cargo under a tree, posted the guard, and set off for Taejon. I arrived about 1400 on the 7th. I reported to G2 on the situation at Choch'iwon, and then reported to G4.

We were no sooner in than out of Taejon. Half of the trucks were dispatched to haul artillery ammunition. The remainder were divided: Sergeant Richardson took four trucks of ammunition to the 34th Infantry at Nonsan, and I led four back to Choch'iwon. I found that the 21st Infantry had cleared the town and all was well there. But Richardson's men had quite an experience. An enemy road block was forming along the MSR as his trucks drove into Nonsan. When the vehicles began the return trip a machine gun very effectively blocked the road. The four drivers and sergeant dismounted, flanked the gun, knocked it out, and returned to Taejon on the following morning.

I want to underscore the spirit of my drivers. Since arriving in Pusan on the 5th there had been no rest except on the flatcars. Like everyone else these men thought that the intervention in Korea was going to be little more than a banana war. Yet they worked steadily without complaint.

For the next several days my truck platoon was based in Taejon. While we continued to be busy we had some time for rest and maintenance. The main burden of getting supplies forward from division was handled by trains which operated right to the regimental supply points.

Heavy enemy pressure on the 21st Infantry at Choch'iwon caused that regiment to pull back behind the Kum River. My truck platoon and another moved the 19th Infantry forward to extend the line along the Kum. Our trucks drove right to the main line of resistance and the infantry unloaded. There was some small-arms fire near us, but we had no casualties. The truck platoon support-



COMBAT FORCES JOURNAL

LIEUTENANT RALPH C. BOYD, Quartermaster Corps, was motor officer of the 24th Quartermaster Company, 24th Infantry Division, in Korea until he was wounded. He is now a company commander in the Quartermaster Replacement Training Center, Fort Lee, Va. CAPTAIN JOHN G. WESTOVER of the Office of Military History interviewed Lieutenant Boyd on 13 March 1952.

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ing the 34th Infantry at Nonsan, how-
ever, was not so fortunate. Nonsan was
cut off and the platoon lost three ve-
hicles as it ran the escape road.

On 16 July the 19th and 21st In-
fantry regiments were attacked by strong
enemy forces and on the 17th they were
encircled and pushed back from the Kum
River. My trucks left the regimental
position only a half hour before the trap
was sprung. I believe that the enemy
allowed us to escape because they were
afraid that fire on the trucks would
alert our infantry. The 19th Infantry
had to burn all of its organic transporta-
tion when it cut its way out. Following
this action the 34th Infantry set up a
perimeter defense of Taejon while the
remnants of the 19th and 21st reorgan-
ized in Okchon.

The defense of Taejon was very mo-
bile. Every two or three hours company
strength patrols of the 34th reconnoitered
four or five miles beyond the perimeter.
The companies had arrived in Korea
with greatly reduced strength and the
fighting had taken its toll. Sometimes
an entire company could be loaded into
one truck. When an enemy force was
encountered the infantry dismounted
and probed its position. Frequently the
caliber .50 machine gun on our quarter-
master truck was used as a base of fire.
When the infantry was ready to dis-
engage they returned to the trucks and
we drove back to town. There were
some infantry casualties in these actions
but none of my drivers was injured.

THE 19th Infantry came to Taejon to
bolster the defense of the town but on
the morning of the 20th the enemy sur-
rounded us. Soon fighting was in prog-
ress inside the town. I guess I've always
wanted to witness an entire battle from
a hilltop and most of the wish was
granted here. My platoon was situated
on high ground and the entire action
was visible. At 1100, however, enemy
tanks spotted us and began to pepper
us. We drove into built-up area and
appropriately got into some ditches while
waiting for instructions. Some of the
more adventurous of my men went snip-
ing, and one man claimed that he shot
four enemy soldiers.

About 1600 the motor officer of the
34th told me to join the regimental
train for a dash out of town. He said
that the 21st Infantry had cleared the
road but that we would have to move
fast. Along the route I saw signs that
the 19th Infantry's convoy had not
fared well. They had lost all but two
trucks, and those were driven out on
their rims. Their litter and dead were

all over and many buildings were burn-
ing. Even in town we were halted by
sniper fire.

The convoy headed toward Okchon.
A mile beyond Taejon it ran into a road-
block and the trucks, bumper-to-bumper,
tried to run it. Several vehicles were
knocked out and the convoy came to a
halt. Quickly the disabled trucks were
pushed off the road and convoy got
under way again. Three of my drivers
were wounded—one in the head and
two in the back—but every man con-
tinued to drive.

The convoy drove only 200 yards
when it ran into a very heavy mortar
concentration. It was accurate fire and
few rounds missed the road. Progress
was blocked by disabled and burning ve-
hicles, and the fire searched up and
down the column until our convoy was
in shambles. Gasoline was afire and
ammunition exploding. Soon most of
the 150 vehicles were useless.

There was nothing anyone could do
except lie in the ditches and pray for
darkness. When it came I ranged the
area looking for a senior officer to take
charge. I could find only a chaplain
and a Medical Service Corps officer, so I
organized everyone near me. Bunched
up in an area less than fifty yards square
were 250 men. I located six vehicles
which we could operate: a full-tracked
artillery prime mover, two half tracks,
two 2½-ton trucks, and a jeep. I set
the prime mover to clearing the road.
The seriously wounded were loaded into
the other vehicles and all who could
walk moved along the ditches. Occa-
sional machine-gun and small-arms fire
came near our column but I had warned
men not to fire back. I believed that
we would be harder to locate that way,

and there was a chance that the enemy
might think us part of their own force.

It was slow going, but we marched
seven miles without serious difficulty. I
believed that we would now make it to
Okchon without further trouble except
for two tunnels in the road. I decided
to use a by-pass that went around and
above them. By this time I was very tired
and Sergeant Richardson and I climbed
on top of the artillery prime mover to
ride. Near the first tunnel a machine
gun opened fire on our column. Three
rounds tore into Richardson's right arm,
and one creased my knee. The impact
of those bullets knocked us off the prime
mover and we struck some large rocks
along the side of the road.

I don't know how long I was uncon-
scious, but when I came to, it was very
quiet. The vehicles were gone and even
Richardson had disappeared. My wound
was not serious and it encouraged me
to move faster. I didn't walk, I ran the
next two and a half miles to our line.
There I was sent to the aid station, and
the medics put me into an ambulance
for evacuation to Japan. I got out of
the ambulance, hitched a ride to division
headquarters, and reported to G4. After
I had talked to him I went to G2 and
reported what I had seen during the
previous day and night. Then I reported
to the medics and was evacuated.

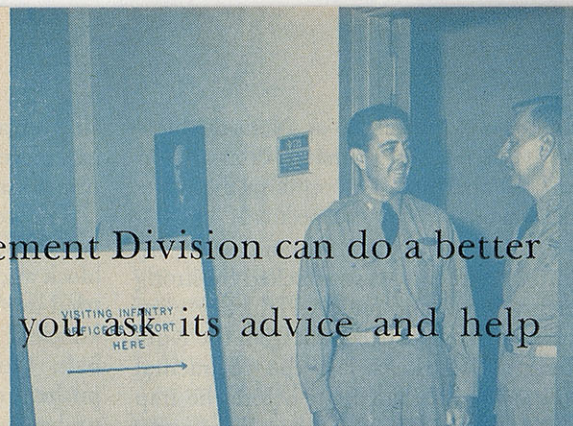
From the Taejon fighting my platoon
came out exceedingly well. We lost our
vehicles and had five or six wounded,
but no one killed. While I was in Japan
the division sent me a Silver Star for
having organized and led the remnants
of that convoy to safety. I guess the
best news I had was about Sergeant
Richardson getting out all right. He's
the best friend I've ever had.

A convoy rolls across a ponton bridge over the Han near Seoul in December 1950.



Your Professional Future

Career Management Division can do a better job for you if you ask its advice and help



If you are a member of a combat arm there is an office in the Pentagon which is always ready to give you advice and guidance about your individual career and assignments. That office is the Career Management Division of The Adjutant General's Office. All of the officers of CMD, including its Chief, Maj. Gen. Paul J. Mueller, and his deputy, Col. William S. Eley, Infantry, are officers of the combat arms.

The principal function of the Career Management Division is the assignment of officers of the combat arms. Its personnel functions are those that were largely performed by the offices of the Chiefs of Infantry, Cavalry, Field Artillery and Coast Artillery in pre-World War II days. A few of the civil servants who served in the old Chiefs' offices are now with the CMD.

To perform its functions the Career Management Division is divided into several branches with the officer in charge of each branch (Artillery, Armor, Infantry), a member of that branch. The Artillery division is divided into two sections—field and antiaircraft to facilitate administration.

These branch chiefs assign officers of their arm to overseas and Zone of Interior stations, select officers for military and civilian schools, counsel officers on their careers, process transfers and details, consider requests for deferments, help procure officers for the Regular Army, select officers for airborne and army aviation duties, and screen category extensions for non-regular officers. They are not involved in selection of officers for promotion.

CMD encourages you to visit it when you are in Washington. Its offices are on the first floor of the Pentagon in Ring E, Corridor 5. The branches are so organized that an officer is in charge of each activity affecting your past, present and future. They'll give you a desk to work at as you review your own records and discuss them with an experienced officer of your own arm. You are encouraged to ask questions about any aspect of your career, including future assignments and schooling. If you ask

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they'll arrange for you to examine your own 201 file.

Many of you, of course, rarely get to Washington. But you can write CMD direct and get your questions answered. Address your letter:

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Washington 25, D. C.

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COMBAT FORCES JOURNAL

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SEPTEMBER

Guided-Missile Guidance

Captain Robert W. Fye

IMAGINE the advantage of the ability to correct the course of artillery projectiles after they leave the gun!

The incorporation of a guidance system in a projectile, along with a means to physically change the projectile's path, permits it to correct for errors at the target. The result is a guided projectile, or "guided missile."

The first article in this series described how and why guided missiles fly, as well as some of the effects of supersonic flight. The second discussed the principles of jet propulsion and the operating characteristics of the jet engines used in missiles. The purpose of this final article in the series is to discuss the vital element in any guided missile that makes it a useful weapon: its guidance system.

Need for Guidance

UNGUIDED rockets have been employed in warfare in the past, but they were always outmoded by such improvements as cast gun barrels, breech loading, and rifling which gave more accurate and longer-range fire. Since an artillery projectile reaches its maximum velocity as it leaves the gun barrel, it is comparatively easy to predict and shape its path, which is essentially a ballistic or parabolic trajectory. On the other hand, a jet-propelled missile usually does not reach its maximum velocity until sometime after it is launched, making it difficult to predict its course unless there is some form of guidance.

But, if a missile can be guided

Aiming . . . after the trigger is pulled

throughout its flight, its initial dispersion or inaccuracy can be corrected during the remainder of the flight. This permits the missile to use jet propulsion and thus far outdistance, in range, all conventional artillery.

The ability to change the course of a missile in flight has other advantages. For example, a free-flight, unguided projectile cannot correct for nonstandard atmospheric conditions it encounters (unforeseen side winds, changes in air density, and other elements), or for nonstandard conditions of manufacture (the inability, with mass-production methods, to make two items exactly alike), both of which result in deviations of the projectile from its standard trajectory. However, guided missiles can compensate for these factors, since they have the means to detect and correct for variations from their desired flight path.

Further, there has never been an anti-tank or antiaircraft artillery projectile that could maneuver with its target. Thus, the accuracy of fire against such targets is dependent upon pre-fire prediction and is limited by the capability of the enemy to maneuver after the prediction is made. This is a serious limitation, particularly in antiaircraft fire. Guided missiles can overcome this advantage of maneuver which the enemy possesses if they are designed to match their targets, maneuver for maneuver.

