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Commentary On

INFANTRY OPERATIONS AND WEAPONS USAGE IN KOREA

WINTER OF 1950-51



by

S. L. A. Marshall

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OPERATIONS RESEARCH OFFICE
The Johns Hopkins University

7030 MICHIGAN AVENUE, BALTIMORE, MARYLAND

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ORO**abstract***Commentary On***INFANTRY OPERATIONS
AND WEAPONS USAGE
IN KOREA***Winter of 1950-51*

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S. L. A. Marshall

The operations of Eighth Army which formed the basis for this study were of the period of maximum reverse and then recovery. The report does not reach back to the initial period when troops were green and our commitments were so limited that there was seldom a chance for an equal fight on local ground. Nor does it extend forward into the period when the fronts became stabilized and positional warfare ensued. It focuses exclusively upon the campaign of the first winter in which 8th Army experienced its greatest and most prolonged stress; the conditions peculiar to that period provide the best opportunity for the clear profiling of weapons, tactical and leadership values in combat against the background of training methods and the armament program.

The author of the report developed the post-combat company critique technique in Central Pacific Theater and then applied it in European Theater during World War II. He used the same general method in Korea, beginning with the November battle. The one major change for ORO purposes was that the method was amplified so as to include more precise detail on the logistics of the infantry fight and place primary emphasis on the fighting characteristics of the new enemy.

The commentary is divided into three parts — the behavior of men in the use of weapons, the behavior of weapons as men use them, and the use of information in augmenting fighting power.

The first draft of this work was studied and criticized by 43 divisional, regimental, and battalion commanders who had successfully led troops in the winter campaign. They were asked to give it the best of their attention, strengthening, sharpening, and refining it where needed. Where the work may have any special merit, it is because of the unanimously generous spirit of cooperation with which they responded. For such opinions and judgments as are expressed herein, however, the author of the report accepts sole responsibility.

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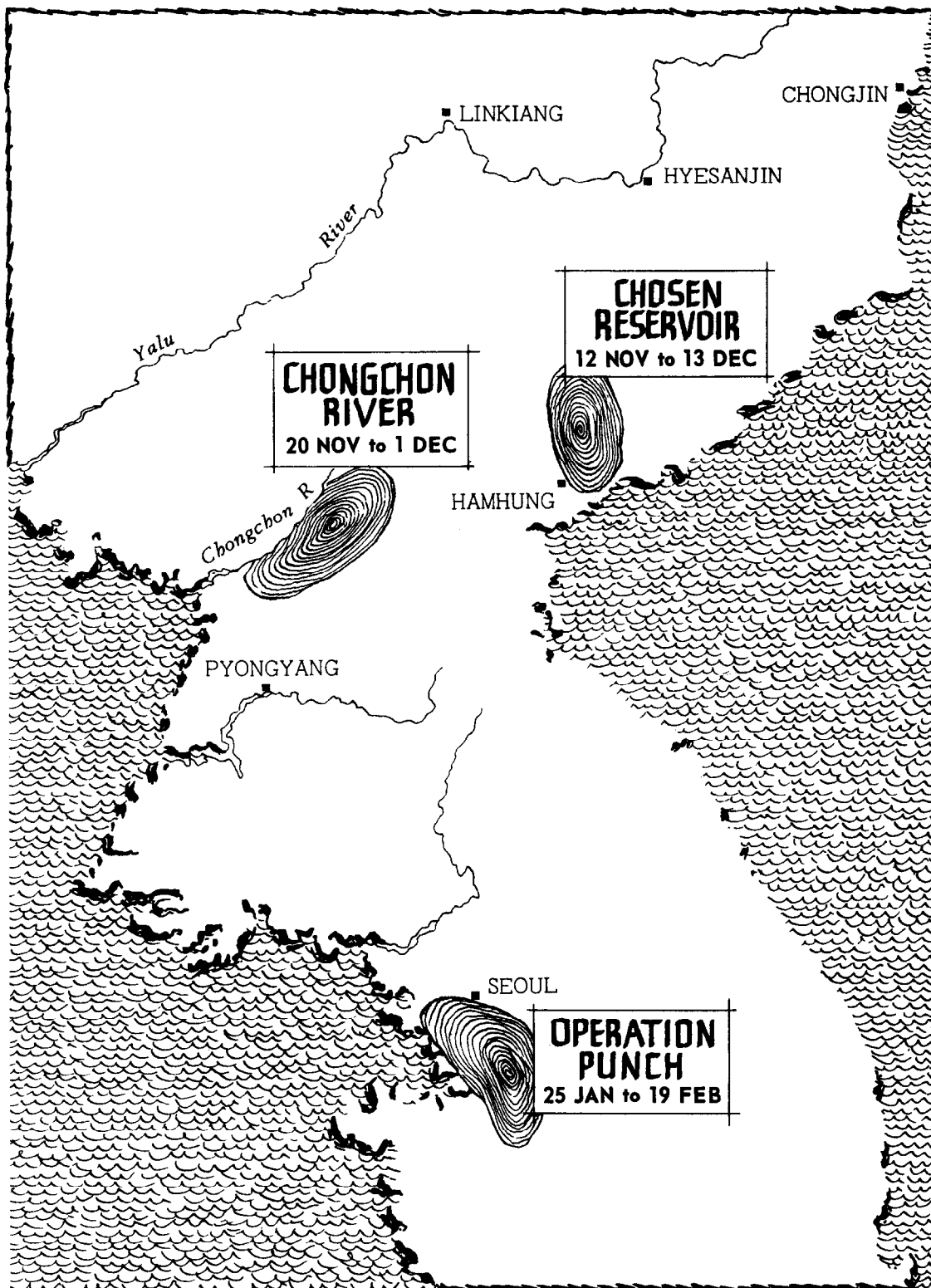
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COMMENTARY ON
INFANTRY OPERATIONS AND WEAPONS USAGE
IN KOREA, WINTER OF 1950-51

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U.S. ARMY MILITARY HISTORY INSTITUTE

REPORT ORO-R-13

Commentary On
**INFANTRY OPERATIONS
AND WEAPONS USAGE
IN KOREA**

WINTER OF 1950 - 51

by
S. L. A. Marshall

Project DOUGHBOY

Received 27 Oct 1951

Approved:

Ellis A. Johnson

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OPERATIONS RESEARCH OFFICE

The Johns Hopkins University
Chevy Chase, Maryland



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FOREWORD

Sometimes there can be lost, in the analysis of combat, critical details in the relations *amongst* fighting men, as well as *with* their opponents, weapons, environment, and fatigue. Brigadier General S. L. A. Marshall, who writes with a soldier's understanding of men under fire, does not do this. He does not dissociate the weapon from the man who fires it, the load from the man who carries it, the action from the man who engages in it, nor information from the men who die for the lack of it. It is only an understanding of this kind of detail that gives some hope we can achieve an analytical insight which will permit major advances in combat effectiveness.

Most who serve science shore up the principles which others seek and define. It is the Army's profit that Marshall has the originality to scout not only the front line of combat (where others have gone) but the front line of the unknowns which military operations analysis seeks to penetrate.

This work is not statistical. The statistics which gain breadth by describing the aggregate of happenings may provide the broad abstractions essential to those generalizations which can guide the development of analytical combat theory. They also tend to average out the vital clues hidden in individual happenings which point the way to new and improved ways of fighting. One is not a substitute for the other; study of averages and study of incidents truly complement each other. ORO is fortunate in being able to offer both for the Army's use.

ELLIS A. JOHNSON
Director, ORO

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INTRODUCTION

SOME PRINCIPLES EMERGE

DISAPPEARANCE OF THE FLANKLESS BATTLEFRONT

Korean operations have presented a unique set of problems for American forces. Not only has the Communist enemy possessed at all times the advantage of superior numbers, some of which were in position to harass our rear and cut our communications, but our own side has never been in strength sufficient to form a continuous, closely knit forward line.

During operations in the winter, 1950-51, the enemy used little artillery, less air power, and no armor. In the attack, he advanced against our hill positions with hand-carried weapons, relying heavily on the machine gun, and slightly less on the mortar. Or else, under cover of the night, he moved forward through the interstices in the main line of resistance, either to attack artillery and other rear installations or to set up a road block behind forward infantry battalions in an effort to induce their withdrawal. These were the principal unorthodoxies in his method of making war.

Against a more strongly armed opponent, fitted with ample air and artillery weapons, some of the tactics and techniques which have proved most effective against the NK-CCF armies would require modification. The principles which gave them rise, however, would remain inviolate. There is no doubt whatever that perimeter defense is the correct solution in Korea, or that success in perimeter defense derives primarily from organic unity within the position combined with the maximum union-by-communications with all higher headquarters and co-equal tactical bodies to left and right. The perimeter is by nature only a modified hedgehog. Its main requirements are by no means unique to Korea. In any war where the forming of a flankless battlefront is impossible, because of the superior numbers of the opponent and the vast expanse to be defended, a main requirement will be organization by all tactical bodies for all-around defense. This implies an accommodation of doctrine, combined tactics, materiel, and supply-communications methods to the same end.

The rise of modern air power, the development of the vertical attack by infantry, the high mobility of armor with its foot accompaniment, and, finally, the impact of atomic weapons upon the battlefield have destroyed any further possibilities in the traditional linear system in which a wall of men holds a flankless belt of works with the main object of preventing penetration at any point.

What we have seen in Korea is the embryo of the new system, and it should not be interpreted as having only passing significance. The once solid wall, along which man and weapon strength was fairly evenly distributed, will be broken up into a large

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number of anti-tank, anti-infantry garrisons. Their object will be to preserve the integrity of the belt as a whole by fire and maneuver, which the depth of the position will make possible.

As in Korea, this will be a crenellated front. The ground intermediate of the garrisons will be a true anti-tank zone, with its minefields and other barriers and its mass-killing and armor-killing weapons so placed as not to forbid the enemy entry, but rather to lure him into ground where he may either be destroyed by frontal fire, attacked from the flank by the armor and infantry garrisoning the nodal points of defense, or made the target of the smaller atomic weapons.

This picture no more than extends the diagram familiar in Korean operations in which armor and AA guns block off the avenues between the main bastions of the main line of resistance. That the enemy there was deficient in all heavy weapons should but add verisimilitude to the comparison, since the tactics now employed in the defense are made necessary by his mass. The tactics would need mainly to be reinforced if his weapons were more mobile and had greater killing range.

THE ARMS ARE JOINING

Toward a more acute appreciation of what will in future devolve upon infantry in this order of defense, it would no doubt be desirable that a critique of infantry tactics and fire power in Korea should be integrated with study of the role of tactical air power and the use of armor in joint defense. However, the parts played by the assisting arms and services did not come within the scope of this report, though much pertinent data is to be found in other ORO studies.

But there were other aspects of operations, which, while of a marginal nature in Korea, are certain to become increasingly vital in future large-scale operations, with the same general pattern. Some of the attendant propositions are not subject to proof on the basis of competent data. Incidents occur; they point in a given direction; but their possible meaning must still be read only as a generalization.

From what was seen during winter operations in Korea, it is impossible to imagine that protracted defense by perimeter can be successful on any scale unless resupply by air becomes an increasingly firm part of field-force technique and organization. If a regiment or brigade in perimeter is to withstand pressures tantamount to siege, its position must enclose an airstrip or else forego a main hold on life. That implies that the means for engineering an airstrip may well become as indispensable an item of infantry equipment as powder and shot. So saying but scratches the surface of a very large subject.

Today, the conservation of infantry force requires a readiness to send supply overhead by whatever craft is at hand, as well as by whatever can travel by road. In the winter fighting in Korea, there were many occasions when battalions and larger units were saved by flying pre-packaged loads from Japan. Less well noted, but far more numerous, were the incidents in which a platoon or company was rallied in a desperate situation by one or two liaison planes coming in to make a free drop. Such innovations were consequent to the inspiration of the moment, but they were characteristic of the tendency, under pressure, to find greater latitude for the use of varying

equipments. The liaison plane became a jack-of-all-trades. It served artillery direction, did observation work over the enemy line, acted as relay and guide for long-range patrols, led in the air strike, and became an intermediary in long-range radio communication. Commanders said: "Nothing else serving the infantry is quite so valuable."

The employment of armor on defense was not less diversified, and many of its most decisive services to infantry ran counter to the orthodox teachings of the schools. In night defense, it formed road blocks covering critical avenues of approach to the main infantry position. In the face of fire, it ferried infantry onto the ridge tops when the slopes were negotiable. It acted as escort to patrols. It formed as blocks guarding the valleys intermediate between the infantry hilltop positions. It worked as artillery from within the infantry defensive circle, firing its cannon from 20 yards or less behind the rifle line. When the infantry force was hard worn and the night situation uncertain, armor occasionally outposted the position. If the position became lost, armor was used as a shuttle to retrieve the infantry dead and wounded. When the infantry numbers were too thin, tanks were spliced directly into the rifle line. Armor set up to enfilade main roads running laterally behind the key ridges; it mounted guard over aid stations and supply points. The conservation of both forces was most perfect only when there was perfect reciprocity between them, and the commander considered one just as expendable as the other when the position became threatened as a whole. It is reasonable to believe that in future defense, if the entire force is to be efficiently articulated, the singleness of purpose which has characterized the best joint actions in the Korean Theater will govern the doctrine and usage in both arms.

The armor-infantry bond is not yet comparable with the unity of the infantry-artillery team, but great progress has been made. There must be a more perfect union between the two arms at the company level if a true marriage is to take place. The average infantry regimental commander in Korea was a firm believer in the regimental tank company. He would say that he had far more success with the employment of his own tanks than with those of attached tank units.

Viewing the extraordinary load of work which devolved upon infantry, there was obvious need in Korea for a pioneer or engineer company within the infantry regiment. The rifle companies always had their hands full, if supply was to be gotten forward to the elements along the main line of resistance, if telephone lines were to be laid, if perimeter positions were to be sufficiently dug in.

The engineer battalion was frequently not less well occupied in repairing roads rearward of the regimental boundaries, constructing fords, building airstrips, keeping main detours in a passable condition, and doing the work necessary to give division headquarters a reasonable housekeeping situation.

The main supply route leading to the forward foxholes was often a mountain trail with a soft, narrow crown, scarce wide enough for the passage of a jeep. Under the pounding from traffic incidental to the fighting, it would break down; loaded ambulances could not move rearward, and light ammunition trucks could not get to the front until infantry was relieved from some other essential task to do engineer work.

It rarely had tools suited to the purpose; Peter was robbed to half pay Paul. The antitank and mine platoons and the battalion pioneer platoons simply proved inadequate

to cope with the multifarious engineering problems with which infantry operation became burdened. This was particularly true when the infantry regiment was operating in regimental combat team, minus the services of the division engineer company which normally would attend it.

The organization of the regimental medical company is also deserving of re-study in light of the Korean experience. Its problems, great enough in any fighting situation, were magnified tremendously by the difficulty of evacuating the wounded from the ridgetops, which often resulted in many hours of hand carrying. There were rarely enough litters, and had it not been for the on-the-spot help given by Korean peasants, thousands more men would have died from their wounds.

A NEW STANDARD FOR AMERICAN FORCES

As with any paper of this sort, the report may seem unduly to emphasize the negative aspects of operations, the faults in weapons, the deficiencies in troops, and the failures which could not have occurred had the Army been served at all times by a perfect system.

If that be the case, it is only because the object is to search for points of weakness that we may in time repair to greater strength.

It is believed that infantry operation within the Eighth Army has set a new standard for American forces.

In the judgment of the analyst, the great lessons from this last year of fighting experience have been in the moral rather than material sphere.

It is perfectly true that "weapons when correctly used will invariably win decisive results," but to leave it at that states only half the formula. Correct weapons usage is not finally the product of the perfecting of ordnance and of tactical technique but of imbuing men with a spirit which will make them wish to move and fight together as a body. So long as that spirit is present, they will do their work with crossbows and bill-hooks. As more complex machines and methods are added, they will learn to master them in the interests of the common purpose.

The key to the recovery of the Eighth Army was the revival of the spirit of the good company — an intense pride in unit, the feeling of Able that it was better than Baker and could prove it when the chips were down. Good weapons usage and the tightening of tactical arrangements became the inevitable by-products of this revival. They did not make it; cause should not be mistaken for effect.

In the course of the work, it was noteworthy at all times that the units which spoke with the greatest enthusiasm about what they represented as a company, and how they rated themselves with respect to their friendly competition, were also the best composed in battle, the most efficient operators, the ones with the lowest rate of over-all weapons difficulty.

On the other hand, they evinced no strong conviction about the "cause" for which they fought, or at least did not sound off about it. That the temper of the group seemed better than average, that its members possessed a greater military keenness and were more eager to discuss professional matters, appeared only as a reflection of one prime condition — that the company had become accustomed to thinking of itself as a success.