So the requirement for incorporating guidance systems in missiles stems from three factors. First, control is needed to make missiles accurate at the long ranges that jet-propulsion power plants give them. Second, nonstandard conditions of manufacture and the atmosphere must be considered and compensated for, since they can produce sizable errors

at the target. Finally, in order for missiles to be effective weapons they must be able to match the evasive action of targets.

Fundamentals

TWO problems arise in any effort to control unpiloted craft in flight. Initially, the missile must be properly aligned or oriented in space. This means that the missile can interpret up from down, left from right, and rolling from stabilized flight. Control of this type is called attitude control. However, a missile needs something besides attitude control in order to hit a target. It requires a method to keep it on the desired path or trajectory. This is called path control.

Attitude control must be effected before path control can be attempted. For example, if a missile is not roll controlled, we do not know the position of its movable control surfaces or fins which we wish to position so as to guide the missile along its desired path. It is obvious that if a missile which we presume to be roll stabilized has actually rolled over on its back, a command to the missile to go left will result in the missile's moving off to the right.

To control a missile's attitude, we are concerned with the angular motions of yaw, pitch and roll which the missile can undergo. Figure 1 shows that these motions occur about three mutually perpendicular axes through the missile. In order for the missile to have complete attitude control, it must be able to detect any of these three angular motions, which it interprets as yaw, pitch, or roll errors, and correct for them by yawing, pitching, or rolling the missile back to its proper attitude. Gyroscopes are normally employed in missiles to establish a reference from which these angular errors may be detected. Figure 2 indicates the basic components of the ordinary gyroscope, which operates on the

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principle that a mass (the rotor or fly-wheel as it is sometimes termed) rotating at high speed possesses a certain degree of rigidity in space (the property a gyro has of remaining fixed in its plane of rotation as it spins around). Thus its spin axis establishes a fixed line in space regardless of motion of the rest of the gyro or the missile in which the gyro is mounted. The gimbaling system of the gyro is so arranged that one gimbal moves with the missile as it rolls, pitches, or yaws, while the other gimbal remains

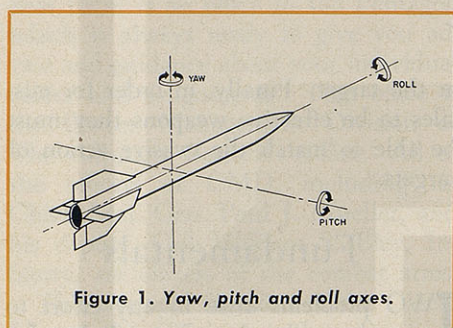


Figure 1. Yaw, pitch and roll axes.

fixed with the rotor. This relative motion between gimbals is equal to the angular motion which the missile has undergone, and can be converted to a usable electrical error signal. The signal actuates a power system, called a servo, which positions appropriate control surfaces so as to correct the missile's attitude and reduce this error to zero.

WHAT about these control surfaces? In most cases they are movable vanes or fins, similar to the rudders, elevators, and ailerons used by conventional aircraft. When moved from their neutral position in a high velocity air stream, they cause the missile to turn, climb or dive, or roll. Unfortunately, there are times when these surfaces are not effective, namely, when the missile is not traveling at sufficient velocity and when

the missile is in the upper reaches of the atmosphere, where the air is quite thin. In both cases, the air stream will not exert a sufficient force on the control surfaces to enable them to control the direction of motion, or attitude, of the missile. For control under these conditions, we must resort to other means. The Germans solved the problem of controlling their V-2 missile while at low velocity in a unique manner. The V-2 was too large to be boosted into immediate supersonic flight. It rested on its launcher until the thrust from its rocket motor exceeded the over-all weight of the missile, at which time it took off. During this period the missile was traveling slowly, picking up speed as it ascended, and yet this was a critical period in the life of the missile. If it were not stabilized early in its flight, control could never be established and the flight was almost certain to fail. Since its control surfaces were not yet effective, the Germans devised a system of carbon jet vanes, actually small control surfaces, which they placed in the exhaust stream of the rocket motor. Regardless of the velocity of the missile itself, its jet stream from the motor left the missile at about 6,730 feet per second! Hence, moving the jet vanes, when attitude errors were detected, deflected the exhaust gases and produced a force on the missile similar to that produced by the movement of conventional control surfaces in an air stream. This force caused a change in the direction of motion of the missile. Of course, these "internal" control surfaces, exposed to temperatures on the order of 3000°F, burned up within a short period of time, but by then the missile was traveling at such a velocity that its control could be turned over to the missile's external control surfaces.

For control at high altitudes, the air

is not dense enough to permit the use of control surfaces, and jet vanes would long since have been consumed. A solution to this problem is obtained by mounting the missile's power plant (which, in all probability, would be a rocket motor rather than an atmospheric jet engine at the altitudes we are now considering) in a series of gimbals similar to the gimbaling system used with a gyroscope. By causing attitude error

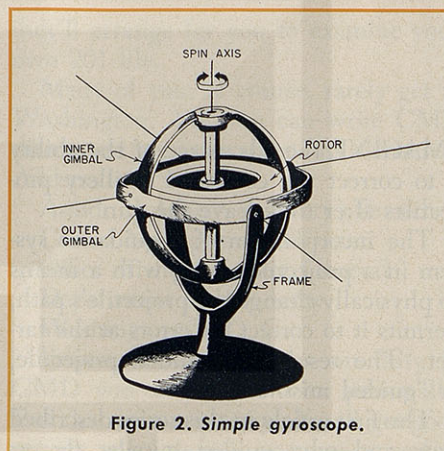


Figure 2. Simple gyroscope.

signals to rotate these gimbals with respect to one another, the direction of the motor's line of thrust can be changed, resulting in a change in the missile's attitude or heading.

Regardless of the methods used to achieve it, attitude control has only one purpose—to orient or stabilize the missile in space so that it can, in turn, receive and properly respond to path control commands. Note that all of the functions performed to obtain this attitude control (detection of yaw, pitch, and roll errors and their correction through proper movement of control surfaces) are accomplished entirely within the missile, requiring no outside source of information. The problem is quite similar to the actions of the automatic pilot used

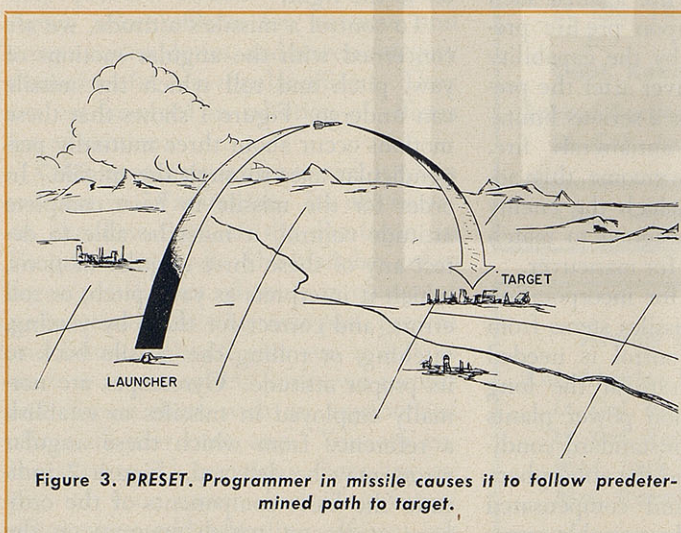


Figure 3. PRESET. Programmer in missile causes it to follow predetermined path to target.

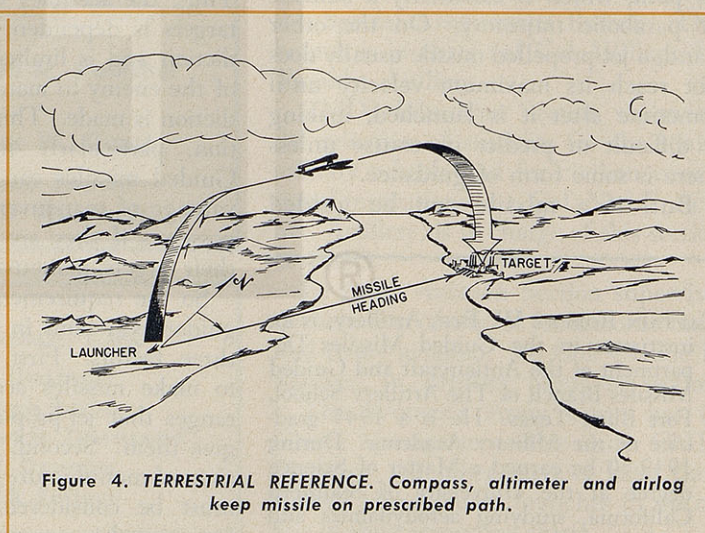


Figure 4. TERRESTRIAL REFERENCE. Compass, altimeter and airlog keep missile on prescribed path.

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in many conventional aircraft today.

Assuming the missile is aware of its attitude in space and can keep itself properly aligned, it is still faced with the problem of guiding itself or being guided along some flight path to the target. This is path control, the process of noting where the missile is, comparing its location with where it should be, and correcting for any deviations so that the missile will continue on a course that will result in a target hit. Because this is a bigger problem than attitude control, over-all missile guidance systems usually take their name from the manner in which the path is controlled.

Guidance Systems

THE method employed to guide a missile along its path usually depends on the type of missile and the target it is to attack. Certain guidance systems lend themselves to surface-to-surface missiles (SSM) which normally are used against fixed targets, while other systems are particularly adaptable to surface-to-air missiles (SAM) or air-to-air missiles (AAM), where enemy aircraft or missiles are the targets. We will discuss the systems used principally by SSM.

Preset. This is a system wherein a predetermined path (indicating a fixed target) is set into the missile before launching. It cannot be adjusted during flight. The missile is set to fly a given distance and any corrections for wind or other effects must also be made prior to launching. The German V-2 was a preset-guided missile, in which a programmer, or time clock, within the missile closed various electrical contacts as the flight progressed, causing different functions to be performed, such as pitching the missile over from the vertical after launching, or cutting the missile's fuel off. Figure 3 shows a typical trajectory

of this missile. Such a system is very simple, but since all programmer adjustments and settings must be made before launching, unforeseen factors that cause the missile to deviate from its prescribed path during flight cannot be corrected. Hence the accuracy of the system is quite poor; the V-2 had a radial probable error of about eight miles at a range of 150 miles. Nevertheless, preset guidance systems have certain values where great accuracy is not required. Also, there are times in the development of a missile where flight test data are needed on such things as the propulsion and aerodynamic performance of the missile. Rather than test the missile with its entire guidance system, it may contain only a programmer which causes it to perform certain simple maneuvers which are sufficient for the test being conducted.

Terrestrial Reference. This is a more refined guidance system, in which the missile flies a predetermined path, using components or devices in the missile which react to some phenomena of the earth to keep it on the path. The phenomena which might be used are the earth's gravitational, magnetic and electric fields, and its atmosphere. The German V-1 was an example of a terrestrial reference-guided missile. It used a magnetic compass to keep it headed in the direction of the target, an altimeter to keep it at the proper altitude, and an airlog to determine distance traveled toward the target. An airlog is a wind-driven propeller carefully calibrated so that a given number of turns of the propeller, mounted in the nose of the missile, is equivalent to a specific ground distance covered. The propeller counts its revolutions and when these equal the predetermined distance to the target, the airlog initiates a signal to dive the missile into the target. Figure 4 illustrates the trajectory flown by such a missile. This

system has generally the same advantages as preset guidance and is likewise quite limited in range due to the arbitrary preflight predictions that must be made and set into the missile's guidance components.