Pride in company and pride in regiment were more to the fore in the American soldier in Korea than during either World War. There was relatively less interest in loyalty to the division. That is perhaps consistent with the conditions of the war and the circumstances of the recovery. But it is none the less deserving of thoughtful analysis.

Some minor changes are suggested in the report and the desirability of increased emphasis in several directions has been indicated. It is felt, however, that each of these points should be studied in context and evaluated according to the merit of the data and of the argument. No final recommendations are included in this report, nor are they thought to be necessary, but some general propositions do deserve emphasis. They are these:

GENERAL PROPOSITIONS

- The American infantry within the Eighth Army in Korea is a battle-worthy foot force as efficient in the employment of its arms during combat and as disciplined in the face of enemy fire as any we have yet produced.

- Supply-wise, it is still a wasteful force because of an inadequate supply doctrine and discipline within its leadership.

- Its fire production, particularly under conditions of adverse weather, continues to suffer from a lack of standardization in methods of weapons maintenance.

- It is making an intelligent use of supporting arms; the record, despite occasional imperfections, is one of steady improvement and imaginative improvization.

- The Korean fight is an infantryman's war, and in the forward zone, despite all reports to the contrary, the infantry weapons are doing most of the execution.

- Our infantry fire fractions are highly satisfactory. In the infantry line we are getting a remarkably high average of individual participation with weapons.

- With insignificant exceptions, the infantry family of weapons fills the need actively and promisingly. Its balance applies to the Korean terrain and its flexibility indicates it will adjust with adequate power to fighting requirements in any less formidable terrain.

- The infantry soldier is still a heavily burdened man and must so remain into the indefinite future. The burden is inescapable, but it can be lightened in any situation by recourse to temporary expedients and through greater flexibility in command methods.

- The physical powers of our average infantry soldier are still not equal to the demand which command tends to impose upon them. At all levels of command, from the battalions upwards, there is a tendency to exaggerate how far troops can march in the approach to combat and still remain tactically mobile during engagement. Moreover, there is little disposition in higher commands to make a logistical check after combat to determine at what point the onset of physical exhaustion occurred.

- The chief physical weakness of American infantry is in the legs, due in part to underemphasis on the importance of the road march in the training schedule.

- With this exception, the infantry in Korea can undergo greater rigor and privation, without damage to morale or serious hurt to fighting power, than we have been led to expect. During combat, units soon become accustomed either to going

24 hours without food or getting an average of one meal per day (frequently cold) during prolonged engagement. They will endure intense cold with little complaint, and will risk frostbite under subfreezing conditions rather than lighten their fighting load to be sure of protection against the elements. The alleviation of these extraordinary rigors is at all times desirable, and in numerous instances it can be shown that troops suffered unnecessary hardship because command and staff failed to employ means which were at hand.

- Company commanders do not make systematic check of their weapons failures. Higher commands rarely require this of them and do not take a persistent interest in the subject. In consequence, practically all information sent forward on this subject is incomplete, colored by opinion, and unreliable.

- As to how the line should equip and arm itself for combat under a given set of conditions, decision is almost invariably left to the company commander, with varying degrees of consultative help from higher commands. Many times the company commander does not have a sufficient experience for competent judgment in such matters, which should be regulated according to data. It is a source of weakness that battalion and regimental commanders hesitate to intervene helpfully for fear it would be construed as interference.

- Past Army programs covering the indoctrination of combat troops have been proved wholly inadequate under the testing conditions of the field.

BACKGROUND OF THE STUDY

This report on infantry and supporting weapons, including some comment on the tactical and training application and problems thereof, is based upon study of the combat operations of the Eighth Army and X Corps, in Korea, during the period 1 November 1950 to 1 March 1951.

The actions taken under study were in the main those incident to the November battle with CCF (Chinese Communist Forces) along the Chongchon River and around the Chosen Reservoir and the February offensive by which the Eighth Army returned to the line of the Han River. The survey did not include all forces engaging in either of these operations; this was not possible within the limits of time and personnel available for the work. It did, however, cover in rather complete detail the preponderant part of the United States forces directly engaged by the November battle and the pivotal actions of the February offensive. As the months of December and January were devoted by the Eighth Army mainly to disengagement and reforming, with no decisive exchange of fire between the opposing sides, the findings are therefore considered fairly representative of winter operations as a whole.

From the November battle, the operations of 2nd Infantry Division, 1st Marine Division, and 25th Infantry Division were covered in full; there is also some detail on operations of 7th Infantry Division. These four sustained the main weight of the enemy attack. In the February fighting, 25th Infantry Division was the focal point of study; there was also opportunity to cross-check certain data with commanders in 3rd Infantry Division and 1st Cavalry Division, though no company studies were made within these organizations.

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The findings are based upon the evaluation of approximately 50 separate actions in which either infantry companies or artillery batteries were fighting under conditions of exceptional stress. But in addition, there was close study of several actions in which forces of larger-than-company size became ambushed while traveling as a road column under conditions where it was no longer possible to form tactical units and deploy them organically against the enemy. Many of the major lessons from our experience in Korea are to be drawn from incidents of this character.

The method of procuring and co-relating the data in Korean operations was according to the SOP described in the book, "Island Victory," which includes the memorandum written for the guidance of World War II combat historians.

A company or battery has been through a pivotal, critical, or instructive experience in battle. As promptly as the interviewer can get to the unit, it is formed with all survivors present, including its officers, and preferably, the commander at the next level up.

Under questioning by the interviewer, with all members of the assembly appearing as witnesses, and their participation being steered only to the extent which will enable the statements to be composed in chronological order, the action is then reconstructed from beginning to end. The interrogation covers the pre-combat period so as to include such pertinent detail as armament, individual load, unit ammunition reserve, missions, state of fatigue after approach march, defensive installations, system of alert, etc. It also extends into the post-combat phase so that the summary will include condition at reassembly, evacuation of casualties, ammunition and weapons shortages, etc.

Such records as are available in the field are studied on the spot, and all pertinent information is embodied in the report. Either prior to, or following the interviewing of the small units, the staff and command at all higher levels, up to and including Division, are interrogated so that the report will be furnished with that view of operations which obtains within the control echelons.

All of the unit actions from which this analysis was extracted have by now been written in narrative form. The narratives describe exactly what happened to the unit, accounting for its experience right down to the squad and individual level.

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Part I
OPERATIONS





INFANTRY FIRE

WELL-BALANCED FAMILY

It may be said in general, and with one marked exception, that the infantry family of weapons is well balanced, and generally competent, for the type of warfare in which we are now engaging in Korea, and that its over-all flexibility and power characteristics are such as to indicate that its efficiency would be even more marked in a less difficult terrain and against a more solid opponent. This is not a conclusion drawn exclusively from cold data or based upon analysis of the numerous available examples of how these weapons were used in combination under pressure conditions. *It is the consensus of those who in Korea are employing the weapons, including the commanders as well as the ranks.*

This practice was followed during the operations analysis: After a given company or command had been interviewed concerning a specific action, and its detail had been composed, all concerned were then asked to evaluate their firepower, as to what additional weapons would help or what weapons were either superfluous or for any reason not worth their weight under the conditions of the fighting. Officers and men took to this actively and in utter honesty of spirit. Of it came numerous suggestions, in the main surprisingly constructive. Minor modifications were urged in some instances. There were also recommendations that certain weapons — for example the BAR and 4.2 mortar — be increased in number. The men were highly self-critical of their failure to take certain weapons along in situations where common sense should have told them the weapons would be useful. But their general reaction to the weapons family was almost universally to the point that what they have is good and adequate to the tactical need. The vehemence with which they expressed this view was the more surprising because, in the greater number of the actions, they had undergone local defeat.

The one exception was the carbine. One company in the 38th Infantry Regiment

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expressed its satisfaction with this weapon; but it was alone in the Eighth Army. In all other units, bad experience in battle had made troops shy of this weapon, so that in the main those who continued to carry it of their own choice were either the lazy, the new arrivals, the few who had "pet" carbines that had worked perfectly all along, or the individuals whose tasks did not permit them physically to carry the M1. In all save one company after-action critique, malfunctioning of the carbine was prominent in the detail of weapons performance during engagement.

It is impossible to give exact percentages because of the scrambled nature of the fighting; some men would report having two or three carbines fail within one action. Others could remember picking up a weapon in a moment of emergency, only to have it misfire, but could not say for certain that it was a carbine.

However, in each critique, as carbine failures were reported incidental to the fighting, the men were asked for a showing of hands on this question: "How many of you who have used carbines at any time in Korea have experienced a misfire during some part of the fighting?" The lowest showing in any company was 30 percent. In some companies of the 27th and 35th Regiments — two extremely efficient and battle-wise organizations — the figures rose to 80 and 85 percent.

This reaction should be weighed against the background of troops' satisfaction with their other fighting tools. Even if the percentages are exaggerated — and that possibility is admitted — the fact that they feel that way about it implies that they have lost confidence in the weapon. Pending an obvious correction, that of itself makes the weapon a liability in terms of both morale and fire power.

MORE MEN FIRE

Weight of the evidence indicates a radical increase percentage-wise of individual participation in the fire fight during Korean operations as compared with World War II operations. The fractions vary from situation to situation, largely according to the ground.

For example, in an attack along the ridgeline during the daylight hours, it is frequently the case that a skirmish line must proceed single file, or with only two or three men firing as a point and the others strung out behind them, such is the narrowness of the crest and the precipitousness of the slopes. Hence many in the company are not in position to deliver effective fire.

But there is no doubt that when the ground and situation permit it, the measure of willing participation is more than double World War II averages. *In nighttime perimeter defense, the majority of those present actually take a personal part in the return of fire.* The chronic nonfirer is an exception under the conditions of the Korean fighting.

Some part of the explanation is to be found in the circumstances under which engagement usually takes place, and in what troops know about the prior operations in which it was made clear that active fire was the main key to personal survival. In every stand by American infantry in Korea, the possibility of envelopment and fractionalization is a constant threat. These things of themselves promote a stronger fire discipline.

But not all of the increased impetus has come from first-hand battle experience; some of it clearly appears to be a reflection of increased training emphasis on the main

point. For example, it was found that almost without exception, both in the Marines and in the Army, company units were acutely conscious of the factor and anxious to know how they stacked up against the average, and whether their fire delivery had any particular shortcomings.

This was never the case in World War II; junior leaders then were taking it more or less for granted that, when close engaged, the majority of their men would fire by self-impulse.

In Korea, within the better companies, junior officers and NCOs have tried out the practice of moving about among their men when action starts, and staying by an individual until he begins to make use of his weapon. This is in contrast to the practice whereby the junior leader immediately engages with his own weapon in the hope that others around him will follow his example. By the statements of those who have repeatedly tried the former method, there can be no doubt that it is the best way to build up fire volume and convert the passive individual into an active firer.

Perhaps an even more decisive influence in the buildup is that in Korea the combat Army has regained its voice. Both in attack and on defense, there is incessant noise — cheering, screaming, and the shouting of orders to individuals. Company action partakes of the nature of a team game. Again, it is to be emphasized that by the testimony of all concerned this “talking-it-up” produces greater unity of action and more general participation with weapons. This has come out of ideas which were instilled in training: but greater emphasis on the same points during training is still desirable.

CCF IN ATTACK

Toward a clearer understanding of what shall be said hereinafter as to weapons effects and tactical arrangements within the Eighth Army, one particular point concerning CCF characteristics in the attack and on defense requires clarification.

The word “mass” has been used quite loosely in descriptions of enemy operations circulated in this country. Press accounts have given the impression that the Chinese attack in great numbers closely concentrated. Some official documents have also used the term rather indiscriminately, thus furthering the belief that broad targets are frequently presented to all weapons. There have been some targets of this character. For example, in the assault against 23rd Infantry Regiment positions in Chipyong-ni in early February, CCF pressed forward in fairly solid ranks, and were cut down in large numbers within small areas.

But intense concentrations are the exception. The Chinese do not characteristically employ mass, for example, in the way that the Red Army used it against the Germans in operations in the Ukraine during World War II, coming on in such numbers that the human sea absorbed and ultimately smothered the fire volume. Rather, in the attack, CCF tend to move against our works in multiple, thin lines, well spaced each from the other, after having deployed out of column in the last phase of the approach. The approach column may be single file, or even a regiment moving four abreast, depending on the situation and the size of the attack force.

The nature of the ground also compounds the fire problem, since it induces greater dispersion. The ridges are not evenly bottomed or sided. There are frequent bulges,

outcroppings, draws, and small ravines. In consequence, even when the attacking line advances quite uniformly, no defending weapon is likely to have a clear field of fire against any significant number of the enemy. When brought in check by the counterfire of various weapons, the enemy gradually presses forward against the position, but still does not tend to bunch excessively.

On defense, CCF make efficient employment of ground cover, eschew use of long intrenchments and tight formations, and in general so dispose themselves that our fires, in any type, rarely have a large killing opportunity. The chief effects are therefore achieved through the systematic employment of fires in combination, with no one weapon or group of weapons (such as mortars, artillery, or small arms) predominating in the delivery of decisive fire.

THE CHIEF PRESERVATIVE

In this general situation, our infantry weapons are beyond doubt having greater lethal effect, in ratio, against the enemy than during either world war. There have been reports circulated in the ZI to the effect that our artillery is producing the preponderance of enemy casualties, and that it is the "most-feared fire" by CCF among our ground-fighting effects. Despite these reports, and despite the physical evidence in certain positions won from CCF and seen by the writer where it was manifest that our artillery had done the greater part of the killing job, it can be said that in the nature of operations in Korea, the infantry weapons on our side, including mortars, grenades, and recoilless rifles, must be inflicting in excess of 50 percent of the enemy losses. This may be a unique condition in twentieth-century warfare. But the circumstance needs to be understood if there is to be a sound evaluation of the results produced by the infantry weapons system in Korea.

A very high percentage of the critical engagements occurs under such conditions that our artillery can do little direct hurt to the force directly pressing our defending infantry line, except to interdict some part of its possible support and partially close some of its possible avenues of retreat. The beating-down of a closely engaged enemy must be done mainly by weapons within the infantry battalion. Recognition of the enemy, as he comes forward, is most likely to occur at some distance between 15 and 150 yards from the infantry MLR — too close and too late for practical and successful artillery intervention. Part of this is sometimes due to insufficient patrolling and outpostting, though these faults are no longer chronic. It is a condition inherent in the situation and developing from the enemy's tactical system which was well-calculated in a highly irregular and under-developed countryside to take advantage of our relatively rigid pattern of operations.

In short, we do not have the numbers of people, and those we have do not have any such unlimited resources of physical energy as to do all the outpostting, patrolling, and building of defensive works which would be necessary to make the Eighth-Army line relatively a surprise-proof front. *Our infantry accepts this situation as it is, and is psychologically conditioned to taking on CCF at close range with little expectation of decisive help from the major supporting arms.*

Part I

Where in the early operations against NK opposition, local surprise was a chief cause of local demoralization, and the fractionalizing of the defense was less the consequence of direct weapons effects than of the onset of panic fear, it is now an accepted possibility even when all practical measures are used to guard against it.

The infantry defense cannot do as was done in World War II Pacific island operations or in World War I trench fighting — lock itself in behind bands of fire and then shoot toward any untoward noise along its front. The chance is too great that the intruder may be friendly — either South Koreans moving through the country, or working details which have lost their way, or fractions which have broken off from some other part of the command during engagement. The situation and discipline generally require the withholding of fire until certain that the target is enemy.

Respect for this principle is almost uniformly excellent among troops, and the fire discipline of the Eighth Army is nowhere better exemplified than by the readiness of its forces to respond to the controls which are so very necessary when the friendly forces on either flank may be non-English-speaking allies. Even after repeated bad experiences due to these inherent confusions in the situation, troops are still not given to excessive panic firing but remain under good control until the situation is developed.

However, the situation in general prohibits an indiscriminate use of artillery on the mere suspicion that the enemy may be in the vicinity. The infantry force must depend in the main on the self-sufficiency of its own weapons, and in the nature of the case, *infantry fire becomes the chief preservative of the force as a whole* even when, during large-scale offensive operations by CCF, our artillery is presented with a multiplicity of targets. In Korea, if it were not for the general effectiveness of infantry weapons in defense, the artillery could not survive. This holds true in some measure of combined operations in any war. But in Korea infantry weapons take a larger part in the killing and maiming of the opponent.

No conditions have tested more greatly American infantry than those in Korea since the intervention by CCF. Agreed that in the more recent stages of operation there has been little harassment by enemy air, a minimal showing by artillery, and scarcely any by armor. This absence of enemy heavy weapons should not lead to any discounting of the moral and weapons values in the infantry performance, since the fact remains that in the worst circumstances of the night surprise attack, our infantry line usually does not get decisive help from its own air, artillery, and armor. Troops must go it pretty much alone, and must be prepared so to do.