Radio Navigation. This is a system of guidance for the control of a missile along a predetermined path in which the missile obtains information from one or more fixed radio transmitting stations in order to stay on the desired path. The navigation systems of SHORAN (SHort RAnge Navigation and LORAN (LONG RAnge Navigation) are examples of this type of guidance. In the latter, which is the most interesting for missile applications, the missile carries a radio receiver and listens for signals sent simultaneously from two base transmitters. The missile measures the time delay between receipt of signals from the two stations (the amount of delay indicating how much nearer the missile is to one station than the other). The missile's path is calculated prior to launching so that to be on course the missile should always be listening for and measuring the same delay between received signals. To do so, the missile flies a curved, hyperbolic course. If the missile deviates from this path, it will not hear the signals with the correct time interval between them and will navigate to get back onto its proper path. This scheme of guidance is illustrated in Figure 5. Such a system has the advantage of using presently known techniques, but like any system which depends upon radio or radar transmissions, it is subject to interference and enemy electronic countermeasures. These can take the form of either deceiving the missile with false signals or jamming the missile so that it cannot hear the base stations' transmissions.

Celestial Navigation. This is another system in which the missile flies a predetermined path, navigating itself along

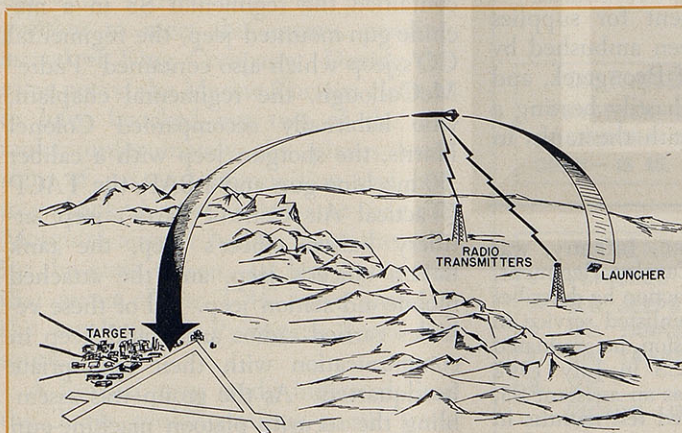


Figure 5. RADIO NAVIGATION. Missile navigates upon receipt of signals from synchronized ground transmitters.

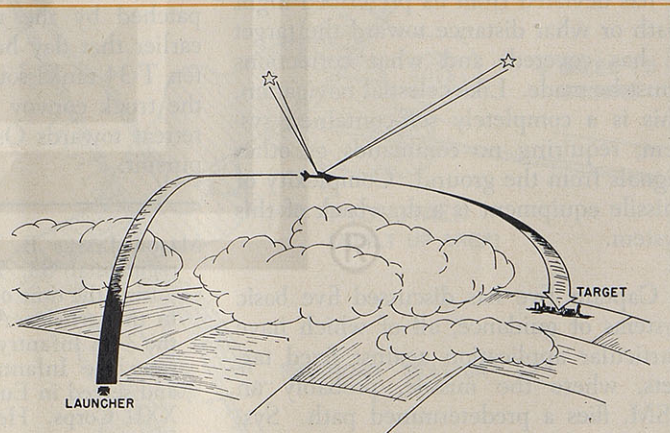


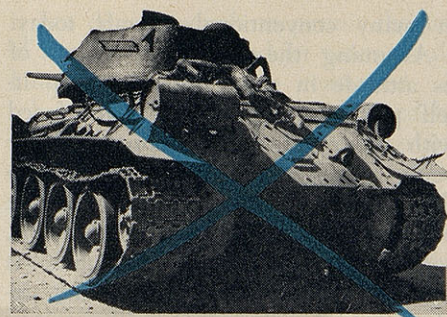
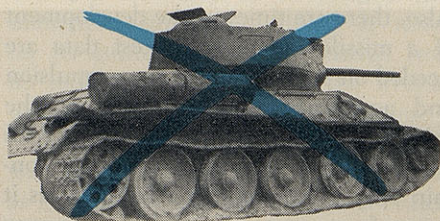
Figure 6. CELESTIAL NAVIGATION. Missile determines its position and navigates by observing the stars.

the path by celestial observations. The method employed is essentially that used by navigators at sea who determine their position by observation of two or more stars. The missile must contain star-tracking telescopes which remain locked on previously designated stars throughout the flight. They continuously "shoot" these stars, determining the missile's actual position which is compared with where the missile should be at this time. Errors in missile position cause steering commands to be generated which bring the missile back on course. In Figure 6, this system is illustrated. Such a guidance system is entirely self-contained within the missile and hence is not subject to enemy countermeasures. Also, its accuracy is independent of range, since star observations can be made just as accurately at the end of a flight as at its beginning. However, the missile-borne equipment for such a system is quite complicated, and weather conditions can influence its usefulness.

Inertial. In this guidance system, the path of the missile can be adjusted after launching by devices wholly within the missile which make use of Newton's second law of motion—force is equal to mass times acceleration ($F=ma$). These devices, called accelerometers, are sensitive to accelerations which the missile undergoes, as it flies along or deviates from its flight path, due to the missile's thrust, side winds, or other forces that may act on the missile. After detecting these accelerations, it is a simple matter to doubly integrate them (a mathematical process that may be accomplished electronically or mechanically) to obtain the distance the missile has traveled due to the force. So we might call the accelerometers "distance-meters" or odometers, just as the devices in automobiles which indicate velocity are called speedometers. With this distance information the missile can tell how far it has deviated from its prescribed flight path or what distance toward the target it has covered, and what corrections must be made. Like celestial navigation, this is a completely self-contained system, requiring no commands or other signals from the ground. Complexity of missile equipment is a drawback of this system.

Captain Fye has discussed five basic systems of guidance, all of which have particular application against fixed targets, where the missile, probably an SSM, flies a predetermined path. Systems suitable against moving targets are largely classified and cannot be discussed in this series.—THE EDITORS.

Scratch Two



T-34s

Major James B. Webel

FOLLOWING a spectacular 106-mile dash in 23½ hours through enemy territory and a juncture with the 7th Division at Osan (see the January 1951 COMBAT FORCES JOURNAL), Task Force 777 had settled down to the routine job of letting administration and supply catch up with the troops. On 29 September 1950 the 7th Cavalry Combat Team command post was comfortably housed in one wing of a large Korean school in Osan while the 1st Battalion occupied the other wing. The 3d Battalion was settled in another schoolhouse in the south part of Osan with smaller units comfortably set up in other buildings in the town. The 2d Battalion was still in Army reserve near Taegu and was scheduled to be flown up within the next few days. The enemy was in full flight and except for posting normal security against guerrillas, no one was expecting any combat.

This peaceful arrangement was suddenly shattered by the arrival of a dusty jeep and an excited sergeant. A supply convoy of twenty 2½-ton trucks dispatched by the regiment for supplies earlier that day had been ambushed by ten T-34 tanks south of Pyongtaek, and the truck convoy was hastily beating a retreat towards Osan with the tanks in pursuit.

MAJOR JAMES B. WEBEL, Infantry, was regimental S3, 7th Cavalry Regiment, during the time of the action he describes in this article. After enlisted service in the 34th Infantry Division, he graduated from the Infantry OCS in July 1942 and served in Europe as an assistant S3, XXII Corps. He served ten months in Korea as company commander and battalion and regimental S3. He is presently on duty in the Tactical Department, United States Military Academy.

The regimental combat team commander, Lieutenant Colonel (now Colonel) William A. Harris immediately ordered one rifle company (K Company) of the 3d Battalion and the attached C Company of the 70th Tank Battalion alerted to move to a rendezvous near Sojong-ni, seven miles north of Pyongtaek. The rifle company was to be motorized with six 2½-ton trucks. He further ordered that the division headquarters and division air officer be notified and that fighter aircraft be requested immediately. Almost simultaneously orders were issued for the mobile command group to prepare to move out and for the 1st Battalion to furnish two machine-gun-mounted jeeps with two bazooka crews to accompany this mobile command group (MCG) on reconnaissance. A mobile aid station with Capt. Pete Scoles was also attached to the MCG. The 3d Battalion was alerted to be prepared to follow its lead company on order if additional strength were needed.

The MCG hastily assembled, mounted and swung into line. This group contained the regimental S3 in a machine-gun-mounted jeep, the regimental CO's jeep which also contained "Padre" McCullough, the regimental chaplain, who habitually accompanied Colonel Harris, the shotgun jeep with a caliber .50 machine gun and a BAR, the TACP (Tactical Air Control Party) jeep, artillery liaison officer's jeep, the tank liaison officer's jeep, and the attached mobile aid station jeep. All of these vehicles carried radios and could keep in communication with their appropriate headquarters. As the group was assembling the security platoon machine-gun jeeps with bazooka crews from the 1st Battalion pulled into the schoolyard and the MCG pulled out, headed south.

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En route to the rendezvous, follow-up details were given by radio to the tanks under Captain (now Major) Shaw and King company under Captain (now Major) John Flynn. The MCG arrived at the rendezvous about 20 minutes ahead of the tank company. There was no sign of enemy armor and a hasty reconnaissance was made to select blocking positions for the tanks and infantry and a plan of action was formulated.

In the meantime, the TACP had made contact with a Mosquito plane which had located the enemy armor. Four Marine Corsairs from Seoul were soon in the area and were sent in on strikes against the hostile armor. The Mosquito also reported that a large column of dust and something resembling the Indianapolis Speedway was headed in the direction of the MCG. This, of course, was our own Service Company jockeys headed for home.

This wild-riding crew soon appeared and upon being flagged down one of them added to the details of the ambush. The enemy force of "ten T-34 tanks and some infantry" was hidden in an orchard near the main highway. As the supply convoy neared the orchard one of the tanks opened up with its 76mm gun. Fortunately its fire missed the first vehicle but during the resultant confusion another vehicle was wrecked. As the trucks began to turn around, the T-34s began rolling out of the orchard shooting as they came. The assistant S4 convoy commander immediately got one bazooka crew from the escort and attempted to get close enough to the orchard to go into action. The rest of the story was confused; however, our trucks, except for one, apparently had all escaped and headed north. Despite our assurances that the tanks were still some miles back, the trucks departed in high gear as soon as they were released.

While this interview was going on our tanks arrived and were placed in position to meet the enemy, pending arrival of King Company. During the same period the Marine Corsairs claimed to have knocked out two of the ten tanks; unfortunately the planes were short of gas and ammunition and had to go back. Almost at the same time the Mosquito aircraft had to leave the area for the same reason. Its last report was that seven of the T-34s were entering the outskirts of Pyongtaek from the south.