The phenomenon is that the Eighth Army's infantry has gained a moral ascendancy, derived from confidence in its own weapons, which enables its individuals to accept, in relative calmness of spirit, the prospect that local surprise may be achieved by a numerically superior opponent. This bespeaks the character of the infantry more clearly than any number of incidents relating its heroisms.

EFFECTIVE RANGES

The average effective infantry fire with weapons lighter than the machine gun was consistently less than 200 yards. In no instance was it established, in the operations

brought under survey, that any significant move by enemy forces had been stopped and turned by *rifle and carbine fire alone* at ranges in excess of that figure.

This, perforce, limits the significance of the evaluation. It rarely happens in the Korean fighting or elsewhere that a tactical situation of large order arises which tests the effectiveness of the rifle alone as a stopping and killing agent. By the nature of engagement, the infantry contest between opposing groups of riflemen is pretty much confined to strong patrol actions, fire exchanges between small groups within a larger skirmish, or last-ditch stands by companies which have emptied the ammunition from heavier weapons in the earlier stages of the fight. In the latter situation, the contending sides almost invariably close to within less than 150 yards before the climax is reached in which the position is held or lost according to rifle effectiveness.

During the winter fighting, in both Army and Marine operations, there were manifold incidents of this exclusive type. On the Marine side these were marginal encounters of one type or the other. Within the Army operations, there are numerous examples of company fights in which all of the heavier weapons ran dry, leaving only the rifle. But in interrogating the witnesses to these various encounters, in no case could it be established that a decisive fire from rifle and carbine was delivered at a range in excess of 200 yards. There is only this type of exception to be noted: enemy patrols were frequently engaged at slightly beyond 200 yards range; the first fire might knock down one or two of their number; the others then scampered away. However, when an enemy patrol or larger body is walking into a concealed position under such conditions that the defenders feel their advantage, they customarily hold fire until it is within the 200-yard zone. When the action is more precipitate, and they open at longer ranges with rifles only, the results are not killing. The Marines who were under siege at Koto-ri through the early days of December told of their effort to pick off Chinese riflemen who in broad daylight would stroll to within 300-350 yards of the armed camp or walk in the open to a stream bed to draw water. They found the targets far more elusive than they had expected.

The equation alters radically as soon as automatic fire, either from the BAR or the LMG, is added to the rifle volume. The killing-stopping zone then lengthens anywhere from 200 to 400 yards, depending upon the number of automatic weapons, the ability of the gunners, the governing terrain conditions, the weather, visibility, and general situation. There is nothing unusual or unexpected about this; the one point which seems deserving of particular emphasis is that the BAR greatly compounds the stopping effect of rifle fire at ranges considerably in excess of those at which unaided rifle fire is potent. It has long been prized as a mop-up agent, for depressing final resistance in a conquered area, or liquidating tenacious elements infesting the rear. There is perhaps need to emphasize that it adds body to the rifle volume at any range.

What is said here is meant to reflect in no degree whatever on the accuracy of the standard rifle; the men who use it in battle swear by it. Junior officers frequently said that they had seen it do decisive work in excess of 250 yards range. When the question was raised whether this was in combination with heavier fires from other weapons, the answer was invariably yes. The evaluation therefore points up mainly the conditions under which rifle fire is likely to play its part in battle. The great killing zone for the

rifle is at less than 200 yards. But an arm which was not reasonably accurate at ranges well in excess of that would shift too large a part of the burden to the heavier weapons of the infantry during the enemy approach and withdrawal. No change in doctrine is indicated; no change in the weapon is indicated; no radical shift in training technique is indicated. Rifle practice at the longer ranges is still desirable. But the rifleman needs about five times the amount of practice now given him with live ammunition if the weapon's potential is to be fully exploited in combat.

VALUE OF SLOW FIRE

The Korean experience proves substantially that the fighting posture of the line is most sound when automatic fire is combined with slow fire in its weapons complex. This subject will be treated more extensively in the data bearing on evaluation of the various weapons. Suffice to say now that any trend toward eliminating the semi-automatic, hand-carried weapons in favor of full-automatic weapons in the hands of all infantrymen should be vigorously combated. In perimeter defense, the time almost invariably comes when the automatic weapons run short of ammunition, with the local issue still to be decided. This is the crisis of the contest, when decision may swing either way, depending on which side is most capable of delivering the last few volleys.

The semi-automatic weapons are conservers of ammunition. Apart from their great value in the hands of a good marksman at any stage of the fight, they compose the weapons reserve which becomes of inestimable value in the last hours when both sides are near the point of exhaustion. In the infantry company data from Korean operations there are numerous examples wherein the retention of the position depended finally on fire from the M1, and rifle fire finally decided the issue. The troops who carry the weapon almost unanimously recognize the vital importance of this factor. On the basis of their experience, they would not concur in any suggestion that the line could be strengthened by fitting it exclusively with full-automatic power.

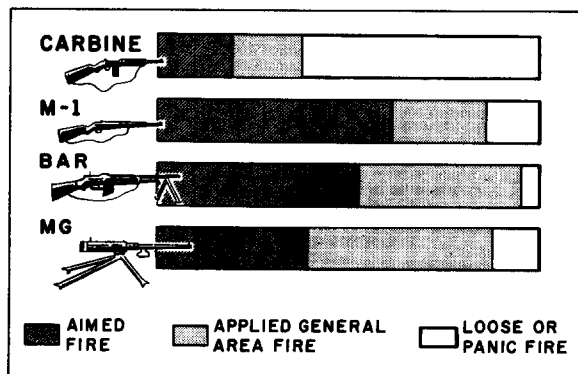


Fig. 1 — How Ammunition Is Spent In An Average Perimeter Defense

mortars have between 50 and 75 rounds per tube. There are about 10 rounds apiece for the two bazookas. If there is a 57 recoilless, it may have from 10 to 20 rounds. The

ARMS LOAD IN ACTION

We can take one company as an example.

The arms and munition load of the company as it moves into the attack is approximately as described in Chapter V, "The Natural Load." The men with carbines carry four clips apiece, the M1 carriers average just above 100 rounds. Each man carries two grenades; company supply has brought forward as many more all around. The machine guns average between 3 and 4 boxes of ammunition on hand. The 60-mm mortars

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4 to 6 BARs have from 4 to 8 magazines each. Backing the company are the 81 and 4.2 mortars and the artillery. (There may be other weapons firing in support, such as the Quad .50.)

The question at hand is how long this basic load is likely to sustain the company during an action in which it is under heavy pressure from an enemy which it is engaging at close range.

The answer is anywhere between 2 and 8 hours depending upon: (1) the basic fire discipline of the company, (2) the field of fire, (3) the effectiveness of supporting fires, and (4) whether the action is in daytime or by night.

The material pressures against the company being about equal in the two situations and the losses to enemy fire being approximately the same, the rate of ammunition expenditure in night engagement will be from two to four times as rapid as during daylight fighting, depending upon the extent of battle seasoning of the ranks and other variable factors such as the degree of control exercised by junior leaders. There are a number of reasons for this, most of which are rooted in psychological rather than material factors. When men see targets in the clear light of day, or at least sense the general area from which they are drawing enemy fire, they tend to be more conservative of ammunition than when, under darkness, they are brought under a general fire but cannot identify its source. In daytime, the men who are carrying flat trajectory weapons, and are on ground where they cannot bring the enemy within line of sight, will not spend their ammunition uselessly; moreover, unless they are urged and commanded, in the majority they will not advance or shift to ground which will give them a more favorable target opportunity. By the same token, in night fighting, there is an excess of firing through the access of fear. Men in night engagement do not suffer the same cramping and instinctive feeling that any act of firing will increase personal jeopardy through greater exposure. The darkness itself provides some immunity; not feeling wholly visible to the enemy and naked to his fire, they are willing to move about more on their own initiative. This sense of relative freedom, combined with fear reaction to the sudden attack, builds up the fire volume. There will be a greater number of willing participants in the fire contest; also, on the average, these participants will shoot off more stuff than in daytime engagement.

Thus the paradox: It appears much easier to flesh out a strong alignment and keep forces tactically mobile within the defensive circle during night defense than in the daylight attack, although the position is more likely to become insolvent prior to decision because of excessive rates of fire.

With the ammunition load as stated, a veteran company, well led and made up of seasoned firers for the most part, may hold out against an aggressive enemy, pressing it at close quarters, for the greater part of the night. Let us say that its own losses have been average, counting over-all not more than 10 percent of its personnel. It has not been subjected to artillery fire; on the other hand, its own artillery has not been able to kill and drive off a sufficient number of the enemy to quell the local fire and compel the attack to withdraw. By the end of from 6 to 8 hours of engagement of this character, the company will be practically out of ammunition for all weapons

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save the M1 rifle, and retention of the position will depend on the persistency of fire from that weapon, until either the enemy fades back or resupply arrives.

Among the other assumed conditions in the heretofore described situation is that the enemy force was more numerous and that it attacked with machine guns, submachine guns, rifles, grenades, and some mortars. Its strength was such that there was no doubt about the reality of the threat to the defending position.

In these night engagements the pressure exerted by either side is never constant. The enemy comes forward, takes losses, becomes disorganized, pulls off a distance, regroups, and comes on again. The defense takes advantage of such respites, holds the greater part of its fire, re-knits its line, and then awaits what comes. There may

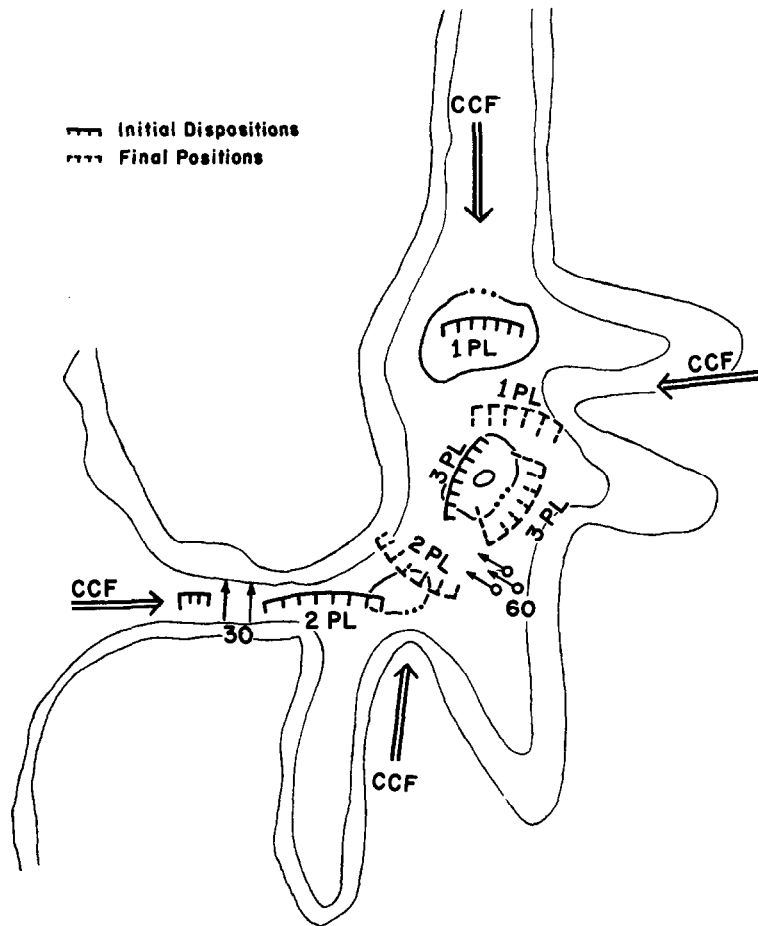


Fig. 2 — Example of Perimeter Contraction, Easy Company, 35th Regiment, Hill 440, February 1951

be anywhere from one to seven such climactic points in the fighting during one night; the average is about three strong thrusts. It is never possible to say at which point the attack will build up to the maximum. Sometimes the first attack is the most strongly pressed; frequently it goes off quite raggedly, and the main effort is a diehard charge made just before dawn.

During a persistent attack of this nature, there is almost invariably a continuing contraction of the defense, as weapons are either knocked out by fire or run short of ammunition, as men die, and as the company discovers under acute pressure that it is spread over too much ground for survival. The tendency in the establishing of the local perimeter defense is to overextend, on the theory that the enemy is likely to approach from any direction, and that, even where ground is held which cannot be long defended, it will serve a blocking purpose and enable the company to adjust its line ultimately around the most favorable ground with ultimate minimum loss. In actual practice this theory of a defense that combines a final rigidity with flexibility in its several parts would seem to be self-justifying. The American temperament, once given a tactical conditioning, appears well adapted to it. The men can give up their positions on the less vital ground, as the pressure mounts, and fall back on the main body without losing cohesion or becoming demoralized. In fact, the ability of small fractions to retain organic unity and remain steady until getting back to the main body, even when they have been separated from it by enemy groups and the interposition of major terrain obstacles, is one of the salient characteristics of American fighting in Korea. The men have a good sense of ground and of direction. Usually they will go to extreme lengths to rejoin the group which is still fighting when tactical happenstance has separated them from it.

The limits here stated for the seasoned company depending on basic load in a sustained night action are supported by the body of the evidence covering all actions. As it concerns particularly those companies which performed with all-around efficiency under conditions of extreme pressure, and carried their fights to successful local conclusions, it is an outline of fire possibilities deriving from the basic load, rather than an averaging of experiences by companies within the Theater.

In certain of the actions taken under study, the defense was collapsed in less than four hours, and in several instances in less than one hour. This usually happened when the enemy onfall occurred in such way as to bring about a physical separating of parts of the company which could not subsequently be re-knit. As to why these fractions (usually of platoon strength) did not maintain themselves for longer periods under their own fire, the most frequent explanation from the men was that "we had run out of grenades and all other ammunition, except for the rifle." It was never possible to check these claims in detail, due to so many of the main actors being either dead or missing. However, those BAR men, machine-gunners, and mortar men who were still present would usually support the claim with corroborative personal testimony, describing the rate of fire and giving the approximate time (relative to the course of the action) when the weapon had gone empty.

No solid conclusion can be based on these episodes, as to the relation between panic firing and the loss of the feeling of solidarity within the company. The witnesses had been through a hard ordeal, accompanied by varying degrees of shock; they might in some instances have had ammunition at hand and still not have known it. But from repetition, it was well indicated that when the BARs and machine guns fire excessively and exhaust ammunition supply in the early stages of the fight, the position becomes bankrupt.

ORDER OF CESSATION

The recapitulation of company actions shows that in night defense, when the unit is close engaged, the weapons will usually run out of ammunition in about the following order: (1) Grenades, (2) 60-mm mortars, (3) Machine guns and carbines, (4) BARs and bazookas, and (5) Recoilless weapons.

The recoilless weapons are not usually fired to exhaustion. The 75 is seldom used when the march covers ground over ridges higher than 200 meters. The 57 is usually taken along in an attack against the higher ridges. But its fire is conserved for major targets at relatively close range.

The M1 is not listed in the order of cessation because no case was found in which the riflemen of a company had exhausted their ammunition supply, though there were multiple instances in which this happened to individuals and even to groups of squad size. There is always M1 ammunition left, however desperate the company action. The carbine runs out sooner because troops tend to fire it full automatic when under pressure, though there are few visible targets.

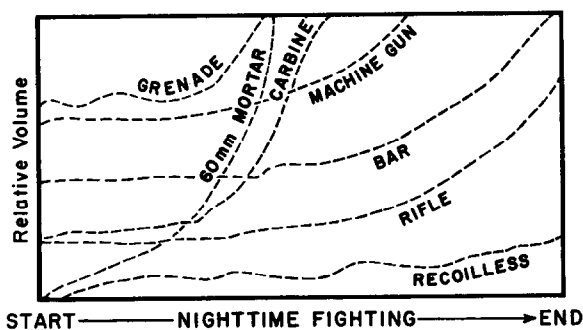


Fig. 3 — This Is a Typical Pattern for Nighttime Fighting Where the Company Is Engaged at Close Quarters While Holding Hilltop Defenses

It is impossible to say where the sub-machine gun fits in this range because the record as to its use is irregular and fragmentary. In American hands, it does not appear to play a decisive part in infantry engagement.

The rate of bazooka fire is extremely variable, depending mainly on whether the enemy is offering relatively broad targets at close range, such as a machine gun or house cover. It is not employed to any great extent as an antipersonnel weapon.

The BARs usually practice a sounder fire economy than the machine guns. Of this more will be said later.

LOOSE AMMUNITION

There is a special hazard to infantry in night defense, revealed in a number of the company perimeter fights, which comes of taking loose ammunition into the ground to be defended. In these several examples the men thought that what they had at hand would be sufficient, but several spare boxes of grenades and of loose ammunition for the M1 were carried within the position just in case they might be needed.