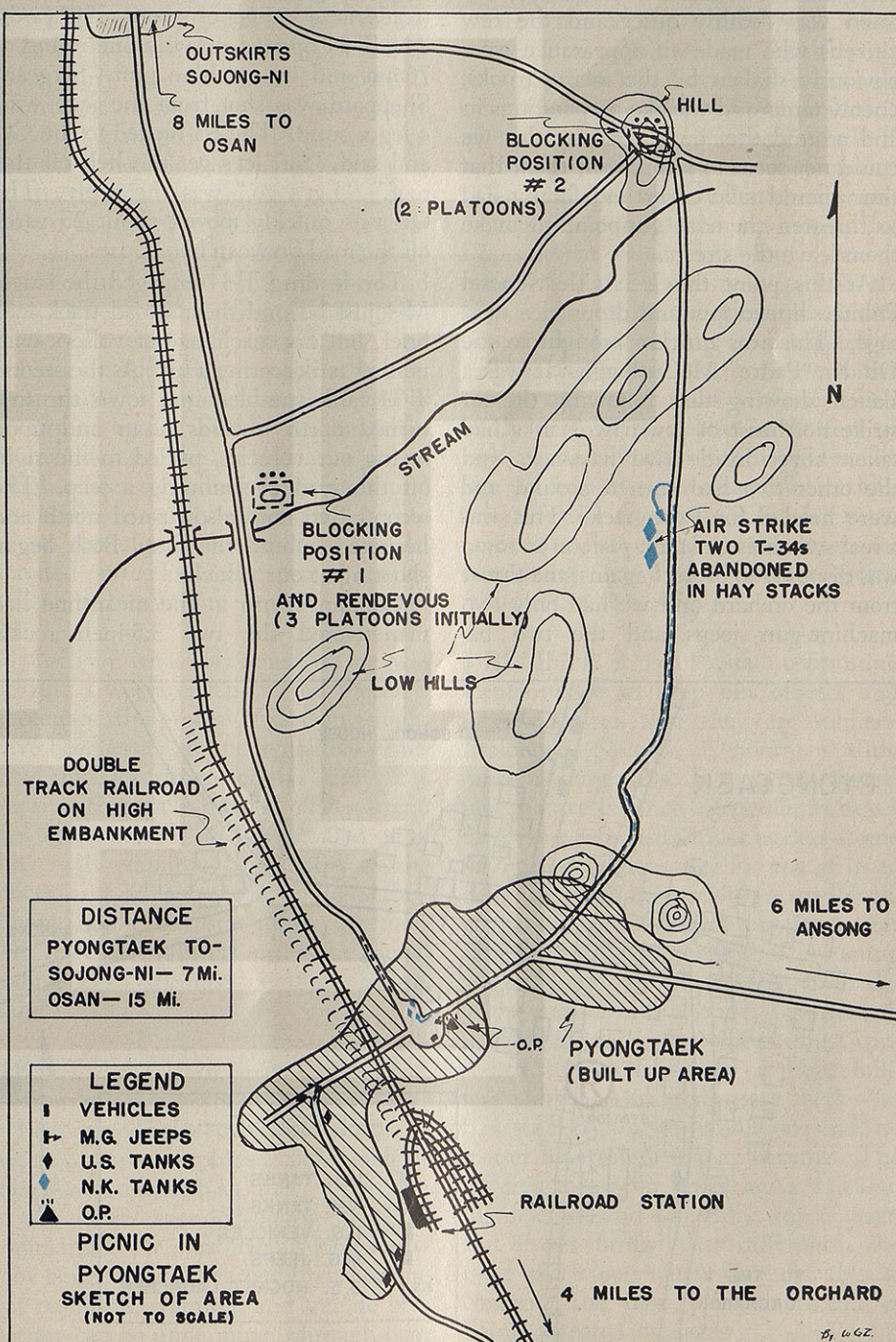
A hurried map study indicated that the T-34s could continue north from Pyongtaek towards our twelve tanks, or they could swing either northeast or southeast from the town on secondary

roads. We were anxious that they head straight into our present trap, of course, but the other possibilities had to be examined. If they did not come to us it was decided that we would go to them. Either by pursuit should they turn southeast, or by bottling them up with tank blocks in Pyongtaek and northeast of it, if they should turn northeast. We felt that by pursuing them from Pyongtaek they would either be forced to stop and fight or flee into our waiting block of M-4s in hull defilade.

While these plans were being made an artillery liaison plane with Brigadier General (now Major General) Charles D. Palmer, the division artillery commander, arrived. This aircraft regained

our visual observation of the enemy and reported that the four enemy tanks had swung northeast from Pyongtaek on the secondary road.

Two four-tank platoons were dispatched to take up the predetermined blocking positions to the northeast. The tank company commander was ordered to remain at the rendezvous to meet the infantry company. The mobile command group prepared to move south to Pyongtaek with the remaining tank platoon to set up a block and prevent the four T-34s in the orchard from entering town from the south until after King Company had arrived. A jeep bearing Captain Flynn arrived as these orders were being issued and he stated that his company would be in shortly. He was



briefed on the situation and left with the tank company commander to coordinate his plans. The tank company was attached to Captain Flynn within the framework of the plan.

As the mobile command group headed south a flight of F-51s arrived overhead. The L-5 relaying to the TACP via the artillery liaison officer, guided the fighters to the enemy tanks northeast of Pyongtaek and the Mustangs began to strike.

Stopping the extra vehicles just north of Pyongtaek, the personnel of the MCG entered the town on foot with the exception of the tank platoon, two bazooka crews and two machine-gun jeeps which were brought in by the regimental S3 and placed in hasty blocking positions to cover the arrival of K Company. The town was deathly quiet and the few citizens who made an appearance were obviously shaken by the racing trucks, enemy tanks and warlike preparations in and around the town. Despite this we could not seem to impress on them that they should take cover and finally had to threaten them at gunpoint to make them leave the streets.

At this point the L-5 with General Palmer dipped low and dropped a message. This was quickly brought to the OP by "Padre" McCullough. It was a sketch showing that following the air strike northeast of town two tanks had taken cover inside two haystacks and the other two had turned around and were headed for Pyongtaek. This was a real switch as our tank platoon in town was disposed to protect against the threat from the orchard and we had only two machine-gun jeeps and the two ba-

zooka crews in the center of town.

COMPANY K arrived and dismounted at the edge of town. Captain Flynn and the tank commander were quickly briefed on the situation. Captain Flynn began disposing his forces to meet both threats. A message was sent to our tanks north of town to proceed to Pyongtaek. As the infantry moved into the town the regimental CO and S3 climbed on top of one of the straw-roofed buildings and surveyed the road leading to the northeast. In a matter of minutes the two enemy tanks could be heard rumbling down the road and the infantry, not yet in position, began to take cover.

As the first T-34 appeared, Sergeant "Shep" Sheppard swung the caliber .50 machine gun around and fired at its treads at a range of about 150 yards. The T-34 opened up with one round of 76mm and its machine gun. Sergeant Sheppard was shot from the jeep with a leg wound. The S3 turned to the CO and said, "Sir, let's get the hell off this roof." "Let's go," was the reply. The OP was quickly moved about 25 yards off the road between two houses.

The leading T-34 engaged the single M-4 just beyond the railroad track in a brief, but hot, exchange of volleys with neither tank scoring a hit. As the second T-34 tank rumbled into town the first turned north towards Osan and upon seeing our vehicles, pulled to the right off the road overrunning a jeep. The second Red tank also turned north and hesitated behind the first. Both began shooting at our vehicles.

Captain Flynn in the meantime had maneuvered the two 3.5-inch rocket

launchers into a position to fire. Cpl. Herbert Kurshensay and Pvt. 1st Class Billy L. Davis scored smashing hits on the rear of both tanks from about twenty-five yards range. In the explosion of the bazooka rockets, Captain Flynn was wounded in the chest by fragments but he continued to direct the deployment of his men.

The North Koreans who were not killed by the bazooka rockets abandoned their tanks. They met a hail of fire from the shotgun crew and infantry.

The enemy tankers took cover in houses adjacent to the road with their burp guns and we were faced with the mission of cleaning up these diehards. The enemy T-34s were burning. The machine-gun ammunition in their turrets crackled like giant firecrackers and there were loud explosions from the 76mm ammunition. The burning tanks blocked our own M-4s from approaching and overrunning the houses into which the Reds had fled.

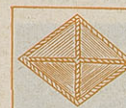
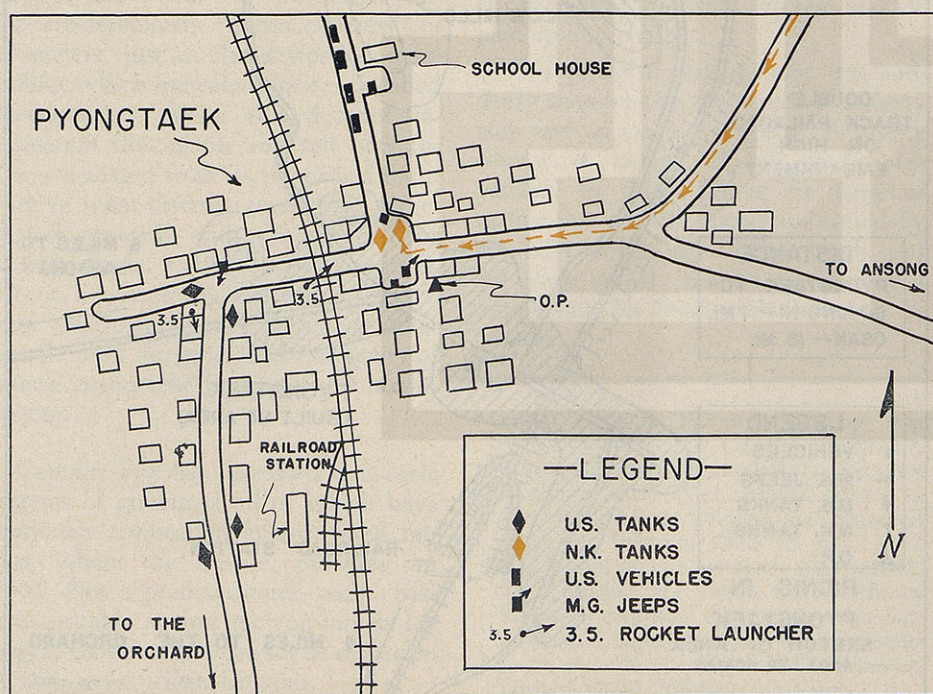
Captain Flynn was finally pulled back to cover protesting all the while and saying, "Aren't they good," and "Boy, that King Company is red hot." The regimental CO ordered him to stay where he was, so Captain Flynn settled down to await the mopping up.

DOUGHBOYS from King Company promptly swept the section of town containing the diehards. Entering rooms where the Reds were holding out, the GIs dueled the burp gunners, killing five of the remaining six with BAR, M-1 and tommy-gun fire. The sixth was captured. He turned out to be the platoon leader of the tank platoon. He was ingloriously returned to Osan, spreadeagled on top of a loaded quarter-ton trailer.

Totaling the results of this encounter, Garry Owen could chalk up two T-34 tanks destroyed, nine North Koreans killed and one officer captured. On the other side of the picture our losses were one wrecked quarter-ton jeep and eight wounded men, all of whom later returned to duty.

The supply convoy had fared worse. The assistant S4 and his two-man bazooka crew were killed by machine-gun fire. Their bodies were found near the orchard. One 2½-ton truck was destroyed and the supply mission was postponed twenty-four hours.

In addition to the two T-34s destroyed inside Pyongtaek, air strikes had destroyed three tanks and the remaining five were abandoned and captured, two in the haystacks and three in the orchard south of Pyongtaek. The enemy infantry withdrew to the hills.



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A Finance Corps officer reports on his **TWO YEARS IN THE ARTILLERY**

Captain Wittmer I. Schleh



My two-year detail in Artillery is ended and it occurs to me that some observations of my experiences might be of some value to other Finance Corps officers who may be detailed to two years of service in a combat arm. Perhaps what I have to say may make other officers of my Corps approach such an assignment with less trepidation. I am thinking particularly of those who have never had troop duty.

When you receive orders to report to a combat unit after prolonged duty as a Finance Officer you begin to speculate on how difficult it will be to become adjusted to the life. Now those military fundamentals—map reading, camouflage, interior guard, drill and ceremonies—will be an everyday thing. You begin to wish you had devoted more time to them. (Later events will bear out the importance of this.)

The first several weeks are really bewildering. It is an entirely new life with strange things happening with alarming rapidity. It is astonishing that you are expected to perform as though you have had years of experience. This creates a serious mental hazard that remains until experience gives you confidence.

My first three weeks in the 519th Field Artillery Battalion in Germany were devoted to familiarizing myself with what, at that time, seemed to be a million things: the nomenclature, operation and capabilities of the 155mm howitzer; ammunition and how to use it in a given tactical situation; laying a battery; operations of a fire direction center; selection and occupation of a

battery or battalion position; and so on.

When my initial orientation was completed, I was informed that I was to be commander of Service Battery. Such a heavy responsibility so early disturbed me. I learned fast because I had to; but it wasn't painless. I caught more hell in those early months than I figured I might get during my entire military career. I managed to stand up under it because I had decided in advance that no matter what happened I would consider it as part of my education. It actually was. It paid off in the end. I made mistakes and a few of them were bad ones. The essential thing is not to become embittered or "let down."

Later, in addition to my job as battery commander, I became battalion S4, as prescribed by our TO&E. My battalion commander at the time was a keen, rough officer who knew his supply and was certainly supply conscious. I had to be on the alert every second. He demanded perfection and expected results. I benefited from my experience as an S4.

Much of what happened to me was because I was a captain. Had I been a lieutenant, the process of learning might have been easier and more gradual. I believe the Department of the Army now requires that each detailed officer attend the basic course of his detailed arm. This will certainly be helpful to the officer and advantageous to the Army. There simply isn't time to prepare yourself in basic subjects *after* the detail commences. It must be done beforehand.

WHAT did I learn, in a larger sense, from my two years in Artillery?

First, that "problems of the troops" is not an overworked phrase; such problems increase or diminish in direct proportion to the effort expended on them by the commander. He must live his job twenty-four hours a day. I learned that the combat readiness, training, and morale of a battery can be undermined through poor

logistical support. The word service, which we in the Finance Corps value so highly, certainly means more to me now. I won't forget it.

I learned that technical and administrative services must be tolerant when a line officer tells them he "doesn't have time" to do what they want within an established time limit. A line officer is always crowded for time, particularly if he is a battery or company commander. I don't mean to suggest that carelessness or negligence should be condoned. But I do say that we should do our damnedest to make the way as easy as possible for him so that he can devote maximum time to combat training and leadership.

The old maxim that a commander can be only as good as his staff is certainly true. This applies at battery as well as battalion level. Sloppiness by key persons, either militarily or technically, can be disastrous. One learns to appreciate the effect on the troops of our living up to the Finance Corps motto: "Get 'em paid."

BELIEVE it is of vital, continuing importance to keep our officers and men conscious that they are soldiers. Prolonged periods of nontroop duty make us forget this. It is equally important that we Finance Corps officers never forget our responsibility as leaders—some day it may be necessary for one of us to defend a position, establish a roadblock, or guard against infiltration in a rear area. A fairly sure method of becoming a good leader during combat is to develop oneself into a leader beforehand.

We Finance Corps officers must constantly refresh ourselves on basic military subjects and elementary tactics—so that we'll be able to handle our end, no matter how rough it may become. The difference between operating a calculating machine and a machine gun is great. But if we bridge that difference, the time may come when we'll be able to compute the next payroll, instead of being defeated or dead.

CAPTAIN WITTMER I. SCHLEH, Finance Corps, served two years with the 519th Field Artillery Battalion in Germany. This article is based on a report he wrote to the Office of the Chief of Finance at the conclusion of his tour of duty with the Artillery. He is now on duty at Fort Benjamin Harrison, Indiana.

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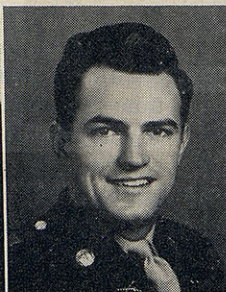
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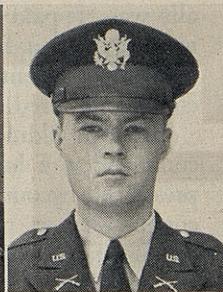
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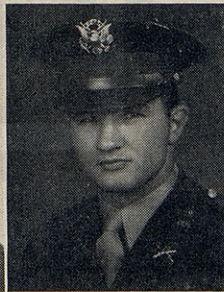
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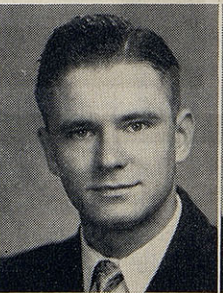
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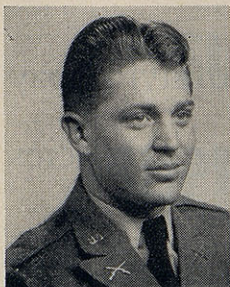
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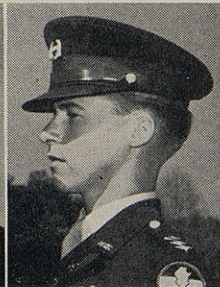
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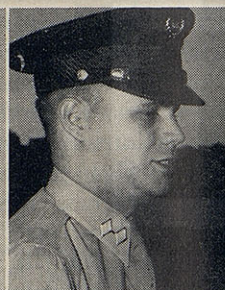
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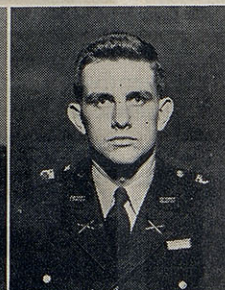
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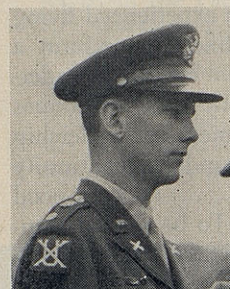
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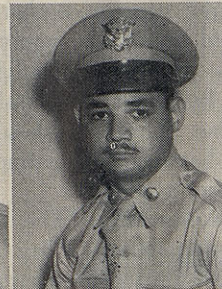
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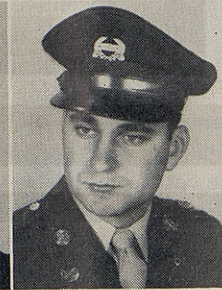
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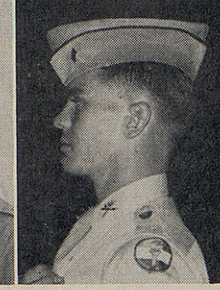
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Why Flying Pay?

The Air Force defends its support of flying pay and its long-established flying status policies

The Air Force not only believes that present rates of flight pay must be maintained or even increased if it is to create a powerful air arm, but also would like to have the "continuing challenges in the area of incentive pay" settled because they "are destructive to the continuity of morale of essential flying officers and airmen."

In a statement to a Senate Appropriations Subcommittee, the Air Force defended flight pay and stated that it "would welcome the assistance of an impartial commission of qualified citizens to scrutinize present incentive rates and flying status policies."

The statement added that any attempt to reduce flying pay or change flying status policies before such a commission could make an exhaustive study would "appear to be of too high a danger potential to be undertaken hurriedly."

"The purpose of flying pay is to recognize the existence of hazard in the military flying career through providing those incentives essential to attracting qualified flying personnel," the statement said.

Excerpts from its defense of flight pay and flying status policies follow.

Policy. "It is the policy of the Air Force that only those personnel needed to meet the requirements of the Air Forces mission . . . will be placed on flying status."

Cost, age, competence. "Average incentive pay for an air crew officer is \$1,500 per year. If this incentive proves to be inadequate and an experienced flyer is lost, the training of a replacement costs approximately 40 times the cost of a year's incentive pay. . . .

"It is frequently claimed that the Air Force is top-heavy with old, worn-out flyers. Less than 1 per cent of Air Force flyers are 45 years of age or older. This number of mature professionals is less than the requirement for leadership of a modern Air Force. . . . This number is woefully small should full mobilization be forced upon us by all-out war.

"Competent, mature pilots must be ready at all times to lead combat units. For that reason they must maintain a level of flying proficiency paralleling

that of the flyers they may be called upon to lead. . . .

"A pilot with 7 to 10 years of service flying a B-29 or B-47 receives in total pay approximately half the salary of a four-engine airline captain. That is severe competition. If the combat crews of the Air Force are to deliver the results . . . a tangible incentive to attract competent men is essential.

" . . . approximately 9 out of 10 flying officers [are] veterans of World War II. . . . Eight of every 10 are Air Reserve or Air National Guard officers. Their willingness to remain on active duty . . . is absolutely essential to the growing demands for security in the air. Logic dictates that a reduction in incentives is not a sound way to retain the services of these essential flyers."

Surgeons. ". . . Doctors, intimately familiar with physical and mental conditions of flying personnel, are essential. Flight surgeons are on flying status in the Air Force. . . . To compromise with the fitness of or to needlessly increase the hazard of military flyers by destroying the surgeon-combat flyer teamwork would be false economy."

To proposals that flying pay for certain flying officers should be eliminated or that flying pay should be cut across the board, the statement had several counter arguments.

Lieutenants. "The incentive pay of a first lieutenant today is equal to about 40 per cent of his base pay. . . . The total incentive pay for flying duty [at the time of Pearl Harbor] approximated 75 per cent. Incentive pay has already been reduced less than 3 years ago . . . further reduction of incentives would be a dangerous gamble."

Generals. "The flying pay for general officers for 1 year is about equal to the cost of one all-weather jet fighter. Avoidable loss of one B-47 because of the absence of a competent air commander would be equal to the flying pay of all flying generals for 5 years. Qualified air commanders and supervisors save their flying pay many times over in accident reduction alone."

Colonels. "The annual flying pay for colonels in the Air Force is approxi-

mately half the cost of the aircraft for one jet-fighter squadron. Yet it is colonels who command combat groups and wings in the air. . . . This kind of competence can't be developed after a war starts. If it isn't ready on D-day it will never be available."

Across-the-board. "An across-the-board cut of 25 per cent of incentive pay for pilots, navigators, bombardiers, radar observers, gunners, flight surgeons, flight nurses, etc., would result in an annual saving equal to half the initial and 1-year operating cost of one interceptor squadron. The inevitable loss in flying personnel, reduced morale . . . increased difficulty in . . . recruiting . . . resulting from such a cut is such that the Air Force would readily forego half of one interceptor squadron (one-sixth of one wing) rather than compromise the effectiveness of the 126 combat wings essential to survival."

Off and On. "It has been sometimes proposed that flying officers while on staff duties be removed from flying status. Aside from the penalty aspects of such a system, the experienced flying officer must be qualified to perform a double responsibility. He must understand the strategy, tactics, and techniques and possess the judgment for leadership in the air. This mandates continuity of flying experience. . . . To be a good flyer is not enough. To be a good manager is not enough. To be both is essential and this demands breadth of training and experience.

" . . . [The Air Force officer] must blend continuity of flying with executive training, if he is to maintain his value. An 'on again, off again' flying system would either compel the officer to quit flying permanently, which the Air Force cannot afford, or result in such slippage in his flying experience and judgment as to render him of marginal or negligible value for air leadership.

"By the same token, to establish a policy in which some officers did nothing but fly and others did nothing but management and executive functions would clearly split operations and management with inevitable waste and ineffectiveness."

FIRE SUPPORT COORDINATION

**Lieutenant Colonel
Carl W. Schaad**



THE variety and number of our weapons permit us to pit fire power against man power. But the more weapons, the greater the problem of choosing the proper one to fire on a particular target. The selection of appropriate weapons and their effective employment is *fire support coordination*. Unfortunately, general misunderstanding of fire support

coordination exists throughout the Army. If we can clarify its place and its job many of the difficulties that presently hamper effective fire support coordination should disappear.

Fire support is the fire delivered by supporting arms to assist infantry or armor in closing with and destroying the enemy. If the infantry or armored soldier faces the enemy with the help of well-planned, well-executed, coordinated fire power from artillery, mortars, rockets, warships and aircraft, he'll be getting fire support.

An axiom of fire support might be: *Always use the most effective weapon to do the job.* The purpose of fire support coordination is to put this axiom into effect—at the right time, in the right place, and in the right volume.

The infantryman can deliver fire with



LIEUTENANT COLONEL CARL W. SCHAAD, Artillery, is chief of the Training Doctrine Branch, Dept. of Training Publications and Aids, The Artillery School. During the Second World War he served in the Pacific Theater as a battery officer and commander, battalion S3, executive and commander. He was a U.S. representative for Artillery in the standardization program of the U.S., U.K., and Canada. Recently he has participated in several studies of fire support coordination.