These companies were engaged throughout the night; before first light broke, the grenades and cartridges which the men were carrying were all but expended. It was then necessary to break open the loose stores. These were excellent combat companies and had so proved themselves in the fight up until that time. Yet such was the pressure of the dark and the enemy fire, and such the consequent nervous excitement, that the NCOs found they were unable to open the grenade boxes; after struggling

vainly with them for many minutes, they at last dashed them on the rocks. Then the grenades spilled out over the hillside, and men had to crawl around, feeling for them in the dark.

The situation was even worse with the loose rifle ammunition. There were no spare clips and the firers had dropped their own without noting where they fell. It was necessary to feel around the rims of the foxholes in the darkness to retrieve the clips; by the time the clips had been gathered, nerve tension had so greatly increased that even the leaders found it almost impossible to make their fingers respond to the seemingly simple task of clipping the cartridges. Said one NCO of this experience: "Though I have had many nights in combat, this sweat of having to deal with loose ammunition in the dark was the most demoralizing experience I have known." Troops are not supposed to take loose ammunition into an active position under any circumstance; the fact remains that they do. The supply situation and the lack of time for full precautions sometimes impose this extra burden on the infantry company. But any grenade case which is so secure that it baffles ordinary enterprise in the darkness is probably a little too secure for security.

WEAPONS APPRECIATION

It is found that the appreciation by troops of any particular weapon depends invariably upon their seeing it used effectively in one or more tactical situations. What they are told about its potential makes relatively little difference; they will believe only what they see, and nothing but usage itself will promote greater usage. Thus if a weapon's weight is forbidding, and troops are traversing rugged terrain, they will leave it behind, even though the character of the fighting and the nature of the enemy's works may be such as to make the weapon indispensable in the situation. However, if it should chance that they use the same weapon on lower ground, and make a dramatic kill with it, they will then undergo extreme exertion to get it forward in the next fight. Once converted, they stay that way; this of itself promotes a danger of the opposite sort, since the addition of any new and heavier weapon in a particular family tends to retire the lighter weapon, irrespective of the changes in the situation. These two general ideas may appear to be in conflict. That they are not so may be illustrated by the examples that follow:

The 75 and 57 recoilless are both used by infantry in Korea though, because of the weight factor, the former weapon has been neglected by many infantry companies. The greater number has never even attempted to employ it though in repeated situations the main enemy targets (such as bunkers) and their ranges are such that the 57 cannot do the work. Still, the companies will persist in carrying the 57 forward in the hilltop fighting and will continue to use it futilely against targets which it cannot neutralize because of the distance, until at last they have one happy experience with the 75 on lower ground against the same type of target. Then they adopt the weapon for good. That does not mean that the 57 is then excluded. Both are invaluable weapons, each having its unique uses according to terrain obstacles and the ranges at which the enemy's main works can be directly engaged.

The introduction of the 3.5 bazooka in Korea occurred at a time when a main

objective was to stop enemy armor. It proved effective in this use during a critical period. So the troops were won to it, and so being, tended to discount the worth of the 2.36 rocket launcher. Then came the phase when enemy armor was no longer a problem, and the prevailing tactical situation required the frequent destruction of large numbers of enemy personnel at close range as they attacked our hilltop perimeters. The 2.36 rocket launcher would have been a valuable adjunct of the infantry line at this point if used mainly as a man-killer. As an antipersonnel weapon in certain situations it packs somewhat the same wallop, and the round has approximately the same killing radius, as a 60-mm mortar shell. But it was not so employed along the general front even when there was ample ammunition in the position. Furthermore, troops which had swung over completely to the 3.5 bazooka rarely used it against personnel targets.

The speed with which tactical forces forget the main lessons from their collected experience, particularly those pertaining to weapons usage, would be difficult to overstate. But the Army has need to be ever conscious of it, and to act always upon the assumption that there will not be a strong carry-over of knowledge and practice from one war to the next even though the interval between is relatively short.

Imaginative enterprise is the product of confidence based upon experience, but it diminishes at the same rate that recollection fades. Hence, as to the average leader, with each recurring experience the mental cells have to be charged all over again. The most obvious things somehow escape the senses; the possibilities of new weapons are more likely to preoccupy the thinking of those who are concerned with minor tactics than the steadfast values in old weapons long tried and proved indispensable.

In Korea, a high percentage of company grade officers had had combat experience in World War II and had witnessed first-hand the usefulness of the grenade as a weapon of the attack. Even so, when they got to Korea, they did not sense that the form of warfare, no less than the nature of the ground, made the grenade an indispensable weapon in the defense, and that by making full use of it the American soldier would clinch a natural advantage in the infighting. Prior to engagement there was rarely an accurate accounting by company commanders of the grenade supply within the line. Officers sometimes took it for granted that their men were supplied with grenades when in fact they had none. An exceptional battalion commander would school his troops in use of the grenade for alarm purposes on outpost duty; the average did not. When, following the entry of CCF, the conditions of the fighting and the style of the enemy attack cried aloud for use of illuminating grenades, both for throwing and launching, they were not requisitioned. In the average unit, troops had to discover more or less for themselves the value and limitations of the weapon, and usually the NCOs seemed to know more of its potential than the junior officers.

This is not said in deprecation of the American officer; it is descriptive only of a state of mind with which peacetime training must perforce reckon.

Mines were infrequently requested, as were tripflares, and when got forward were disposed perfunctorily. The materiel was too far rearward, not only as to the location of main supply dumps, but in the consciousness of the average officer. Had the front been more sensitive to the values, the rear would have felt greater pressure

to move them to within reach, while getting additional stocks produced in the ZI. But the lag persisted from the frontline foxhole to the desks in Washington. Our infantry neither knew the mechanical technique of installing minefields nor appreciated the use of mines as a weapon in war. They had not been trained for these things; what hasty training the average tactical leader could give them between periods in the line was insufficient. In consequence, there were accidents during mine planting, accidents from failure to mark fields properly, accidents from failure to plot, record, and spread information about where mines lay, and accidents when new units moved in and took over. It is not remarkable that many commanders tended to be skeptical or over-cautious about employing mines, or that on the whole, a technically backward enemy made better use of them than did our own forces.

Such was the general condition. On the other hand there were regiments whose commanders believed in these materials, knew how to use them, and hammered away at lower commands until they became reasonably skilled in their use. They are most emphatic in saying that underemphasis on this subject in training exacts an extreme penalty in defense. Though mines and tripflares were invariably in short supply along the front, it was usually the commander who made the most consistent use of them in rounding out a defensive position who also disciplined his troops to husband them. Conservation and intelligent installation walked hand in hand. One battalion commander considered the tripflare so necessary to perimeter integrity during the winter fighting that he personally apportioned the quotas of his companies and held each company commander to account for what happened thereafter. By contrast, there were other leaders working at the same level who didn't bother to requisition.

The data from Korea suggest once again that it is not lack of memory, but lack of confidence-giving practice, which retards the reaction of the average young commander to his situation under combat's pressure. When in December and early January, the situation along the general front was such as to call for illumination in all forms to forestall night surprise, higher authority recognized it as such. But at lower levels, many commanders resisted the introduction of these techniques; they had gone so long without them that they were no longer confident of their values, and failing to see their over-all situation in perspective, they objected to change in any form. There are other examples from Korean operations, but it is needless to labor the point.



WHEN WEAPONS FAIL

EFFECT ON MORALE

Without exception, all infantry company actions given detailed study in the Korean campaign included numerous examples of weapons failures, not all of the causes of which were ascertainable. In the heat of the action the men themselves either did not have the chance to check the fault before the weapon passed out of their hands, or, having at last cleared the weapon, they still could not be certain what had caused the misfire.

The percentage of malfunctions was *highest* during the early weeks of the cold-weather fighting before the light arctic type oil had been issued. (This subject will be treated separately further along.) But it figured in one degree or another in *all* company actions both in the attack and on defense.

Self-evidently, in perhaps 25 percent of these cases, although the weapon was blamed, as the circumstances were reported, there was reasonable ground for suspecting that the firer was at fault. This does not allude to the failures which come of inadequate maintenance, failure to clean, improper oiling, lack of test firing under freezing conditions, and so on. Very rarely under the conditions of engagement in Korea does a company have the chance to give its weapons a good going-over just prior to battle use; during movement, the weapon gets dirty invariably, and there is seldom a respite at the end of movement in which weapons can be cleaned. This reference pertains therefore only to those incidents in which the weapon failed to do what was expected because the handler had made a mistake of which he was not conscious. Such errors are not confined to the newly arrived replacements; even the seasoned veteran who has been through many fire fights may at times commit an elementary blunder if the circumstances of the fight carry him to an extreme pitch of excitement.

Because a recitation of weapons failures was always an integral part of the

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reconstruction of the company action, there was a favorable climate for frank discussion by troops of the effects of weapons failures on morale during engagement. Without exception, the consensus was that weapons failures are a normal part of combat, and that the failure in any *one weapon must be at an exceptionally high rate* before it becomes a definite factor in the undermining of confidence.

The question was asked many companies: "As to machine guns, BARs, mortars, and rifles, what percentage of failure could a company sustain in repeated engagements without serious hurt to its tactical power or morale?" The answers ranged between 5 and 8 percent for *any one weapon*. The men pointed out that if the command was heavily engaged and in critical danger, its own losses in the line would be such as to offset weapons failures in that measure; in other words, the able-bodied would still have something to fire; on the other hand, if it was not a situation of high pressure, the malfunctions were simply in the nature of an annoyance. This group attitude toward the problem was congruent with the feeling of the average machine gunner, BAR man, or rifleman who recounted how his piece had gone out in a bad moment. He would be quite objective in his recital. His interest in the cause of the failure was usually quite marked, and this was especially true of the riflemen; usually, he would give his theory of what had gone wrong. But he was not embittered by his experience or inclined to belittle his weapon in the presence of others. (The carbine was an exception. See Chapter VIII.)

The American infantryman in Korea shows an amazing capacity to rebound from weapon failure in the midst of combat, redress his personal or group situation, and continue on as if nothing untoward had happened. For example, all of the machine guns in a given company may go out one by one in the course of an action, through mechanical failures or otherwise; but so long as the BARs continue to function reasonably well, the moral integrity of the unit will be preserved. Conversely, if for some reason there is high incidence of BAR failures, but the machine guns continue to operate and the riflemen maintain fire, there is no disproportionate shock to the moral stability of the force as a whole.

This can be demonstrated by any number of examples and by the absence of any major proof to the contrary. What the record indicates is that only extraordinary coincidence — the failure of a high number of pivotal weapons within a few moments, occurring in such way that the entire unit is apprised of it — will dissolve temporarily the moral fiber of the unit.

There is one major dramatic example of this happening during Korean operations. George Company, of the 38th Regiment, in the course of the November battle along the Chongchon, got sufficient warning of a Chinese force of approximately company strength approaching from its rear in the early morning. Its weapons were turned about, and from its position on the hilltop the Company got set to execute an ambush, permitting the enemy to come within 35-40 yards. The Company center, on which the Chinese were converging, was based upon a machine gun, supported on either side by a BAR. The lieutenant commanding stood close by the machine gun, which was supposed to open the action on his signal. When he yelled: "Fire!" the gun stuck, and the gunner yelled, "My gun's jammed." In turn, the lieutenant ordered each of the BAR men to

fire, and both, on pulling the trigger, got no response and cried out about their difficulty. The lieutenant then pulled on his carbine: the weapon wouldn't fire. As he put it, "I knew at that moment the Company was morally whipped on that ground."

Almost without firing a shot, he disengaged temporarily, withdrew to a hill 300 yards to the northward (deeper into enemy country), and went to work on the fouled weapons while the enemy reorganized to come against him. He got the machine gun and one BAR going again; the other BAR and his carbine remained locked; both were lost in the subsequent action and there was never any chance to find out what had gone wrong. However, the Company fought throughout the day on the second hill and gave a brave account of itself.

In the Chosen Reservoir operation, Fox Company of the 7th Marine Regiment was in an isolated position for five days, wholly surrounded by enemy forces in greatly superior strength. During the first three nights its defensive perimeter was strongly attacked and was twice cracked, though both times the line was made whole again, and the Chinese who had broken through were killed inside the circle. At no time during the five days were the men of Fox able to get their BARs to fire.

Each day they worked them over, cleaned them, lightly oiled them and test-fired them. Each night the guns again failed all along the line. The officers and men of Fox never were able to figure out why this happened. But they regarded their misfortune with the BARs as only an incident in the fight, worth noting for the sake of the records but not to be mentioned as an extraordinary handicap. While this was a Marine company, the reaction toward the problem of weapons failure was not unlike that of the average infantry organization in Korea.

UNDER CONDITIONS OF COLD

Throughout winter operations in Korea 1950-51, the most persistent and general cause of malfunctioning in the bullet-firing weapons carried by the infantry was the lack of standardization in treatment of the weapon as to oiling, periodic warm-up firing, etc., under conditions of extreme cold and heavy precipitation.

Viewing the problem as a whole within the infantry line, it would be conservative to say that 95 percent of the difficulty was innate in command and human failure rather than in structural fault in the ordnance. The manuals prescribe how weapons should be maintained under varying conditions of climate and temperature for optimum firing results. (Whether the recommended techniques are the best possible is unknown to the writer, since the problem is a highly technical one.) Moreover, during the past five years the Army has conducted elaborate tests under arctic conditions toward perfecting our knowledge of this subject, and from these tests much fresh information has been passed to troops.

None the less, in actual practice, the troops in the field proceed empirically, as if the whole subject had been left unexplored.

This is the old and familiar story — what we learn by experiment and what we regard as doctrine because at one time or another it has been published to the Army in a book or circular, oftentimes misses fire at the vital point because it is not stressed in the one quarter where it is most needed.

The Eighth Army did not achieve any uniformity in method of infantry weapons maintenance under cold conditions. No broad exceptions need be made to that statement. Methods varied from regiment to regiment and between battalions and companies in any one regiment. On the same day and against the same conditions of adverse weather, four companies situated flank to flank might be attempting four different procedures in an effort to combat the cold and keep weapons firing. No. 1 might be using a fairly heavy coating of oil, while using periodic fire to keep the weapon active. No. 2 might clean all weapons in gasoline and thereafter fire them dry. No. 3 might clean them and then apply a thin coating of oil. No. 4 might remove all oil from machine guns and BARs, while leaving its rifles oiled, and so on.

The salient discovery was that there was no agreed-upon procedure and no concerted drive toward establishing one.

The situation improved markedly as the winter wore along and troops learned virtually on their own what would work and what would not. But in the beginning theory and practice on this subject were almost as variable as opinions about when the war would end. Units continued to look for the "one best way" without being certain they had found it. That which worked well on one day was very likely to get adverse results a few days later because of a general change in the weather.

If uniform practice was to be achieved, this was obviously a problem calling for attention from the higher levels; but with rare exceptions they did nothing about it. As already said, the body of information on weapons failures in action which is to be found at company levels is almost never composed and studied at the higher levels. From the lack of data comes inevitable failure to search for causes. Company officers and supply sergeants were left to solve the cold weather maintenance problem as best they could; higher commanders, engrossed with a variety of other problems, seemed scarcely to realize that the cold was scoring heavily against weapons effectiveness and that guidance was needed toward a standardizing of technique.

The rigor of the Korean winter has been greatly exaggerated in most accounts published in the American press. It is not a sub-arctic climate. There are occasional dips down to -10° and -15° , but these hold on for a few days only. Compared to the climate in our own northern states, the Korean average winter week includes a high percentage of bright, sunny days, with the temperatures ranging just below the freezing mark. The snows are rarely heavy; even in the mountain areas a snowfall exceeding three inches in depth is unusual. The winter winds are not strong south of Parallel 38. Compared to our own northern climate, the amount of heavy frost and humidity during the winter months is not great. The Korean campaign is therefore not a test of weapons effectiveness under inordinate cold-weather conditions.

The only operation which was a conspicuous exception to these generalizations was the 1st Marine Division's march in November and December from Chinhung-ni to Udam-ni and return. The attack was through a lofty plateau area in the far north. Temperatures were consistently between 20° maximum (in certain of the daytime operations) and -30° minimum throughout the 20 days of fighting. The snows were deep, and the driving winds frequently attained blizzard proportions. Also, the enemy pressed close and continuously at all points so that, despite persistent counterattack by the

Marine garrisons, the defensive bases were in a state of semi-siege. Thus, it is to this operation, rather than to the norm of the 8th Army, that one should look for the critical testing of weapons under winter conditions. Too, it was marked that Marine tactical leaders, at all levels, made an extraordinary effort to keep accurate data on weapons failures. Many of the company NCOs carried pocket notebooks in which they recorded weapons experience as the fight developed; some had made note of the hour and condition under which each weapon failed; almost invariably they had tried to determine the cause of failure, though frequently they were baffled.

These effects, as recorded by the 1st Marine Division, were described in some detail in the paper, "CCF in the Attack — Part II,"¹ and need not be here repeated in full. Suffice to say that during fighting in temperatures ranging downward from 0° to -25° there is a variety of problems which do not appear, or at least do not influence the situation acutely, when the temperatures run from 32° down to 0°. Moreover, under fighting pressures, there are difficulties which no amount of arctic testing under noncombat conditions would be likely to anticipate.