The increased number and variety of weapons demands that fire support practices be carefully coordinated so as to get the best from each weapon according to its capability

his individual weapons—the rifle and grenade. He can get additional fire power from his organic machine guns, mortars, recoilless rifles, tanks, and flame throwers. He is further supported by fire power from three major sources—artillery, aircraft, and naval guns. To hit the target with the best weapon at the right time, to avoid duplication of effort, and to insure the safety of friendly troops, all supporting fires must be closely coordinated with other fires and with the maneuvers of ground-gaining units.

The officer who must select a weapon to attack a target must understand the mission and plan of maneuver of the force he supports. He must know what he is shooting at, and the capabilities and limitations of the weapons available to him. He must be familiar with the facilities and procedures used by supporting arms to engage a particular target.

He must consider and analyze many details: How will the attack of the target affect the mission of our forces? Is the target to be neutralized or destroyed? How accurate are the weapons? How long will it take for a specific weapon to fire on the target? How soon must the target be attacked? Is the means of delivery vulnerable to counterattack by the enemy? What is the weather? What about enemy aircraft? How accurately is the target located? What ammunition is available? Is the use of second- or third-best type of ammunition warranted? How much fire is needed during a specific period? How important is this target with respect to others? What will be the effect of suspending friendly artillery fire during an air strike? What measures are necessary to insure the safety of friendly forces? What communications can we use to control and coordinate this supporting fire?

There are many other details.

ARTILLERY fire has at times been placed on targets that mortars or machine guns could have destroyed or neutralized. Targets have been attacked with infantry weapons that should have been engaged by artillery. Aircraft have been used to attack targets within the range and capability of artillery. Artil-

lery has been used futilely against positions that could have been destroyed or neutralized by aircraft.

There are times when artillery fire must be used although normally the fire of an infantry mortar or recoilless direct-fire weapon would do. This happens, for example, when the infantry weapon has to be left behind or when the difficulty of ammunition resupply to the lighter weapon justifies using artillery.

Evaluation must be made between the around-the-clock, all-weather firing capabilities of artillery, and attack by aircraft, which is relatively expensive and requires, in most cases, daylight and favorable weather conditions for close support. Yet, there are targets aircraft can destroy or neutralize better than artillery. Artillery fire on well-prepared bunker positions is not as effective as napalm, which, at present, is most efficiently delivered by airplanes. Artillery fire and fire from aircraft should be considered complementary rather than supplementary.

PRIMARY consideration should be given to the kind of supporting fire the supported commander asks for. But the capabilities and limitations of weapons must be appreciated and if the type requested is not available, another must be substituted. In our axiom of fire support, provision is included for using fire power that is ready at the time and place required. The rapid use of the weapon immediately available, even though not the most appropriate, may mean the difference between success and failure.

"The great weight and flexibility of fire power available to U. S. combat commanders can never be employed in sufficient quantity or speed . . . but every effort must be made to reach this optimum. Steel is cheaper than lives and much easier to obtain," so said the commander of the Eighth Army in Korea.

PRESENT deficiencies in fire support coordination can be attributed to lack of a well-established system whereby each arm is properly represented to the supported commander. Infantry-tank-artillery teamwork is largely accom-

plished by competent liaison personnel and the close association of all partners on the battlefield. Coordination of these arms has become second nature. Fire support coordination is still having growing pains.

Before World War II, artillery was almost the only supporting weapon for ground combat operations. Early in the war, tactical air support moved in and, in amphibious operations, naval gunfire support. By the end of the war it was plain that we needed some system to coordinate all of these agencies.

Through necessity several more or less effective methods of coordinating fire support were developed. Since 1945 (especially in Korea) progress has been made toward better coordination. Detailed techniques have been worked out and, most important of all, a system of coordinating fire support has been adopted and is now SOP.

Through necessity, naval and air units are learning to work in close accord with ground forces. The exchange of liaison and observer parties and the improvement of communications have been contributing factors. However, there are still problems of technique that must be solved. These problems will become greater with the advent of heavy rockets, guided missiles and atomic weapons as additional fire power.

THOUGH provisions have been made in Department of the Army publications for the coordination of fire support, many officers are as yet unfamiliar with this subject. The lack of knowledge can probably be attributed to the newness of the subject and to inadequate dissemination of information on its details. The Artillery School is currently preparing a special text covering the details of organization and functioning of fire support coordination. Portions of this are expected to be incorporated later in Department of the Army training publications.

Present official doctrine on the subject began when *Principles of Fire Support Coordination*, Training Circular 13, was published by the Department of the Army in December 1949. Its purpose was to "enunciate principles for the in-

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tegration of all means of fire support . . . " This circular was based upon several years of study at The Artillery School and close coordination with other service schools. Its scope was general and, although it did help awaken the Army to the problems, it left many questions unanswered and details unexplained. Controversial points developed which were discussed and ironed out, and in August 1951 a new training circular (DA TC 23), *Coordination of Fire Support*, was published. It fills in many of the gaps and prescribes doctrine for the coordination of fire support available to units from the infantry and armored battalion up through army and army group.

The coordination of fire support is considered in Field Manuals 100-5 and 101-5, the command and staff bibles. FM 100-5 advises that "the best guarantee of success in the attack is effective cooperation among the troops in the attack echelon, the supporting artillery and combat aviation."

Battlefield accounts of fire support coordination are the best evidence of its effectiveness. A combat veteran of the Korean fighting reports: "There were times when we had as many as 262 sorties of aircraft delivering attacks for our division in one day. The artillery was shooting every round it could put in the tubes. By careful coordination, air strikes can take place without interfering with artillery fires. There really is a tremendous problem in coordination to have the maximum number of weapons firing without anyone [except the enemy] getting hurt."

Another observation: "The Fire Support Coordinator must be given much more consideration by every commander. Many supported commanders feel that they have got to make all decisions and work out all details. Actually, they don't have time to do it. But they don't utilize their available staffs to assist them to the utmost. When you have artillery commanders, liaison officers and infantry officers who realize the value of careful prior planning, you generally get good fire support. Too much fire support is requested and planned in an off-the-cuff manner; much is wasted because of inadequate planning. The lack of preplanning to set up on-call missions results in a great waste of ammunition."

Another remarked: "I think the main criticism of the average commander in Korea is his lack of understanding of the problems involved in organizing a fire plan and the necessity for being meticulous in planning and coordinating a fire plan. There is a prevailing

attitude that, with the tremendous fire power available, all you need to do is shoot. We are not getting the maximum efficiency out of their fire support because of the lack of planning and coordination."

THE coordination of fire support is as much a command responsibility as is the maneuver of infantry, the exploitation by armor, and the massing of the artillery fires that support them. Every commander has subordinates responsible to him for the operations of each component of his command. The artillery officer has always been responsible for coordinating the supporting fires of ground weapons not organic to infantry and armor. The coordination of supporting fire from aircraft and naval guns is a natural extension of this responsibility.

The artillery officer is logically given the mission because of his dominant support role, his proximity to supported troops, and his knowledge of their requirements. This mission is not a new one to the artillery officer but is an inbred tradition of his arm.

Subject to the commander's approval, and assisted by representatives of the other fire support components, the artillery officer coordinates fire support agencies and facilities at each level of command. He is responsible that supporting fires are integrated with the fires of the organic weapons of supported units.

The planning and coordination of fire support is done at each echelon from regiment to corps through an agency called the Fire Support Coordination Center (FSCC), which is composed of the artillery commander as coordinator assisted by his S3, his S2, the G3- (S3-) Air of the supported echelon, the air liaison officer and naval gunfire liaison officer and the necessary communications facilities. It operates as a staff agency of the *supported commander*.

BELOW regimental level, although FSCCs as such are not established, fire support is coordinated on an informal basis among the supported commander, his staff, and the representatives of the available means of fire support.

At company level the artillery forward observer is ready to call for any type of supporting fire needed by the company commander. Not only is the fire power of his own artillery battalion immediately available at his call but, through his battalion, he can call for all available artillery of the division and corps. He can also call for fire from air-

craft and, at times, for naval gunfire.

The FO can mark targets with smoke for air strikes. He can direct aircraft to the target by relaying his observations through the tactical air control party. The forward observer is not only the eyes of the artillery but he is also in a position to advise the company commander on where, when, and what type of fire should be used. The forward observer is, in a large measure, the fire support coordinator for the company commander.

At battalion level, coordination takes place informally between the battalion commander or his staff, the artillery liaison officer, the forward air controller, and, when he is present, the naval gunfire liaison officer. The artillery liaison officer usually assumes the position of fire support advisor (or coordinator) for the battalion commander. He works closely with the forward observers, supervising and coordinating their activities.

This system of coordination establishes a hub at each echelon for the careful and detailed planning necessary of fire support. It provides for the representation of various fire support agencies. For advice on supporting fires, the supported commander need go to only one individual, the Fire Support Coordinator. However, this does not mean other representatives cannot advise the commander concerning their own particular means of support.

The FSCC has facilities to determine and evaluate targets based upon reports received from its various information sources. It uses, as a basis for planning, the mission and objective of the attack. Fire missions are assigned after the FSCC determines what type and volume of fire is required to destroy or neutralize targets and what part each supporting arm will play in the operation. The details of delivery and control of fires for the attack are then coordinated for the force commander by the FSCC.

Representatives of Air, Navy, and Artillery cooperate with the Fire Support Coordinator. They work together as a team with the Fire Support Coordinator as the quarterback calling the signals for the commander.

INTERSERVICE rivalry is out of place on the battlefield, especially in the FSCC. Each service contributes its best effort to produce a winning team. The job of fire support coordination is to employ all fire power resources to get the best effect from each available weapon according to its special capabilities for the best possible support of the infantry and armored soldier.

FRONT and CENTER

The Artillery School

Aircraft radio. Following laboratory tests of pilot models by Signal Corps and Air Force and production by the manufacturer, TAS expects to receive two or more sets of the new AN/ARC-22 radio which wraps up a radio communication-navigation system in one lightweight set. Specially designed for Army aircraft, the AN/ARC-22 provides short-range air-to-ground and air-to-air voice communication, and all of the radio aids to navigation now available in the VHF band. Its four bands—low-medium, VHF, UHF, and FM—can be selected at will.

Total weight is less than 50 pounds.

Advanced Course. TAS expects some 250 officers to enroll for its nine-month Artillery Officer's Advanced Course which opens on 2 September.

Extension Courses. TAS announces that Subcourse 30-4 (Artillery Survey) revised, is available for distribution and Subcourse 40-17FA (Self-propelled Artillery) revised, is being printed. Operation and use of recently developed matériel and signal equipment is included in this course.

Instrument flight proficiency. Pending instructions from D/A all Army aviators assigned TAS who have valid CAA instrument certificates will have to meet annual minimum requirements. The year is counted as the one immediately preceding the anniversary of the pilot's certificate.

Requirements: (1) Twenty hours of first pilot instrument time in weather instrument and/or hooded flight. Ten hours of this time must be flown within the preceding six months. (2) Fifteen hours instrument synthetic trainer time, six hours of which must be accomplished within the preceding six months. (3) Ten GCA (ground controlled approach) low approaches, five of which must be accomplished within the preceding six months. (4) Successful completion of an annual instrument flight test, conducted by instrument flight examiners designated by the Director, Department of Air Training, TAS.

The Infantry School

Soldier's load. A soldier should be a mobile fighting man and not a pack horse, so TIS is preparing a new training circular, "Command Responsibilities, In-

dividual Soldier's Load." The circular sets forth principles for establishing load limitations for the soldier under varying conditions and enunciates current logistical policies. Rigid supply and equipment allowances have been abolished in favor of flexible allowances. Theater commanders can designate loads to be carried on particular missions and the balance of equipment and supplies provided for in T/O&E is kept in supply installations until needed. For example, soldiers ordered overseas used to carry 86 pounds of clothing and equipment; now they carry 42 pounds. When he gets overseas the soldier then draws what he needs to perform his duties.

RR platoon. A training circular on the proposed recoilless rifle platoon is in the works at TIS. It will cover mechanical training, crew drill, and normal weapon data on the 105mm recoilless rifle, plus a brief section on tactical employment.

Visual aids. Here's the latest dope on visual aids at TIS:

Under review—"Combat Patrols"

In production or completed but not distributed—

7-1710 Foot Marches

7-1717 Infantry Battalion in Defense, Part I

7-1718 Infantry Battalion in Defense, Part II

7-1743 Rifle Platoon in a Night Withdrawal

7-1746 Reinforced Infantry Battalion in Attack, Part II

17-1677 Regimental Tank Company in Attack

21-1741 Seeing in the Dark
Rifle Platoon in Attack of Built-Up Areas

Troop Movement by Motor
Combat Patrols

Scenarios being written—

"Defense of Rear Areas"

"Military Instruction"

"Leadership" (a 3-part film)

"Achievements and Traditions of the Army"

Recommended—A film bulletin on Mountain Training. Approved by Field Forces, the idea is awaiting D/A decision.

Television. TIS is exploring the possibilities of using television in its work. The Signal Corps has briefed representa-

tives of TIS on TV and its mobile television system is at TIS to experiment in the tactical and training uses of TV.

MGM movie. A script writer for MGM visited TIS to get material for a movie "Take the High Ground." The picture is of basic infantry training designed to show the families of new soldiers just what happens to their men. Inevitably the conflict is between a sergeant and the recruits.

European city. It took some six weeks for the 100 members of the 78th Engineer Combat Battalion to build a mock European village at Fort Benning to be used in making a new training film. Starting with 16 buildings already on the site, the crew put up five additional buildings and made it all look like a war-torn European village. The film, largest venture ever undertaken by the Signal Corps Photographic Center, was shot by a 50-man camera crew.

Equipment

Equipment reductions. Savings in infantry division equipment have been made possible through electrical accounting-machine calculations. Among the possible savings are a reduction of some 1,300 wrist compasses, 1,600 luminous markers, 700 whistles, 600 wire cutters, 500 goggles, 500 grenade launchers, 450 flashlights, and 400 five-gallon water bags. Biggest savings are five cargo trucks and one armored utility vehicle. Altogether some \$600,000 worth of equipment has been cut from the infantry division in a recent revision, not yet approved by D/A.

A armor. The Director of Defense Mobilization announced that more than 300 M47 medium tanks are being delivered to the Army each month. Whether this rate can be maintained in the face of the loss of production during the steel strike won't be known until the state of the materials pipeline to various component manufacturers is revealed.

Shorts

Officer Candidates. D/A expects some 19,500 officer candidates (not including Wacs) to enter OCS during the present fiscal year and anticipates the commissioning of some 11,000 of them.

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Irons in the Fire

Vision. Reports from the Army Medical Research Laboratory at Fort Knox indicate that contact lenses are superior to regular eyeglasses for men in combat.

Taxes. If you are on active duty and sell your home at a profit you don't need to pay income tax on the gain, provided you use the money to buy a new home within four years.

Pay records. Finance Corps has installed microfilm equipment in its principal disbursing offices in the U. S. to record all individual pay records. Facsimile of each serviceman's pay record will be placed in his 201 file.

Jump Pay. Even though a parachutist may qualify for jump pay by making regular jumps, he can't collect if he isn't assigned to an airborne unit or officially designated to perform a parachutist's duty, the Comptroller General has ruled.

Manpower. The Department of Defense estimated the services will need 1,200,000 men the present fiscal year if they are to attain an over-all strength of 3,700,000 and keep it. To get them the Department anticipates it will get 510,000 through enlistment, call 70,000 reserves to active duty, and draft 610,000 through Selective Service.

Combat Pay. Officers and men on active duty who are entitled to combat pay of \$45 a month for service in Korea will be paid under the provisions of regulations now being prepared. Eligible persons who are no longer on active duty will submit claims for combat pay on forms to be distributed by the Department of Defense. Because eligibility for combat pay must be determined from unit records payment will be slow.

Selection Boards. A D/A selection board will meet 1 Oct. to select officers for promotion to permanent major general and brigadier general. Considered for promotion to permanent major general will be all permanent brigadiers who will have served in that rank for more than one year by 1 Jan. 1953. Considered for promotion to brigadier general will be all permanent colonels with one year of service as colonel by 1 January 1953. Interested officers may correspond with the Board by addressing their letters to The Adjutant General, Attention Army Selection Board, Washington 25, D. C.

Ordnance Corps has given Willys-Overland a contract for the new model jeep. Changes [noted in our March issue] include a raised hood, lengthened body, and a new F-head 72-horsepower engine which will take the jeep two-thirds farther with 20 per cent more power than earlier models. It has larger springs, improved shock absorbers and plastic seats. To be known as the M38A1, the jeep has fenders streamlined for more effective guards against splash and mud.

Ordnance Corps completed a year of intensive study and service testing of its "primary wheeled vehicle" family to find out what savings could be made without hampering operations. Included in the study were trucks of the ¼, ¾, 2½ and 5 ton types. One of the resulting modifications provides for shallow fording (30 inches) in place of the former deep-water fording ability. By eliminating some of the waterproofing requirements, it is possible to substitute an open-type generator which costs less and is more efficient than sealed generators. One generator can now be used to fit all trucks from ¼-ton to 10-ton size. This eliminates nine generator assemblies and several hundred spare parts. Another innovation is special kits which permits field modifications for operations in specific terrain and climate conditions.

The XVIII Airborne Corps and the Eighteenth Air Force at Fort Bragg, N. C., are conducting a special exercise to test airborne and troop carrier procedures, with particular emphasis on heavy drop techniques and landing strip construction.

Medical Corps will begin construction on the first of seven new, permanent-type hospitals on stateside Army posts early next year. Replacing the old frame, cantonment type, the new buildings will be of reinforced concrete and those of more than 500-bed capacity will be nine stories in height. Wards for the critically ill, operating rooms and clinic facilities will be air-conditioned. The operating rooms will also be equipped to eliminate the danger of anesthetic explosions. Forts Benning, Bragg, Knox and Riley are scheduled for 500-bed buildings. Forts Belvoir and Monmouth will get 200-bed hospitals and Fort Dix will get the biggest

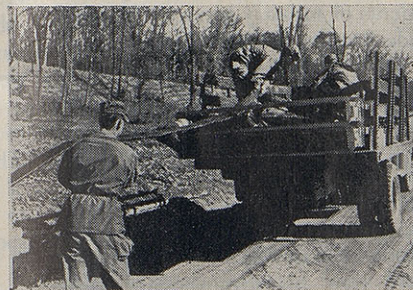
of all, with an initial capacity of 750 beds.

Reo Motors, builders of the Army's 2½ ton "Eager Beaver" has announced the receipt of another big contract for additional vehicles and spare parts. In their third year of production on the Beaver, Reo claims to have the largest major contract received by the automotive industry since World War II.

The Navy has awarded a contract to the Electric Boat Company for a second atomic submarine. Though it will be of the same general design as the *Nautilus* now under construction, the nuclear power plant will be of a different design.

Air Force is testing a new machine gun which can fire up to 5,000 rounds per minute. It hopes that the new weapon can be used to beef-up the fire power of its heavy bombers.

Corps of Engineers is currently testing a new four-inch "portable pipeline" which can be laid from a truck at 15 miles per hour. Intended for delivery of gasoline and other liquid fuels to forward dispensing points, the pipelines were developed by the B. F. Goodrich Co. and the Corps of Engineers. One of these



Portable pipeline

portable pipelines can transport 41 gallons of gasoline an hour with a daily capacity equaling that of 162 two-thousand-gallon gas trucks. The pipeline weighs less than one pound per foot and has a 500-pound burst pressure, making it the strongest hose for its weight ever built.

The story of the Nazi's
most powerful
military machine
—told by its creator.



PANZER LEADER

By General Heinz Guderian

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

ONE of World War II's most important documents of military history—the complete inside story of the elite German tank corps as told by the chief of the Army General Staff. These historic memoirs reveal how Guderian foresaw the importance of armored warfare in shaping the course of history, his early preparations with dummy tanks, how the *panzer* forces he trained and led won victory after victory—at Sedan, in the Battle of France, in Russia—and how his revolutionary ideas led to his downfall.

Here is an important, illuminating book for every soldier and veteran who wants to discover what went into the making of Germany's crack *panzer* divisions. Profusely illustrated with 23 photographs and 37 maps and charts. 528 pages. \$7.50.

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★ BOOK REVIEWS ★

WAR BENEATH THE SEA

SUBMARINE. By Commander Edward L. Beach, USN. Henry Holt & Co. 301 Pages; \$3.50.

In proportion to their numbers, probably no other service inflicted greater losses on the enemy in the Pacific nor did more to bring the war to a successful conclusion than the brave men who manned our submarines. Unfortunately, their story has not received the attention given to our ground, air and surface forces. During the war, their exploits were top secret and could not be published. Since the war several books have appeared, the best being Admiral Lockwood's *Sink 'em All* and U. S. *Submarine Operations in World War II*. Commander Beach's *Submarine* is the first book to be written about submarines in World War II by a man who fought in them.

Commander Beach was a "reluctant" submariner. As an ensign in 1941 he was assigned to an old four-stacker destroyer engaged in neutrality patrol. However, after Pearl Harbor a need for more men in the submarine service became acute and an internal draft was begun. Beach was one of the early "draftees." He quickly became an ardent submariner and apparently has never regretted the assignment.

While Admiral Lockwood's book did a good job outlining the war patrols of the various submarines in the Pacific and some of their problems, his was necessarily a somewhat detached account since he was serving behind a desk as the over-all commander. Commander Beach covers much of the same ground but has the advantage of having been an actual participant in the undersea warfare waged against the Japanese Navy. He does a fine job of imparting to the reader the spine-tingling excitement of undersea warfare. He does an excellent job of explaining the workings of a combat submarine so that they can be understood by the dumbest landlubber.

Beach describes the various operations of ten submarines in Pacific operations. There is a certain similarity in the accounts of these various patrols and it is difficult to single out any particular action for special mention although Beach's account of "Mush" Morton's patrols in the *Wahoo* certainly must rank among the most exciting. And most submariners would agree that Sam Dealey and his *Harder* made one of the finest records of all.

Submarine is a wholly absorbing story of undersea warfare, crammed full with hair-raising excitement, and a fine tribute to gallant men some of whom have watery graves in the deep Pacific.—R.F.C.

LAST DAYS OF BONAPARTE

NAPOLÉON AT ST. HELENA: The Journals of General Bertrand, January-May, 1821. Deciphered and Annotated by Paul Fleuriot de Langle. Doubleday & Co., Inc. 318 Pages; Notes; Appendixes; \$3.75.

General Henri-Gatien Bertrand served

Napoleon faithfully and often brilliantly during his campaigns and in 1813 was appointed Grand Marshal of the Palace. He remained with Napoleon through his exile and until the Emperor's death in May 1821. An engineer, he was a man of precise and literal mind, and his diaries, in a sort of shorthand, were enormously detailed.

This book is a fragment of the diaries and covers the last months of the Emperor's life. Other parts are being deciphered and will add much to what is known of Napoleon's years at St. Helena, but this record of the final months—even without the record of the earlier years—is a splendid picture of the Emperor, and a dramatic account of his last illness. However improbable it seems that a day-by-day recording of any man's last illness could be dramatic, this chronicle of Napoleon's fight for life is fully as absorbing as the story of any of his battles.

Much of the book, of course, is in Napoleon's own words taken down verbatim by General Bertrand. The Emperor's comments, free of the restraint he imposed on himself as a public figure, range from discussions of the battles he fought to pungent and often brutally unfair remarks about former friends and enemies.