For example, in the early winter fighting, a definite percentage of weapons failure was traceable to distribution of the wrong type of oil to certain of the combat companies. The commanders later said that they were doubtful of the oil because it did not seem to be the right quality. But they went ahead and used it for lack of anything better. They attributed the gumming-up of the weapons to this error in judgment.

When temperatures shift from the sub-freezing to the sub-zero range, the greatest fluctuation in relative operating efficiency occurs among the mortars. When the ground becomes so hard that it is without cushioning effect, there is excessive buckling and cracking of base plates (under heavy firing) and firing pins break frequently. The whole family suffers damage, though the breakage rate is greatest in the 60-mms.

The machine guns become more difficult in extreme cold because of heavy frost forming on the unjacketed parts; there is increased recourse to periodic warm-up firing to be sure of operation.

The BAR seems to stand up about as well under sub-zero as in sub-freezing conditions; there will be incidence of frost-lock in either situation. (Some BAR men cured this difficulty by urinating on their pieces.) However, the greater part of the trouble experienced in Korean operations with the BAR could not be blamed on temperature changes.

The M1 rifle works equally well in bitter or moderate cold. In fact, it is the "old reliable" of infantry fighting during winter operations, and is not less dependable in other seasons. There are occasional mechanical failures for one reason or another. But outside of an occasional broken firing pin, the rifle structurally stands the gaff phenomenally well. Frost will sometimes lock the piece if the man is careless about checking it. The ejector will fail if the chamber is excessively dirty; misfires will occur for the same reason. But the incidence of failure is relatively light and appears to be unrelated to major changes in temperature.

However, the general subject of weapons performance in Korea is better discussed under a separate heading. What is here emphasized is that at the beginning of winter

¹ See S. L. A. Marshall ORO-T-7(EUSAK). *Notes on Infantry Tactics in Korea*.

operations, both in Eighth Army and in X Corps, an inordinate percentage of the difficulty with weapons in the infantry line was attributable to imperfect maintenance, and this was subject to better control by the command.

It is idle to expect the soldier to engage at all times with a perfectly cleaned weapon. The conditions of combat prohibit any such ideal. Weapons become fouled from the dust and grime incident to all movement, even under the most temperate conditions. Immediate engagement is apt to follow termination of the march; when under fire, foot troops are rarely amenable to an exercise in policing. If a weapon goes out because of dirt, the nervous state of the soldier is such that he is not apt to recognize what is at fault, or, recognizing it, proceed methodically to correct it. If there is another weapon at hand, he will probably pick it up and throw the old one away. If not, he may retain the old weapon but still do nothing about freeing it. When close engaged, the average fighter is nervously excited. Particularly where individual weapons are concerned, it is almost impossible for him to deal as coolly with a mechanical block as he would do in drill.

Also, as troops dig in, the work itself tends to dirty the weapons. When they have completed digging, their fatigue and the general situation are frequently such that they cannot clean them adequately. Of the more than 50 company situations studied in Korea, there were only 8 in which troops had opportunity to clean weapons, when movement and digging were completed, and prior to engaging the enemy. The same limiting factor of time militates against the chance that the defensive position will be properly engineered (unless there is an engineer detachment along) so that mines, even if carried forward, will be laid to maximum advantage. Too much work falls on infantry in just the wrong hour.

So there will always be dirt as a complicating factor in weapons operation during infantry action, and no amount of platitudinizing about the value of a clean piece can eliminate the problem.

But lubrication is a different matter, and it was the question of how and when to lubricate which caused the greater part of the early distress with weapons operation in Eighth Army's winter campaign, because squads and platoons and individual men were left pretty much to their own devices, with no one telling them positively what should be done, and no one from a high level checking the results.

● The Ordnance Officer — or at least some technical expert from Ordnance — belongs down among the companies during field operations. The ranks require his working knowledge, and there is no other level at which he can be sure of his data.

Insofar as infantry in battle is concerned, this whole problem is subject to far more exact regulation and control than the Army has ever given it.

Insofar as weapons are concerned, troops contending with cold for the first time in combat are much like troops undergoing their first bath of fire. They have to become re-acclimated to their main task in battle — the systematic production of fire and the coordination of all men and weapons toward that end.

Shock cold is itself conducive to the numbing of the senses, the muddling of thought, and the forgetting of lessons relatively well learned. Junior leaders, plagued by difficulties with their personal weapons, will hardly ever make careful survey of

the weapons situation within the unit in the midst of engagement, or afterward make check of the causes of failure.

There is no other hour when close guidance from the specialists would pay larger dividends.

RECOMMENDED SOP

Toward the minimizing of tactical disarrangements through weapons failures within the company unit, establishing the following procedures is recommended for consideration:

- The function of prescribing how all organic weapons should be maintained (as to lubrication, periodic firing, etc.), in conformity with changes in the weather and the tactical situation, should be designated as a responsibility of the battalion commander.

- All platoon commanders should be required to carry notebooks for data and to send forward an immediate post-combat report on *all weapons failures*, including characteristics indicating weakness or sluggishness in any of the weapons.

- These reports should be correlated by the Ordnance Officer for the information of the regiment and higher commands.

- The infantry soldier should be taught that it is a first duty during combat to report any weapons failure to his nearest superior as quickly as this may be done without extraordinary risk, but that this should be done quietly, rather than cried out across the battlefield.

- Within the company unit, there should be a post-combat critique on the performance of all weapons; the time usually avails for this, and it would be done if it were made a requirement.

- Anti-frost measures in preventive maintenance should be reviewed to determine if the recommended procedures are sound, in the light of the winter experience in Korea.



WHEN COMMUNICATIONS FAIL

LOSING TOUCH

It should be accepted as a principle, to be followed undeviatingly, that tactical units during the advance should at all times guide on their communications — meaning their information network — rather than permit their movements to be governed by arbitrary evaluations of the ground. This is to say that the rule is nigh inviolable that high ground, and an advantageous field of fire, have of themselves no virtue if their possession by the smaller tactical unit means breaking contact with higher levels, thus promoting disunification of the general command. If a body in the attack, or for that matter a patrol, moves out of radio or other contact with its support, the breaking of contact should be a red warning signal that it has gone too far, or moved at last onto the wrong line, and the compelling object should be to so move immediately that contact will be restored. By the same rule, when command assigns objectives to bodies in the attack which are at such distance, or, because of the intervening terrain, so interdicting of normal communications as to strain them to the breaking point, it is in error, and subordinate commands should have it within their authority to hold up on secondary objectives where communications can be maintained until higher levels are apprised of the difficulty and amend orders accordingly.

It is believed that all of this is sound practice in tactics, and that control is so dependent upon its being universally applied that only the most urgent emergency considerations should warrant any exception to it.

But it has not been followed with steadfast consistency during Army operations in Korea, though the 1st Marine Division has adhered to the principle. In the early winter fighting particularly, while the extent of CCF intervention was unknown and had become a subject for continuing exploration, the importance of ground was accented out of due relation to the equal, or more vital, need that contact be preserved at all times toward swift and accurate development of the general situation.

The advance of small tactical bodies was precipitated beyond the reasonable limits of security; they were being deployed forward beyond contact before higher command had any valid sensing of the situation. Of this came a great part of the disarrangement. There was more pressure on men to get forward in a hurry than for them to exercise common sense precautions.

But even when all movement is regulated by the primary need that all fighting parts be subject to control, every additional means of communicating becomes extra insurance for the general body. A bullet can always destroy a radio; mortar fire can quickly knock out telephone wire. Indeed, this occurs so frequently in night engagement that to ignore the value of alternative means becomes foolhardy.

PYROTECHNICS AS SIGNALS

In hill fighting, or under any condition in combat where other technical means of communication are likely to be destroyed by enemy fire or neutralized by the terrain, the simplest and most immediate warning device is the rocket. Within a few seconds, a unit may put up a light warning its rear and flank support that it is under moderate fire, or, by using a different colored rocket, signal that it has become heavily engaged. This elementary signal not only has the advantage that it is always controllable; its more positive virtue is that it reduces the time lag in communication by radio or telephone. There are several examples in the Korean fighting wherein the radio relay from front to rear and back again to the frontline elements on either flank of the initiator required one hour or more, with the consequence that companies situated flank to flank were successively surprised over a prolonged period.

Yet the use of rocket signals by our side was virtually nonexistent, though the CCF did employ them effectively on a local basis. The infantry companies, for the most part, did not have rockets for signaling. Many of them, on being questioned, said that they had never heard of rocket signals and did not know that they could be used for this tactical purpose. A number of these same companies had been the victims of surprise attack, under conditions which made it impossible for them to notify higher commands of their situation. For example, in the November battle, rocket signals, had they been employed with common efficiency by all frontline elements, might have apprised the higher commands that the situation had taken a critical and alarming turn at least six hours earlier than happened in the event. Instead, when the forward companies became enveloped, the general situation became "obscure" and the most that was known of the greater number of the companies which were hardest hit was that they were "out of contact."

Rocket signals are not heavy; they impose no real burden on the company unit; they can be protected easily. They will work when nothing else will serve. Getting the signal up is invariably an encouragement to troops when otherwise they feel themselves abandoned to their situation.

Since World War I, we have drifted ever further away from this rather primitive technique. But as certainly as warfare is tending more and more toward an irregular pattern, away from rigid alignments and toward a phase in which all troops on defense

will have to be prepared to operate around 360°, the value of rocket signals will be reasserted.

- The problem calls for immediate study.

THE BLOCK AT THE SOURCE

In one major respect, combat troops in Korea show no marked improvement over World War II standards. The American soldier is still markedly deficient in his understanding of the decisive importance of communications — what it means to the security of fighting forces as a whole, and what responsibility it imposes on him as an individual.

There is consistent failure in this area, and conspicuous lack of individual initiative. Words go unsaid at the decisive moment; legs remain idle when nothing else but their use can save the situation. As the soldier in all other major particulars reflects a high average of intelligence, it is a good question whether the failing does not reflect an underemphasis in training.

Take, as one example, the story of King Company, 9th Infantry Regiment, on 25 November 1950. That evening it was at the forefront of the Eighth Army, 2300 yards farther north than the closest American unit. Hence its status was virtually that of an outpost.

In late afternoon, a Battalion wire sergeant started laying a telephone line to King Company — its radios wouldn't cover the distance. The wire was extra heavy, and so he couldn't take a straight line across the high ground, but looped the wire around the ends of the intervening ridges. Thereby it fell 600 yards short of the object. At that point the mission was dropped and King remained out of contact.

Just after dark, two soldiers in a machine-gun post on King's left flank saw a Chinese brigade of about 2500 men marching down a draw within 200 yards of them. The draw brought the column to within 35 yards of the gun. The soldiers fired a few ineffective rounds and then ran back to King's hill.

But they told no one what they had seen. Within a few minutes King Company was hit, overrun, and dispersed by an attack from part of this column, still knowing nothing of the size of the force descending on the Regimental front.

Even at that point, the dispatch of a runner might have saved others in the Regiment. But the leaders didn't have the information, and in any case the urge was lacking. Not until the following afternoon was the fate of King Company made clear to the Regiment; weeks passed before the machine gunner revealed what he had seen in the cornfield.

The Chinese column continued its march south. Two ROK soldiers (escaped POWs) who were hiding in a schoolhouse farther down the valley, saw the column pass. They had their wits about them, and they sped away across the ridges to carry the information to the American camp.

Arriving at Love Company's lines, they told what they had seen. But Love Company was not immediately alerted, and the message was not relayed to higher authority. So the column in turn rolled over Love Company, crossed the Chongchon, struck the First Battalion, and beset various installations in the American rear.

This is the most glaring example among many illustrating the reluctance of the

American soldier to report all that he sees and hears in battle, the failure of American commanders to send the word by foot when other means are lacking, and a general lack of conviction at the lower levels that neglect of informational values is incongruent with battle success.

It seldom happens that a company officer in a struck unit will send word by runner of his situation, even when for lack of other means he must fight his battle in isolation. The NCO commanding a platoon will order it to move because he sees a chance opening, but many times he will not send word to his commander of his intentions. There is usually an exaggerated disposition to conclude that higher authority must already know the score better than it is known at the action level.

Consider this further illustration from the record. An infantry company receives fire from its flank during a daylight advance. The position is covered with mist. The enemy, concealed behind the mist, is using American machine guns and rifles. The first thought of the American commander is that he must be receiving fire from a friendly source. His suspicion is confirmed when a moment later he sees American troops above the mist along one end of the same ridge from which he is receiving the fire. So for 20 minutes he withholds his own weapons from action, meantime calling Battalion to plead that it do something to suppress the fire. Then belatedly he learns that the Americans he had seen on the ridge are his own support platoon; they had shown unusual enterprise in everything except willingness to let their own people know that they had advanced to engage the enemy.

There are many such episodes, underscoring the lesson. Its substance is that the American soldier will never develop an adequate appreciation of what full information means to the unity of combat forces, and what it requires of him, until more attention is paid to that subject throughout the course of his training.

It should be the first instruction and the last. He should hear of it every day. It is more vital that he know this than that he be instructed how to dig the perfect foxhole. Should a fresh effort be made to indoctrinate the American fighter fully along these lines, it will be repaid tenfold by greater coherence in combat forces.

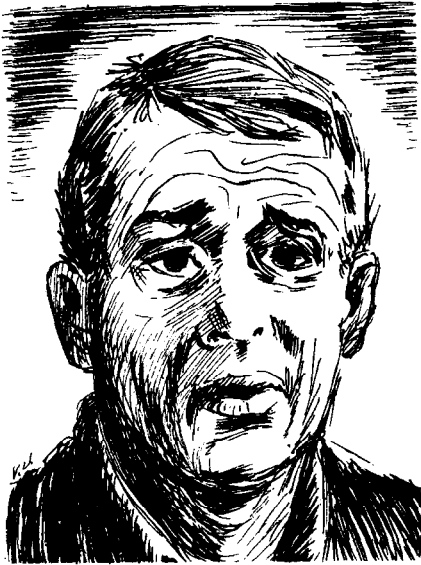
Once the main lesson is pounded home, field troops will become far less careless in the matter of conserving all signal materiel. In Korea, they seemed to have little concern about this object. It was common enough for working wire to be torn out by vehicles or burned out by warming fires, even when the men knew it was their link with the rear. They would later report quite casually that the wire had been destroyed by their own carelessness. It seemed scarcely to occur to them that the snapping of a few strands of wire was responsible for the defeat of the company.

Much of the disjuncting of communications in Korea, true enough, came of the fact that operations outran the capacity of signal facilities or, rather, the amount of signal supply was not sufficient to stretch the distance. The divisions which were able to avoid major surprise by the enemy were usually ones which had taken concrete steps to assure that adequate communications materials would be available and which maintained communications with all larger units regardless of the situation.

But there was also neglect of some of the simpler devices for getting the word back. Just as the possibilities of rocket signals were generally ignored, so in many units

there was failure systematically to use panels and pick-up messages utilizing light aircraft. Such techniques would have been particularly useful in determining the location of units temporarily dispersed or separated and lacking other means of getting the essential message to higher headquarters.

● There is particular need of a lightweight panel, something with such little weight and bulk that a rifleman can carry it with his gear and feel no burden. A few of these linked together could serve the need in emergency situations. As with grenading, however, unless the carrying forward of every item of signal equipment (rockets, panels, etc.) becomes a specifically encharged personal duty with command holding the individual accountable, materials will not be conserved unto the hour of greatest need. None of these things should be day-to-day assignments. The "must" nature of what he is doing must become ingrained in the soldier.



STRAIN

STRESS ON OPERATING STAFFS

In the Korean fighting, pressures on the battalion, regimental, and divisional staffs continue round-the-clock. Because of the difference in the armament of the contending sides, and the tactics which the enemy has elected largely in consequence of this difference (our superiority in air, armor, and artillery), there is no such respite as was common in European operations during World Wars I and II, though the stress is comparable to that in certain of the Pacific atoll operations of 1942-44.

We attack mainly in the daytime because of the general elusiveness of the target, the almost insuperable difficulties in keeping juncture in after-dark movement across the uneven ground, and the fact that the enemy's main positions are well-concealed, stoutly resistant, and vulnerable only to precision fire. They counterattack by night to avoid air strikes and minimize artillery effectiveness.

Under these conditions, when active fighting by the battalion and regiment is likely to be incessant for three or four days at a time, staffs are too thin for the needs of situation. All staffs are overworked for lack of adequate relief forces. The routine for the average staff officer and the commander at these levels is a strenuous day of labor, which takes him from one point to another and calls for frequent decision, followed by a night in which his brief rest will probably be broken by five or six telephone calls. So as to the human material, the wearing-down process is constant.