Napoleon at St. Helena as it stands is a fascinating and important fragment of history. The complete Bertrand diaries, when and if they become available, will certainly fill other important gaps in our knowledge of one of history's great commanders.—O. C. S.

HOMETOWNERS' PICTURE OF WAR

COMBAT BOOTS. By Bill Harr. Exposition Press. 232 Pages; \$3.00.

Bill Harr was a 45th Infantry Division combat correspondent in World War II, which means that he wandered around looking for good stories about the troops to run in the division paper or send to a soldier's hometown newspaper. This book is a collection of his best yarns.

Harr evidently took his job seriously, although most of his stories are on the light side—for home consumption—and of little value as professional reading.

Combat Boots isn't an accurate picture of war, either; probably it isn't intended to be. But the men you meet in this book are the men with a narrow-escape or an interesting-experience story to tell. Their experiences were part of the picture, but mostly the few bright spots on a dark canvas.—O. C. S.

PROCEED WITH CAUTION

HANDBOOK OF COURT-MARTIAL LAW. By Conrad D. Philos. Revised Edition, 1951. Callaghan & Company. 627 Pages; \$6.50.

This volume has been prepared for use as a companion volume to the 1951 *Manual for Courts-Martial*, and, following the paragraphs of the *Manual*, digests applicable

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decisions from JAG Bulletins, Board of Review and Judicial Council decisions, and reports of cases decided in the federal courts.

Insofar as the present compilation guides the reader to the mass of material in the (as yet) largely un-indexed decisions of Army Boards of Review prior to the Uniform Code, it has a certain utility. But this book abounds with so many inaccuracies that it must be used with extreme caution, even by a trained military lawyer; the line officer will use it at his peril.

If any reader of this review thinks the foregoing unduly critical, let him ponder a few examples.

(1) Philos, p. 1: "Cases tried by such [i.e., military] courts are expressly excepted from the due process clause of the Fifth Amendment (336 U. S. 695) and are deemed excepted from the Sixth (317 U. S. 39; 2 C.M.R. 52)."

336 U. S. 695 is *Wade v. Hunter*. That case held that (p. 688) "under the circumstances shown, the Fifth Amendment's double-jeopardy provision did not bar petitioner's trial before the second court-martial." The Supreme Court's holding was not that the case was excepted from the Constitutional guaranty, but that the provision had not been violated; and the Court said nothing about the due process clause. The only portion of the Fifth Amendment expressly inapplicable to courts-martial is the guaranty of indictment by a grand jury.

With respect to the Sixth Amendment, 317 U. S. 39 is *Ex parte Quirin*, the saboteur case, which dealt with a military commission and the laws of war rather than with courts-martial and military law proper. 2 C.M.R. 52 is an Air Force holding which indeed supports the text; but the Court of Claims specifically held a few years back that the Sixth Amendment's guaranty of the right to counsel was applicable to courts-martial, *Shapiro v. United States*, 107 C. Cls. 650, a decision which the Government did not appeal; and even Philos cites an Army ruling (p. 79) which appears to be in accord with the Court of Claims.

(2) Philos, p. 1: "Although accused in military law accordingly does not have certain civilian rights, he receives in their place many new safeguards, such as: right to make unsworn statement without cross-examination; . . ."

The unsworn statement (MCM, 1949, ¶ 76) went out the window with the 1951 revisions; the only unsworn statement the accused can make now comes after conviction and before sentence, and that is strictly limited to matters in mitigation and extenuation (MCM, 1951, par. 75c (2)).

(3) Philos, page 17: "warrant officer may not act as trial counsel, assistant trial counsel, defense counsel or assistant defense counsel. Only commissioned officers may act in this capacity. This rule applies to GCM and SCM. If the trial counsel or defense counsel appointed does not fulfill this requirement, omission is tantamount

Off-Duty Reading

Dicky Birds, Wyllettes and a Governor's Travels

EVERY great industry that has tried men's strength and will has had its heroes, some of them real, some legendary. The railroads had Casey Jones and John Henry, the steel-driving man; the loggers had Paul Bunyan. The oil fields haven't been operating as long, but they have developed their own legends somewhere between truth and imagination. A young Oklahoman named Bob Duncan has gathered up these tales, arranged them so they tell the story of oil, and put them in a book called *The Dicky Bird Was Singing* (Rinehart, \$3.00). The Dicky Bird is a fabulous feathered creature of cast iron with a voice like the squawk of a walking beam that needs oil, and it is said that once a man hears its voice he never leaves the oil fields until he dies. This book is the story of the men who listened to the Dicky Bird—the old-timers who gambled their money and often their lives on a single hole in the ground. It is the story of a way of life that is almost gone, and it is a good one.

PHILIP WYLIE is known to hundreds of thousands of readers as one of America's most original thinkers, a man whose savage indignation at the mess we make of our lives has alternately infuriated and appalled a generation of American readers. His *Generation of Vipers*, *Night Unto Night*, and *An Essay on Morals* have left his victims raw and bleeding. But this same man also turns out very neat whodunits, fishing yarns, and spy stories. They are considerably more readable and ingenious than most and always end happily. Perhaps Mr. Wylie writes these to torture himself. At any rate, his latest novelettes have now been published as *Three To Be Read* (Rinehart, \$3.50). One is a fishing yarn, one is a spy story, and the third a very commendable cops-and-robbers yarn with a very neat twist.

WE were prepared to find Governor Thomas E. Dewey's *Journey to the Far Pacific* (Doubleday, \$4.00) a rather stiff and forbidding report. We were delighted instead to find it highly informal, readable, and warmly personal. And, although Mr. Dewey bluntly criticizes some American policies and American officials in various parts of Asia, we can say honestly that this book is not primarily a political document. Governor Dewey visited Japan, Korea, Indonesia, Malaya, Indochina, Formosa, and other trouble spots. The people he talked to and the things he saw led him to the conclusion that the young leaders of Central Asia—and most of them are young—are sincerely and desperately trying to bring order out of chaos. He points up, too, the tragic fact that Asians understand us as little as we understand them, although the gulf can be bridged.

VERY few things about World War II in Italy were funny. *The Natives Are Friendly* by John F. Leeming (Dutton, \$3.00) definitely is. John Leeming, then a British officer, was accompanying Air Marshal Boyd to Africa in 1940 when their plane crashed in Sicily. They were sent to the Italian PW Camp for senior officers. PW camps are ordinarily not very humorous places, but the combination of hysterical Italian administration and the eccentricities and escape attempts of some very senior British officers turned this one into something like a comic opera, though with the inevitable and deadly undertone of boredom that every prisoner of war has known. Captain Leeming was repatriated in 1943 after going through an elaborate half-feigned, half-real nervous breakdown, and his companions took off in all directions when Italy was knocked out of the war. Most of them eventually made it home without being picked up by the Germans, or this story might have had a less happy ending.

O.C.S.

to complete failure to appoint and the error is fatal."

In *United States v. Goodson*, the U. S. Court of Military Appeals held that a special court-martial was not deprived of jurisdiction where the appointed trial counsel who acted in the case was a warrant officer (No. 424, decided April 14, 1952).

(4) Philos (pages 24-25) sets forth the *Hirshberg* case, 336 U. S. 210, which held that, after an honorable discharge issued in ignorance, followed by a reenlistment, the accused could not be tried for an offense committed during the first enlistment. He adds (page 25), "Note this result was reached even though Uniform Code had not been passed."

But Article 3 (a) of the Uniform Code, as the Committee reports show, was specifically designed to plug the hole left by the *Hirshberg* decision, and to insure that the *Hirshberg* result should not thereafter be reached.

(5) Philos, page 27: "General prisoners. Once jurisdiction attaches it continues. So if accused is convicted he remains amenable to trial by court-martial for offenses committed while in confinement. However, if he is a civilian, or a prisoner with DD executed, then he may only be tried for non-military offenses and cannot be tried for offenses such as desertion or AWOL."

Under old AW 2 (e), to be sure, "All persons under sentence adjudged by courts-martial" were subject to military law. But under Art. 2 (7) of the UCMJ, jurisdiction extends only to "All persons in custody of the armed forces serving a sentence imposed by a court-martial." That is to say, jurisdiction now depends on custody and not on status.

True, these are only samples, but since when did one have to eat the entire egg to judge of its quality? I repeat: This book must be used with extreme caution, and personnel untrained in military law use it at their peril.—COLONEL FREDERICK BERNAYS WIENER

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BOOKS RECEIVED

AN ANTHOLOGY OF FAMOUS BRITISH STORIES. Edited by Bennett Cerf and Henry C. Moriarty. Random House. 1233 Pages; Biographical Notes; \$2.45.

THE FLIGHT OF THE ARCTIC TERN. By Constance and Harmon Helmericks. Little, Brown & Company. 321 Pages; Illustrated; \$4.50. By the authors of *We Live in Alaska*.

BASIC AERONAUTICS. By Merrill E. Tower. Aero Publishers, Inc. 252 Pages; Illustrated; Index; \$3.70.

SPIES, DUPES, AND DIPLOMATS. By Ralph de Toledano. Duell, Sloan & Pearce-Little, Brown. 244 Pages; Index; \$3.50. Consideration of Russian espionage, Pearl Harbor, the *Amerasia* case, the Institute of Pacific Relations, and the Far Eastern Division of the State Department. By the co-author of *Seeds of Treason*.

BUSINESS FLUCTUATIONS. By Robert A. Gordon. Harper & Brothers. 624 Pages; Index; Charts; \$5.00. A treatment of business cycles for college courses in economics and business administration.

1951 ANNUAL REVIEW OF UNITED NATIONS AFFAIRS. Edited by Clyde Eagleton and Richard N. Swift. New York University Press. 278 Pages; Index; \$4.50.

WHITE COLUMNS IN GEORGIA. By Medora Field Perkerson. Rinehart & Company, Inc. 367 Pages; Illustrated; Index; \$7.95.

WINSTON CHURCHILL: An Informal Study of Greatness. By Robert Lewis Taylor. Doubleday & Company. 433 Pages; Illustrated; \$4.50.

WEAPONS 1—OVERTURE TO AGGRESSION and WEAPONS 2—RED SKY. By Roger Marsh. Weapons, Inc. 39 Pages; Illustrated; \$2.00 set.

PUBLIC RELATIONS. By Edward L. Bernays. University of Oklahoma Press. 374 Pages; Index; \$5.00. An expert in the field offers his analysis of public relations.

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| Timberwolf Tracks (104th Div.) | 4.00 |
| The Old Breed (1st Marine Div.) | 6.50 |
| Uncommon Valor (all Marine Divs.) | 3.00 |
| Utah Beach to Cherbourg (VII Corps) | 2.00 |
| Volturmo (36th Div.) | .40 |
| The Winter Line (II and VI Corps) | .35 |
| With the II Corps to Bizerte | .50 |
| 2d Engineer Special Brigade | 6.00 |
| 12th Inf. Regt. | 7.50 |
| 13th AF (Fiji to PI) | 10.00 |
| Saga of the XX Ghost Corps | 7.50 |
| 56th Fighter Group | 10.00 |
| 120th Regiment | 6.50 |
| 129th Regiment | 5.00 |
| 305th Regiment—Second to None | 5.00 |
| 368d Regiment | 5.00 |
| 376th Regiment | 3.50 |
| 398th Regiment | 5.00 |
| 409th Regiment | 5.00 |
| 508th Regiment | 5.00 |
| 3d Infantry Division | 6.00 |
| 6th Infantry Division | 5.00 |
| 11th Airborne Division—The Angels | 6.00 |
| 24th Inf Div—Children of Yesterday | 3.00 |
| 27th Infantry Division | 10.00 |
| 29th Infantry Division—29 Let's Go! | 5.00 |
| 30th Infantry Division | 4.00 |
| 33d Infantry Division—Golden Cross | 7.50 |
| 41st Infantry Division—The Junglers | 10.00 |
| 71st Infantry Division | |