Toward increasing our possibilities of round-the-clock operations in future warfare, we are now developing a doctrine on illumination of the battlefield during night operations. The object here is not primarily defensive; we are endeavoring to get more fighting time so that we can attack harder and move faster.

The Korean experience indicates that any such evolution will be productive of unbearable pressures unless the broadening of the present structure of the operating staff is recognized as one of its first requirements.

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As now established, the staff is much too light for the demands of operations over a 24-hour day. Though it has seemingly stood the test in Korea, it has done so on raw nerves. That showing should not be given an exaggerated significance. One cannot stay long in the average headquarters in Korea without observing that the staff is badly overworked and strained to the breaking point.

STRESS ON TROOPS

The conditions described in the preceding section provide the general frame for discussing the average pressures under which infantry forces operate in Korea.

In nighttime defense, infantry in Korea usually operates at 50 percent alert, at least in theory. That is the way the order is given by the company commander, but the manner in which the alert is insured varies from unit to unit, and in consequence, so do the results. Customarily, the 50 percent standard of wakefulness and readiness is supposed to be maintained foxhole by foxhole, the members of each two-man team alternately resting and guarding. In winter operations, some company commanders permit only one man in two to carry a sleeping bag forward on the theory that discomfort alone will compel half the force to remain vigilant throughout. Others require a periodic check by squad or platoon leaders and report back to the CP.

In the depth of winter, among the more aggressive companies, the men not on full alert tended to put only their lower extremities within the sleeping bag for warmth and to doze while leaning on their arms. This expedient was never wholly satisfactory; it was consequent to a fear of being entrapped during a sudden onfall by the enemy. The bag is confining, and hard to emerge from, particularly when the occupant is fully uniformed. In the attack the Chinese are prone to go right after the sleeping bags and slash them with their knives. (They rarely carry bayonets.) There were no instances in the operations taken under study in which it could be established that an American had been killed while in his sleeping bag through a sudden appearance by an enemy force. However, there is substantial proof that there have been some losses from this cause elsewhere in the fighting. The incidents are too few in number to warrant the conclusion that equipment is of itself a major hazard requiring remedy, though a quick-release bag is under development.

Attention more profitably could be directed toward the question of whether the alert system, as practiced, is the best way to conserve the maximum of a unit's fighting powers against the hour of emergency. In the presence of the enemy, the main problem for the commander is to avoid being surprised while at the same time assuring that the maximum of his force will come to the fight with the fullest vigor permitted by the circumstances. Insistence on total alert by totally exhausted men is an invitation to defeat; by the same token, a half alert by a force of half-exhausted men is not the most secure practice if some other method will restore unit vitality more quickly without increased jeopardy to the position.

Nature can no more be cheated on the front line than elsewhere. The Korean findings indicate that even in a well-disciplined unit, an order from the commander that his men stand 50 percent alert will not insure that result, if the command has been hard pushed. The men will accept the order; on the surface, they will appear to be

complying with it; but within the group they will have contrived a method of beating the order so that the majority can get immediately a limited rest, while a few try to remain vigilant.

The data suggest, further, that too little attention has been given to the recuperative value of even a 20- or 30-minute period of sleep to a unit pushed to the point of exhaustion by hard marching and digging. There are many phenomenal examples in the book of companies made torpid by exertion, being hit within a few minutes of getting into the sack, and rebounding immediately and with surprising vigor and initiative. In the presence of danger the brain serves man extra well, providing its own alarm bell; sleep can be deep enough to serve as a reviver and still not be drugging.

These comments but scratch the surface of a very large subject. What is needed is a more thorough study of the alert problem under battle conditions based upon a more realistic appraisal of the powers of the individual.

In the advance during the early daylight, or on the preceding evening, the unit committed to the attack is moved in as close as possible to the objective. (There are of course many broad exceptions to this, as when the infantry is riding armor, and the armored column is used as a springboard to the jump-off which it supports with close-up fire.) The objective is usually an enemy-held hill or ridgeline. In the average situation, the fighting supply of the battalion in the attack can be moved by vehicle as far as the LD, which most frequently is approximate to the base of the ridgeline. Perhaps half the time the roads and the availability of motor transport are such that the troops also can be lifted that far. When the ridges are in excess of 250-300 meters, the hill base is generally in defilade and the trails twisting through the lesser hills and subridges enroute to the LD are not likely to be under a heavy interdicting fire. It is rarely the case that the line, in beginning an attack, is in any degree embarrassed by an opposing fire. The Chinese do not make much use of outposts or of random skirmishers serving the object of harassing and unsteading the attack before it is organized and going. They remain stolid in close proximity to their main diggings, and such interruption of the attack as is apt to occur at long range from this area is usually the work of a well-sited machine gun or mortar firing from the central position. On the other hand, their choice of observation points is excellent. They have an instinct for picking the one high point from which the approaches can best be seen; the OPs are usually connected with a firing battery by telephone. Thus if troops are careless about making the best use of ground during the advance, and take an open trail winding through the bottom of a draw instead of hugging the side of the ridge which would conceal them from the higher ground, they are quite apt to be taken by surprise fire at long range. That is one of the lesser failings of our infantry in Korea. The men are careless of simple rules they learned in boyhood while playing Indian.

At the LD, the attack unit usually cuts away from all transport because the ground forward of it can be negotiated only by muscle power. In Korea, the helicopter has flown some resupply missions to hilltop positions. But there is a sharp limit to helicopter capabilities as an adjunct of infantry supply. When an infantry force is really sweating for fighting supply, it is because the fire situation built up against it has begun to endanger the position. The same fire volume is a besetting threat to supply

delivery by 'copter. It is a prime target as it hovers. A number of helicopters have been shot down in Korea while trying to supply a perimeter under attack. But what the 'copter can't do because of the fire danger is also prohibited to the jeep and the tracked vehicles because of the ground. What infantrymen are able to carry forward in fighting supply under their own muscle power is in the usual situation the measure of what they can fire during the critical stage of engagement. If the company is assisted by native bearers at a 1:3 ratio (one bearer for each three fighters), the amount of ammunition carried up to the decisive ground can be approximately doubled. Further, if the company is being assisted by carrying parties organized from among personnel elsewhere in the command, it can take forward a more competent ammunition reserve, the degree of help depending on how many hands are assigned to this duty.

During winter operations in Korea, company carry was supplemented by one or another of these means about half the time. The rest of the time the infantry companies had to win ground, and then prepare to hold it, with such fighting supply as they could man-carry over the last few thousands of yards of uphill going, aided of course by whatever fire support was received from the air, the artillery, the tanks, the multiple mounts, and the heavier mortars.

The personal loads which they would manipulate forward were on the average as described under the heading, "The Natural Load" in Chapter V. What follows appertains to the experience of these companies under combat conditions, the effects of fatigue upon them consequential to pre-fire exertion, their attitude toward intrenchments, their march limits, their morale-breaking point, and some other factors.

THEY MUST MOVE ON FOOT

● From the description already given, it should be apparent that an infantry carrier, protected by light armor, would be of no particular value in Korean operations; it would not reduce infantry casualties materially in the average tactical situation; in fact, it would almost never be of use to infantry in the time when advancing foot troops were endangered by counterfire.

The use of the vehicle for protecting troops while moving in column by road would need to be considered separately. There has been no significant use of enemy artillery against our road columns in Korea, and none of enemy air in the recent months of operation. Where our columns have been ambushed or been subject to a disorganizing fire from the flanks, the enemy's chief weapons have been the machine gun, and secondly, the mortar. A carrier with armored sides would protect infantry from either of these types of fire.

However, to drop the subject at that point would mean only that we have approached it from the wrong end. When infantry in column becomes committed to any such unfortunate situation, it is almost invariably the consequence of a command mistake having occurred; major innovations in war cannot be justified solely as an insurance against the repetition of command errors. Moreover, to put infantry in a protected carrier does not guarantee that a column can travel through enemy-held country with impunity. Someone has to remain outside, seeing, hearing, and doing, if command is to be articulated and the commanded are to be kept under control. The

thin-skinned and open vehicles in the column will always remain vulnerable, and, when they are knocked out by fire, will block the column and halt the advance. If, under these conditions, infantry remains inert, seeking only to ride through instead of staying personally mobile and ready for deployment against the forces which are investing the column, its destruction can be brought about, irrespective of how strongly some of its vehicles are protected. Anything which might militate against infantry holding itself in a position of constant readiness during movement in column, or otherwise, is therefore to be questioned. Deployed men, scattered behind rocks and hummocks and unprotected by deep diggings, are a fair target for artillery and air attack. Even so, they are not as attractive as a solid column of vehicles, however well armored.

It is recognized that Korean operations compose a special set of conditions and that it is highly impractical to generalize on the basis of what can be proved there. Warfare on the continent of Europe would be of a different order; one might envisage situations arising there in which an armored infantry carrier would satisfy a critical need. What is here remarked is that the addition of such a carrier to present vehicularization cannot be justified in the light of our Korean experience.

MARCH TABLE

In Korean operations, the company is really seldom "fresh" when it crosses the LD and begins its attack upward against the high ground. Even an advance by motor transport to that point takes something out of men, since the journey is tedious and rough because of the nature of the countryside. Under the best of conditions, in making the approach from the bivouac area to the LD, the company will usually have to march somewhat between one-half and one-and-a-half miles, carrying its own equipment. These things considered, for the Korean terrain, the potential of the infantry company — how far it can move in the attack carrying a fighting load and still remain tactically sound for night defense — can be reckoned approximately as follows:

TERRAIN	DISTANCES	LOAD
Over ridges exceeding 400 meters height	1500-2200 yards actual distance	Basic fighting
Over ridges averaging 200 meters or slightly less	3000-3500 yards actual distance	Basic fighting
Over ridges averaging 100 meters or less	5000-7000 yards actual distance	Basic fighting
Road march; flat country	8-9 miles actual distance	Basic inc. ration and bedroll

This scale is premised on the unit not being engaged by heavy or occasional killing fire during the approach march; it applies to movement made under the stresses of the weights carried and the general apprehension of engagement. Sharp fire or sudden losses will radically reduce the potential. These are the maximum distances and requirements within the range of slightly cold to moderate temperatures averaging between

20° and 60°. In the summer season and in extreme cold, the figures should be halved for marches at the higher elevations. There will be some reduction during the rainy season when roads and trails are muddy; ice conditions will also lower the figures. Furthermore, the altitude of the hill or ridgeline is a somewhat arbitrary yardstick, since in some cases there would be less stress in climbing a 500-meter hill with gradually ascending slopes than a 150-meter height approached via a series of rocky sub-ridges and cross-cutting ravines. It is believed that the scale is sufficiently accurate, however, to provide a base for continuing study of this subject.

The study of Korean operations includes a number of marked exceptions to the figures given in the scale — combat performances wherein troops traveled greater distances, over truly formidable countryside and under extreme weather conditions, and gave an heroic account of themselves.

However, even in these exceptional instances, where men were marched farther and on occasion carried heavier loads, it was marked that a high percentage of individuals blanked out during the combat phase because of sheer physical exhaustion; in the end the unit prevailed, or at least avoided extermination, chiefly because the enemy was also worn down by the circumstances of the commitment.

There were also episodes of a different kind, wherein the company had advanced as much as 5000 yards across country in the course of the attack, but where the commander made this estimate of the effect: "I feel that we lost our stuff in the first 1500 yards, going up the first ridge, by trying to move along too fast; two-thirds of the way up we had to rest for 20 minutes because all of the men were pooped; thereafter, they were listless, and even the excitement of engagement did not seem to stimulate them." To this the company as a whole agreed.

The city-bred ROK soldier, integrated in the American unit, appeared to react physically to these stresses no better than the average man from this country. He wore out as quickly and, when fatigued, was even less ready to take an active part in the firing. On the other hand, the country-bred ROK, who was accustomed to moving long distances afoot, had markedly more endurance, and would also tend to respond strongly in emergency situations.

The table is therefore based on a general averaging of infantry company performances, including the attendant logistical data. It takes into account all that could be learned about the physical state of the company and its morale prior to commitment, during the advance, and while engaged. The information included such pertinent points as (1) the individual loading, (2) arrangements for company resupply, (3) how much sleep the men had had and when they were fed, (4) whether the company remained closed-up during the advance, (5) the distance over which the column was strung out, (6) at what stage straggling began and among which elements, (7) the relative activity of the company when it engaged, (8) whether the men dozed off when under fire, (9) the effort made by junior leaders toward the increase of fire volume, (10) the labor spent on protective works, (11) the alert system, (12) patrol activity, and other exercises of initiative.

It is believed that research must proceed at least this far to measure accurately infantry capacity. To establish only that a company moved a certain distance, that

it fought, and that it won does not supply adequate criteria as to the physical resources of troops under combat conditions. What is desired is a reasonable approximation of the maximum safe distance: we can define that as the length of march beyond which the company cannot go and still have the majority of its number remain tactically mobile and capable of fighting aggressively for a sustained period.

That is all that the table is intended to convey. It is not based on what can be done by the 10 to 20 percent who are most physically and psychologically fit, but on what can be expected of the body as a whole. There is no inference here that American soldiers are spiritually and physically weak; none whatever that stronger measures in training would have put more bottom under them. These were well-disciplined and physically conditioned troops, measured against our best standards. They were well

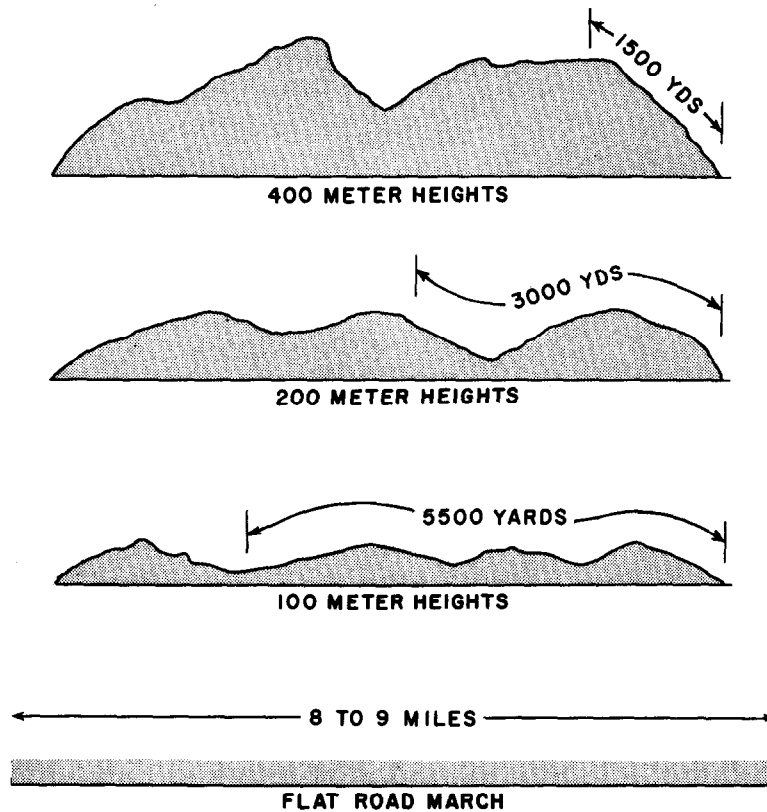


Fig. 4 — Combat March Limits, Showing Mean Distances at Which Troops Can Be Expected to Retain Combat Mobility

led; they took an active interest in the job at hand. They engaged strongly and took their losses in admirable spirit. Even in defeat, they acquitted themselves like men. Those platoons and companies which were overrun during the November battle had good reason to look back with pride at the manner in which they had met the test; that feeling was manifest in their bearing when the critiques were conducted, and the facts as developed adequately sustained them.

Because the inherent quality is so good, it deserves that better conservation which can come only of more accurate knowledge of the powers and limitations of the material. The Army has as yet scarcely scratched the surface of this subject; it is given no concerted attention during active operations, though, oddly enough, in test exercises everything is measured with delicate instruments.

At higher levels, the tendency persists to overestimate the physical resources of men and occasionally to tax them beyond limit. The first-arriving troops in Korea, though physically soft, were borne down by personal baggage that no soldiers can carry and still fight. This was by command decision: there is competent testimony on the point.

Commanders like to boast about their men. Their exaggerated opinions about the physical capabilities of troops comes from natural causes such as pride in unit and the competitive spirit. But unfortunately, these personal predispositions have more to do with the shaping of policy than hard data concerning the logistics of the march and of the fight.

DIGGING IN

Another factor in an evaluation of strain in infantry combat is the attitude of troops and commanders toward the building and use of defensive works. Infantrymen in Korea for the most part speak well of their intrenching tools, preferring the shovel to the pick-ax, because they have found it a better cutter in the Korean soil. There has not been an excess of digging. Korea has been fought over for so long, both in this war and in wars past, that there is hardly a hilltop but is pocked with military works of one type or another. Some of these diggings are a half century old but are still serviceable in part. Their ubiquity doubles the difficulty of identifying enemy presence through air reconnaissance, but it also lightens the infantryman's toil.

Our troops will sometimes set up on less favorable ground, because it contains old works which can be used in establishing the defensive perimeter, rather than go to the higher knoll where it would be necessary to dig fresh foxholes. On the surface, this looks like sheer laziness in the command, but such is not the case. Whether one elevation is two or three meters higher or lower than its next neighbor rarely has *decisive* influence on the fire contest between companies in Korea, though it may mean taking extra losses, and an added mental hazard in the hour of engagement. Much depends on the distance between points, the extent of natural cover, the curving of the ground, etc. But the general proposition stands. If the higher hill is undeveloped, the enemy will have to dig there also, and, in digging, will give himself away; either that, or gaining the height, will increase his own exposure. This reasoning, however unorthodox, frequently justifies itself in practice.

Our junior commanders in Korea have balanced one thing against another and in general concluded that it is better to keep men relatively fresh for the contest, even though the position leaves something to be desired, than to wear them out digging works in the most commanding hill on the landscape. There is something to be said for this theory of defense when the opponent has neither air power nor an adequate artillery; but it is a questionable compromise otherwise.

When troops are compelled to dig for cover, the work is rudimentary rather than thoroughly done, in the hilltop fighting. Both the tools and the ground are prohibitive of deep pits, though the Chinese seem able to overcome these handicaps and consistently intrench themselves more thoroughly than do our own forces.

The "foxhole" used in Korea by the American fighter is usually a pit not more than waist-deep; it will protect a sitting or squatting man; frequently, it is revetted with a small breastwork of boulders and earth. This practice is frowned upon by higher commanders but is apt to be tolerated by junior leaders. In upper levels there is apprehension that bullets or shells hitting among loose rock will cause chips to fly in all directions, thereby increasing casualties. The record of the company fights, however, shows little attrition from this cause.

Troops are not careful to distribute the spoil; they have been criticized and warned of this by higher command; but their feeling about it is, "The Chinese know where we are, anyway, so why bother?" which is perhaps a little more realistic than the worry topside. Also, though they sometimes go through the motions of camouflage, they rarely do it with any art or enthusiasm; the best that is done is the cutting of an occasional branch and a slapstick propping of it somewhere near the position. Not one single infantry company surveyed in Korea was convinced that camouflage was necessary in the circumstances.

Considered alone, these seeming shortcomings might be evaluated as evidence of a lax combat discipline and the reflection of a weakness in junior leadership. But it is believed that when they are examined against the background of the warfare in which our infantry is engaged, they will be seen as a natural response to the situation itself and in the best interests of survival, since extra labor in any form wears down the fighting powers of the force and therefore must be measured against the possible gain.

During the winter fighting, there was a minimal use of defensive wire, tripflares, and entanglements of any sort in front of the foxhole line. This was because these materials were not available in adequate supply, rather than because the troops were indifferent toward their use. The materials were available within the Theater. Rear area transport — so it was reported at Eighth Army — could not haul them further north than Taejon. The Divisions could rarely afford to send trucks back that far to get these particular items. In consequence, the defense had to rely in the main on fire unhelped by man-made obstacles.

In some of the localities where our perimeters were established, the natural growth was such that it could have been converted into abatis, for use in covering the main approaches. But this was seldom, if ever, done. Our infantry has all but forgotten this technique; even when time availed for strengthening the defense with improvised materials from the countryside, men did not think of it, and even had they thought, the absence of working tools would have impaired the possibility.

This is one of the chronic disciplinary weaknesses in the Eighth Army combat forces; there is no conservation of the small tools required for pioneer maintenance, repairs, and the doing of small construction tasks. Axes, shovels, sledges, etc., become lost or mislaid and are not replaced. The same with wrenches and repair kits.

Convoys move out with none of the tools needed to get them on the road again

should a breakdown occur either within the column or at some sensitive point along the road surface. The MLR leading to the forward battalions is many times a one-way road, with an occasional turn-out large enough to accommodate only one of the smaller vehicles. Often the trail into the assembly area can be traversed only by 1/4-ton trucks, and all supply must be transferred for the last stage of the journey. Under these conditions, one vehicle slipping off the road may block traffic in both directions for a prolonged period. All movement may depend upon the availability of one ax or a few shovels, to cut a lever, dig a by-pass, or build a new bed under the wheels of the ditched machine so that it can pull out. But to search through our organic vehicles for any such equipment is usually quite vain. If there is no other way out, the customary expedient is to send someone scouting for a Korean farmer and bring him back with his hand-made ax.

Our failure to exercise a sound economy in these matters is the more conspicuous in Korea because of the general lack of pioneering force in the forward zone. Nine times in ten when an emergency problem arises, the infantry force must work out its own solution.

One persistent complaint among infantrymen concerning the intrenching shovel is that it is about two inches too long in the handle. When not using the light packs, troops sling the shovel in their waist belts. As issued, it is of such a length that, when thus slung, the shovel bangs against the lower leg with every stride. They therefore cut two or three inches from the handle so that the tool will ride easier. It is understood that an improved intrenching tool, shortly to be issued, has a shortened handle. The question raised is whether the new model is so made that it can be easily adjusted to the informal way of carrying which a majority of troops have adopted in Korea to lighten their over-all burden.

INTRENCHMENTS: DOCTRINE AND PRACTICE

There are two seemingly opposite views, both coming from commanders who successfully commanded regiments in Korea, which provide a take-off point to the subject of the doctrine and practice of digging in.

Said one: "In my opinion, troops moving into a position in contact with the enemy and which they intend to occupy overnight, should always dig in. I know of instances where this was not done and the outfits concerned were promptly driven off; whereas it is believed that had they prepared a proper defensive position they would have succeeded in holding their ground."

Said the other: "I had the French battalion which dug very deep and luxurious holes. On many occasions they were greatly admired by visiting senior officers. At the same time our junior commanders would not permit our men to dig holes any deeper than they considered necessary for protection. They felt that a deep hole would neither physically nor spiritually enable our soldiers to fight efficiently."

Both statements contain elements of a somewhat larger truth, as it is revealed by the record. The blow-by-blow study of these operations leaves no room for doubt about the value of earthworks to the infantry soldier on defense. Ranks bear witness to it at many points with such statements as: "Had we not dug in that night, nothing

could have saved us." There is ample evidence in support of the doctrine that intrenching is a main requirement for effective action and survival.

But to leave it at that point does not do justice to the truth of experience, as fighting men have lived it. Earthworks are not a substitute for alertness, confidence, and unity within the organization, nor do they in all circumstances promote them, or become the measure of difference between success and defeat, when other things are lacking.

The record contains several notable examples of troops which were well dug in but, because of fatigue or some other cause, were listless and inadequately coordinated. When the enemy attack hit among them, they fell apart despite their earth protection and yielded their ground even though the enemy pressure was relatively moderate. They could not get their own fire going in an organized way, and for lack of it their possession of foxholes simply increased their sense of individual isolation.

But there are many more examples in the record of American units which responded unifiedly and gallantly when caught suddenly by the night attack while lacking ground cover. In most of these instances, the time interval had not permitted digging in, or there was some other good reason why this elementary insurance had been foregone. (Troops cannot intrench in bog land and they cannot tunnel their way into the rimrock of a ridgeline.) Lacking artificial cover, these units still possessed the great essential — the confidence from which comes unity of action. They made the best use of such natural cover as could be found at the moment, and from this cover they fought back. In many of these actions, the enemy fire pressure was intense beyond description. The fight lasted for hours; the two sides would be at grips frequently at 15- to 30-yard range. Losses on both sides were necessarily heavy. Still, the defenders not only survived, they held their ground. That they lacked foxhole cover was not considered an insurmountable handicap by the men.

Nor, on the basis of Korean operations, could it be considered wise to preach to troops any such rigid dogma as the indispensability of the foxhole to unit fighting integrity. Let us look again at the infantry company on defense along a Korean ridgeline! As the enemy persists in his night attack, pressure may break the line, cause some part of it to fall back, compel a contraction of the whole perimeter, or even force the company to withdraw to ground some distance away, so as to reorganize and get going again.

In the course of these movements, men may abandon their foxholes and even witness the enemy take position therein, while they themselves maneuver in the open. So doing, they fight from behind rocks, trees, or embankments, using such cover as naturally as any guerrilla. They manage to stay grouped in so doing, and command is able to exercise control over them. It is of record that in numerous actions fought on exactly these terms, the Americans won their local fight and ultimately routed the enemy from the foxhole line. Even so, the actors did not prefer it this way; they were aware of their handicap, but, having lost their foxholes, they did the next best thing.

That is what the record says concerning any such one-sided proposition as that a unit without foxholes on defense is a unit lost. When dogma is made that rigid, it

becomes untrue and therefore unwise. It can actually contribute to the defeat of troops by conditioning them to believe that their cause is hopeless when their defenses are less than perfect.

To stress at all times the vital importance of defensive earthworks should be a main object in training; junior leaders are inclined to be slack about pressing their men on this point, and about inspecting afterward, particularly when they think the enemy is a good distance away. But troops who spend their last portion of nervous energy in throwing up an earthbank will not hold against a determined attack coming against them immediately. Earth protection will never compensate for a torpid state within the unit. The Korean record has some impressive exhibits on that score.

INFANTRY ADJUSTMENT TO ARTILLERY

Losses to infantry from our own artillery action appear to be phenomenally light in Korea when compared to operations in either World War. There are a few minor incidents of this type in the record, but no major ones. Wherein they occurred, as a general thing, it can be said that the accident was not traceable to human error but to circumstances pretty much beyond anyone's control. In night defense, artillery fires are laid in very close to the infantry perimeter, 50 to 75 yards being not uncommon. When the exceptional ruggedness of the terrain and the frequent inaccuracy of map data are considered, the extreme accuracy of these fires is a cause for amazement. As for the attack, in the Korean fighting, it just isn't a case of "how closely the infantry follows" the artillery barrage fire, or whether it could reduce the interval. Sometimes the armored artillery is in position to roll out fire just ahead of the advancing infantry line, but the field artillery is rarely called upon to fire such a mission. The attack is usually uphill, and it is a hard physical struggle for the infantry to get up there. The artillery maintains fire as long as it can safely and for so long as it seems to be doing any good. The enemy position is usually very tight and closed around the crest or domes of the ridgeline. Enemy snipers are not prone to work the lower reaches of the hills; during the early part of the ascent the infantry is moving through dead space. Thus there is no occasion, in the average situation, for the artillery fire to move just ahead of the infantry. It tries to soften the stronghold while the infantry is climbing toward it. Finally, the infantry may have closed to within 50 or 100 yards, with the artillery still banging away, the tolerance depending largely on whether the infantry is moving on the same line as the fire or at right angles to it.

Toward their own artillery fire, our infantry in Korea has a singularly robust attitude. On the rare occasions when shells fall short, or for any reason they are caught by their own fire, they don't cry about it, but treat it objectively as one more condition incidental to struggle and survival. It is not regarded as an excuse for quitting ground, though it may be treated as a reason for seeking better cover. The infantry had amazing confidence in their artillery. They were willing to have defensive fires brought within 25 yards of their positions. In the hour of acute need they would ask for such help immediately, even though it meant bringing in a few short rounds.

This statement of the case was made by Lt. Thomas K. Craig, Company I, 23rd Infantry Regiment, in a letter signed by 36 members of his unit: "The fact that

a supporting artillery round may land near and injure a member of our own forces is not appalling. It is not a catastrophe, though it is regrettable. In a case where a round does injure or kill one of our own force, we are aware that there are many more other rounds killing the enemy at the same time. Such things will occur from time to time when there is close support. In the type of action which occurs in Korea, close support by artillery is the great imperative."

These thoughts characterize an attitude more or less general in the Theater. The same matter-of-factness is evident in troop reaction to an air mission which goes wrong in an attempt to provide close support, unless the maneuver is marked by exceptional carelessness and does serious damage. The men recognize that when support is close enough to be truly effective during engagement, an occasional pass will go a little wrong. Companies have reported such accidents in words as casual as these: "We saw the napalm strike was going to hit right in the middle of us. The men directly in line displaced to either side. No one was hurt but we had six foxholes burned out."

Under Korean conditions, the tactical distance between infantry and artillery, as well as the difference in fighting knowledge which each must have to be of maximum sustenance to the other, has been reduced almost to a nullity. The artillery elements of the RCT perform fight as infantry on many occasions, and they have learned to look at ground and weapons with an infantryman's eye. Cannoneers have at times manned the front lines to plug gaps and to reinforce the rifle companies. Taking over blocking positions in the infantry line, AA artillerymen have had to learn how to deploy and fight as foot soldiers to obtain local security. On other occasions, when riflemen were driven to the artillery positions and fought there to save the perimeter, they also have been used to serve the guns. In one of the most grim episodes of the war — the retirement of the 2nd Infantry Division through the CCF fire gantlet south of Kunu-ri — it was a junior infantry officer who suggested the use of the AA multiple-mounts as a battering ram, a tactic which finally enabled the artillery column to break through. In a general situation wherein infantry and artillery have had no choice but to work hand-in-glove, the high adaptability of individuals of all ranks and in both arms — and the increased comradeship and working unity which come of it — is even more worthy of remark than are the abnormal technical complexes of the problem.



EXHAUSTIBLE INFANTRY

and 'INEXHAUSTIBLE' STORES

FIGHTING LOAD

In the attack, the infantryman carries his weapons, ammunition, intrenching tool, filled canteen, and first-aid pack. This is the shake-down infantry load in Eighth Army operations. Because of the steepness of the ridges, and the fatigue which comes of climbing prior to engagement, such things as rations and bedding, usually regarded as "necessities" for the fighting man, are not carried forward by the attack force. Where the developments in the situation and the availability of support personnel permit it, food and bedrolls are got up to the attack force by supply parties somewhere along the course of the fight.

But often as not these arrangements are frustrated by an untoward course in the fighting. In consequence men go hungry and miss out on sleep. Neither shortage is regarded by the infantry within Eighth Army as a cruel and unusual hardship. The men take these things in stride, and when the pressure is eased and conditions are nearer normal again, they boast about what they have undergone. During the winter fighting, when the night temperatures were ranging between 5° and 20°, companies in the attack were not infrequently committed without overcoats or bedrolls, and minus rations, despite the tactical prospects being that supply in these things might not get up to them until the following morning.

They commonly appeared far more willing to risk a proportion of loss from frostbite than an endangering of the unit as a whole through failure of ammunition supply. The length of the approach march and the nature of the terrain occasionally permitted wearing either the overcoat or parka, or carrying the sleeping bag, but rarely both. Which it was to be was a matter for company decision. The battalion commands usually strove to get food and bedrolls forward to companies in the attack prior to darkness, though in fact the detail of this work would frequently fall upon the rear

echelon of the company directly concerned. As often as not these efforts were thwarted by circumstances beyond anyone's control.

Ranks understood the problem and were not demoralized by the lack of food and warmth. They blamed no one; frequently they praised the earnest, but negative, effort of the supply parties which had failed them.

In the course of all of the critiques of Eighth Army infantry, though this situation was many times repeated, there was not one single instance in which troops took a bitter or complaining attitude when speaking of their comfort shortages during engagement. The universal reaction was: "That was how it happened. There was no help for it. We weren't hurt by it and we'll probably have to do the same thing again."

THE NATURAL LOAD

The Korean research indicated that there is a natural limit imposed on what the average infantry soldier carries in fighting supply by what he has discovered about his own physical resources under varying conditions of stress. This is best judged by what happens within the average infantry company after it has been through repeated engagements, has shaken out all excess material, and has got down to fighting weight.

The infantry soldier will not carry more than two grenades, even though his senses tell him he is heading into a fight where grenades will be needed. In fact, though Korean operations are a grenade-using type of warfare, there was not found one infantry soldier in the whole of the Eighth Army who consistently carried more than two grenades. The average was slightly under two per man, since some individuals carried only one. The fatigue of the march was the determinant in this requirement. Decision as to what munitionment should be carried rested usually with the company commander, and after he became broken in he did not press men to carry more than they thought they could handle without risking exhaustion. It remained for the unit to take care of the reserve through company supply.

For men with carbines, the natural load was four clips; for men with M1s, between 94 and 120 rounds. These averages were general throughout all commands, and there was no marked deviation in any company unit. What loads were carried forward for the mortars and machine guns, etc., depended altogether upon the general circumstances, including how far the supply vehicles could drive forward and the availability of extra carriers. However, in the average circumstance the machine guns had 3 to 4 boxes of ammunition per gun, and the 60-mm mortars were supplied with between 50 and 100 rounds. BAR men averaged between 6 and 8 clips. Riflemen in the squad were markedly willing to carry extra ammunition for the BAR man.

BURDEN LIMIT

Weighing out this load of ammunition, along with the weapon, full canteen, uniform, etc., means that the average infantry fighter in Korea was carrying a handicap of approximately 40 pounds. This weight was sustainable, that is to say men so weighted could preserve tactical unity during an average march into enemy country, when fire was imminent. (A tabular discussion of march limits under fire conditions was included in Chapter IV.)

But it was also observed that among the men who were carrying weights in excess of 50 pounds there was an onset of straggling before the march was half completed. This served as a drag upon the general movement as other files peeled off to provide them with greater security. Solely because of the disproportionate weights, in an extended march it would sometimes be from 30 to 40 minutes after the head of the column had arrived on the objective when the tail closed in. These last to arrive would also be in the greatest state of fatigue. They included radio men, mortar ammunition carriers, mortar crews in general, and the flamethrower, though the latter's burden would have to be shifted from man to man in the course of the march because of its weight. The recoilless crews also did heavy labor, and were late in closing, if the march was extended.

Because mortar positions are characteristically in defilade, on low ground, to the rear of the defended ridgeline, this was not a frequent cause of tactical disarrangement in short marches. Its penalties became obvious only when infantry was put far across country over which organic transport could not follow because the country was unroaded.

Operations in Korea prove that Department of the Army and Office of Chief of Army Field Forces concern over the problem of the infantry burden is wholly justified, and that present staff processes and logistical arrangements fall seriously short of the standards requisite to providing our main fighting arm with an optimum mobility.

This problem has only a marginal solution. It cannot be solved in total. Infantry, by nature of its role in combat, must remain heavily burdened. The best that may be hoped for is that through re-examining our staff processes and reappraising our material and human resources, we can insure a system whereby the fighting load is made tolerable in the main.

When Korean operations began, we were no better prepared to initiate a sound economy within the infantry force than we were prior to World War I, despite the wealth of experience gathered meanwhile. The record shows that the expeditionary troops carried personal loads under which they could not fight and which they were in no position to store. Many of the items which they were compelled to carry were unsuited to the season; others were unsuited to fighting operations within the peninsula; still others were of questionable value at any time in any situation. Furthermore, during the winter operations, there was no sign that the supply staff within the replacement system had adjusted itself to the needs of the Korean fighting. Men struggled, and wore themselves down, carrying into the Theater items of equipment which were *never* used by the combat units. This applied especially to clothing issues. There was no indication that anyone had gone forward, studied what was being done on the ground, and then revised supply procedures to conform with needs. The net result was that tactical commanders had to shake down the replacements, take away all of the unnecessary gear, and then either jettison it or find a place to store it. As invariably happens, whenever there is an impractical issue of equipment, time and personnel are wasted right down the line.

Most of this excess was thrown away — a waste to the Army and to the American people. This wastage cannot be called the consequence of a bad supply discipline within

the troops; it was due to faulty staff work and inadequate survey of the supply requirement by the command. Into the discard of items not really needed went also other items for which there was a genuine requirement a little later.

This is the invariable extra penalty which comes of serious overloading. Green troops do not have the ability to recognize what material is essential under the conditions of the fight. In the hour of emergency, they react only to what is needed for survival in the immediate situation. Therefore excessive loading will always lead to an indiscriminating shucking-off of the weight which presses them down. There is no safeguard against this except to load them properly in the first place.

OUTFIT BY POPULAR VERDICT

As the Eighth Army became acclimated to its problem, the troops became knowing about their own main needs. Personal decision is probably the main influence in what the American infantry fighter carries along into battle of the multifarious supply in clothing, living and survival gear, and carrying equipment which are available to him. That may not be the way it should be, but that's how it works out in practice. If the majority of men don't want shelter halves, see no use in the light pack, and won't carry blankets when they see a chance to get sleeping bags, their feelings pretty much dictate how the unit ultimately is equipped. So it is that how the Army becomes outfitted after it has been long afield is pretty much a popular verdict on the utilitarian value of all equipage. And that verdict cannot be disregarded!

Under the stress of combat, such stock items as the meat can and the pack (the pack has proved highly useful in other wars but didn't meet the particular need in Korea) are found to be surplus weight, and so troops will not carry them forward. Too late the practical need for yet other items which had been thrown away in the early stages becomes recognized; they then have to be re-requisitioned.

In these particulars, Korea differs hardly at all from American experience in other wars of this century. But since it followed World War II by only five years, its main lesson might well be that an Army loses its "know-how" almost at the speed of light, and that the task of keeping staff procedures keyed up in the interim is far more complex than we think.

As the Eighth Army moved into the winter, its infantry forces did not remain overburdened; they were in fact traveling *too light* for the exigencies of the winter situation. Heavy weapons in the infantry line could not be assured a sufficient supply of ammunition. Troops in line often went hungry. The hilltop defenses had to get along without wire, mines, and tripflares. And so on.

COMMAND LOAD

It must be said of the average regimental and battalion commander of infantry in Korea that he tends to carry along an excessive and extravagant load of personal equipment, and that any effort he may make toward encouraging his troops to lighten themselves for the furthering of mobility is therefore invariably at odds with his personal example. It is not enough that he must carry along a cot and sleeping bag; usually, he also carries an air mattress, pillow, spare bag, and several extra blankets. The quota

is seldom one wash basin, one jerry can, one light, etc.; there will be several of each item. The same applies to trunk lockers and other dunnage. What the unit packs along for the comfort and convenience of the commander will probably be in average weight somewhere between 200 and 300 pounds. So long as one commander does it, and the excess is not reduced by any stricture from higher command, the others can be expected to follow suit. For social reasons there is a considerable rivalry about these things; one of the seeming satisfactions in command is the feeling of being relatively better off than one's fellows working at the same level. That is a human failing, but it is a failing none the less, when in field operations the services of more than one vehicle and the work of two or three men are required to shift the living gear of one officer every time that there is a displacement of the CP. With some of our commanders this was not necessary. They kept their gear at a minimum and had little more comfort than their troops. Still, this was not the common practice.

WHAT MIGHT BE DONE

Toward the affording of partial relief to the troops in line, and the over-all strengthening of the defensive situation, there were two lines of approach which might have been taken by the staff, without looking beyond resources already at hand. They were:

- Organization of Korean portorage on a semimilitary basis, and
- Total coordination of all supplementary carrying resources within the Division structure to put them at the service of the battalions in the attack.

Neither of these approaches was immediately subjected to study and then given systematic application. The first was neglected despite its obviousness, probably because our Army is not colonially experienced and does not have an instinct for primitive methods. The second broad avenue was overlooked, perhaps because its prerequisite is a radical overhaul in American staff thinking. We bend over backwards in respecting the integrity of small-unit command and process within any larger component, seldom stopping to question whether the safety of all units might not depend finally on seeing the Division as a whole, and using its other parts to the utmost in an effort to get its fighting elements forward relatively fit and ready for the fight. The Regiment sweats to get its two battalions of the attack into the right ground, supplied with all that they need to fight and to endure. Meanwhile, at the rear, there are QM, Ordnance, and other service elements, with broad backs and many vehicles, and on that particular day they have no truly critical chores. To what extent better interior organization can improve the economy will never be known until it is put to the test. We make it work when confronted by a great emergency such as the Ardennes surprise. But we never attempt to apply the same principle in routine operations with the major purpose of conserving the fighting elements.

As a first step toward reform of the infantry supply problem, it is suggested that Logistics, basing upon the Korean supply studies, should proceed to categorize all infantry equipment as follows:

1. Equipment which must move with the infantry soldier in any fighting situation, such as his arm, canteen, aid pouch, ammunition belt, pants, boots, etc.

2. Equipment which he will have to carry personally in the interests of survival when subjected to extremes in climate, weather change, etc. These are kept in organizational supply and issued to him when required by the immediate conditions. They affect his personal responsibility and organizational logistics in that as his load increases, other means must be found for transporting the unit's residual weight.

3. Equipment composing the residual weight within the company (Mortar ammo in excess of a definite figure, mines, wire, etc.), which, while required in the fighting situation, cannot be manhandled by the company without excessive impairment of its fighting powers. The estimating of residual weights should be based upon the muscular potential in summer heat, or extreme winter cold, when the soldier is heavily weighted with his own clothing, and not upon what troops can do in temperate weather under the most favorable conditions. Once the residual weights are analyzed and described, all further procedure should be based on the assumption that when these materials cannot be moved to the scene of action by organic transport, it is the responsibility of higher command to make the arrangements by which they will be got forward for the benefit of the company.

4. Equipment which has proved impractical or of little utility under the stress of field conditions and should therefore be eliminated.

5. Equipment which has a practical purpose (such as the web cartridge belt) but is imperfectly suited to that purpose and should therefore be modified.

In the Korean fighting, the average combat soldier, when his total load is somewhere between 38 and 45 pounds (including clothing), gets along fairly well and can march a reasonable distance, engage, and still remain relatively mobile. When the load goes above 50 pounds, he becomes a drag upon the company. That was what was anticipated in theory and it has proved itself in practice. The calculating of the residual weight should assume an average 40-pound carry for the soldier. If, when that is done, such personal items as blankets, bedrolls, etc., cannot be fitted into the individual load, they should be classified as residual weight and it should be the duty of higher authority to arrange for their portage. This was how it was handled many times during the winter fighting, *except that already overburdened battalion and company commanders had to organize the makeshift arrangements.*

Reform must begin at the top. Providing greater mobility to troops in the attack is primarily a problem for the division. The coordination of all division resources toward that end can be achieved only through the commander's staff. At first glance, it might be questioned whether this is a responsibility of G-3 or G-4. The best solution would require that they approach it jointly, with G-3 having the ultimate responsibility because of his closer tie-in with the daily progress of fighting operations and the peculiar authority which he exercises in this field. There is the capital risk that the experiment might be regarded as just another problem in transportation, routinely assigned to the division MT officer, and thereby die a sudden death.

As for the need that we do a better job in the analysis and use of all indigenous transport resources, our Korean failure is an example which commends itself to General Staff attention. The subject needs to be given continuing emphasis at Leavenworth, Benning, and at all other points where staff thinking is shaped. The same problem

will certainly arise wherever we may engage in future. To be outnumbered on the fighting side in war becomes an insuperable handicap unless extreme ingenuity is used in the organization of all resources in meeting the logistical problem.

That we have exceeded all others in motorization but makes it more difficult for us to think about what can be done with animals and people. But the effort must be made, lest another opportunity be missed.

PRODIGAL WASTAGE

There is a continuing prodigal waste of equipment due initially to the lack of an insistent discipline and secondarily to failure to systematize collection of items which troops are disposed to discard because of the weight factor, or some equally compelling reason. This does not apply generally to their attitude toward weapons. The tables of weapons loss throughout the Korean operation indicate that the rate is excessive; but any evaluation should take into account that there were abnormal wastages during the early retreats and defeats, and again in the November battle, personnel losses among several divisions (including ROKs) were such that in the circumstances it was impossible to retrieve all weapons.

It is believed that insofar as the average American infantryman is concerned, a reasonably sound attitude toward weapons economy is evidenced during operations in recent months. The men take pride in their weapons and for the most part speak of them with affection. As is made evident in the company critiques, even when they are on the losing end of a fight and are compelled to yield ground, they are anxious to make of record such extraordinary measures as were taken to get their weapons back.

In our average soldier, this is not as great a point of pride as in the average Marine fighter in Korea; but the same instinctive feeling is there and should be encouraged through greater accent during training.

But there are some notable exceptions to the statement that the general weapons economy is sound. American troops, left to their own devices, simply threw away the bayonet in Korea. There was an occasional strong-minded company or battalion commander who by his own conviction and magnetism won his men to its retention. But in the average company unit, as of November and December, 1950, the only men possessing bayonets were the replacements who had not yet learned that they could heave it and not face a court martial. The average commander who had tolerated elimination of the weapon from the individual load had not taken steps to collect and store bayonets; they were simply lost.

In the same way, grenade launchers had been thrown away, and there had been no salvaging program from above as the men began to sweat under the carry of a relatively light item which, having been put to little use, was considered superfluous. The tactical conditions of the November fight were such that the rifle grenade would have been invaluable. Yet no instance was found of use of this weapon by our troops; there were no launchers. However, CCF did employ the rifle grenade against us, using the American-made launcher adapted to the '03 rifle.

Also, it was found that after a five- or six-day carry, in which there had been no close in-fighting, the men threw away their hand grenades during the progress of the

march. At company levels, it was the exceptional officer who, anticipating this reaction, took pains to collect the grenades from the men and put them in company supply. The average officer neither instituted a control system nor made check of the grenade situation among ranks. When asked how many grenades his men were carrying at the time of engagement, he could not reply. Oddly enough, where the infantry units neglected to collect grenades from their individuals in periods of quiet, some of the artillery battalions discovered that they had to resort to this practice as a measure of self-defense. Otherwise, the grenades were tossed loose into vehicles, ultimately the pins shook loose, and the unit was minus a truck.

Other fighting items toward which the attitude was lax and wasteful were mines and tripflares. Once disposed, they were not likely to be re-collected, particularly if the command was moving rapidly. One difficulty here is that the supply sergeant is likely to be at the forward resupply base of the unit rather than with the main body in the defensive perimeter. In his absence, and with officers busying themselves about other tasks, it is frequently the case that no one feels encharged with conserving all supply. It is still a chronic state of mind within our infantry force: "If we leave it, we can get more of it later on." This has enabled the enemy to use much of our materiel against us since he invariably comes back over the same ground.

With the onset of cold weather, the steel helmet was quite generally discarded throughout Eighth Army; again, in the majority of units, this item was thrown to the countryside rather than reassembled for subsequent use. The troops cannot be blamed for throwing away the helmet, since their commanders did likewise. It was an act of self-preservation, despite the fact that many men were dying from bullet wounds in the head from close-in sniper fire. The men had the hard option of taking this risk or accepting the certainty of ear frostbite and illness from exposure due to inadequate head covering. There is no issue cap which affords protection in subzero weather that at the same time can be accommodated to the steel helmet. The Marines, who faced the worst of the winter weather in their Chosen Reservoir operation, retained their steel helmets. They used a smaller, snigger cap, but they also had an inordinate percentage of loss from frostbite.

● There will be recurrent trouble with the helmet in winter operations, which no degree of command stricture will wholly eliminate, until the design of headwear which will be protective both against the elements and enemy fire becomes more realistic.

In Korea, a majority of the infantry troops has long since discarded the light pack because it served no good purpose. No form of carrier is used by the average individual. All combat loads are kept to the minimum, and whatever has to be carried in addition to fighting materiel, is either pocketed or slung, or tied to the man's body. The pack just doesn't fit the conditions of the fight. What it might normally contain is left in the B-bag, and though the B-bag is sometimes carried as far forward as the assembly area under the infantryman's arm, such is the shortage of motor transportation that toilet goods, mess kits, and the like are left behind during the attack.

QM SUPPLY

The American infantry force appears to be well content with its QM supply, the shoepac being the only exception among the items of general issue.

The shoepac was not designed to meet the conditions which are dominant in the Korean fighting. There is always a great deal of strenuous marching to be done by the foot force. Under heavy marching, at whatever season, the shoepac causes the foot to perspire excessively. In winter operations, when temperatures are near zero, ice forms on the inside of the shoe as soon as troops cease movement and the feet cool off. The greater part of our frostbite cases in the foot must be charged to supply failure rather than to carelessness by the individual or lax discipline in the command. Under these conditions, it is grossly unjust to men and unfair to the Army as a whole to regulate that all combat frostbite losses will be categorically classified as "non-battle casualties." During warm-weather operations in Korea, when observing an infantry column on the march, it is to be noted that the body as a whole does not move with the free gait which we have seen of American soldiers in the past. It goes along haltingly, because every third or fourth man is moving with a limp — usually the consequence of excessive friction within the boot. Almost invariably the limping soldier is wearing the shoepac rather than the infantry boot.

There is some complaint that the hood of the parka does not have enough freedom and that, in consequence, men tend to cramp badly in the neck after a few hours of wearing. Otherwise, the garment serves the purpose admirably even in the coldest weather and is well liked by troops.

Clothing resupply has been maintained at an optimum level among the combat force in Korea. Troops get worn or dirty clothing in all issues replaced seemingly as often as they request it. One hears frequent complaints from commanders that there is "too much" clothing supply, that they are surfeited with extras, and that in consequence, troops tend to waste clothing, throwing or giving it away, instead of going to a little additional trouble to have it laundered. It appears never to occur to these same commanders that this is their responsibility, and that the condition of which they complain is the consequence of extravagant requisitioning within the unit, rather than of prodigal wastage by the supply source.

In this respect, the Army has not improved. Its attitude toward human-comfort supply is still such as to suggest that its members believe they are drawing on an inexhaustible store, and that supply conservation is not a primary dutiful obligation.

UNCLASSIFIED



THE RIFLE COMPANY

THE INFANTRY NCO

The most encouraging aspect of the part played by junior leadership in the infantry fight in Korea is the strong participation of the NCO. Compared to the role of the junior officer, he has come forward much more prominently as a battle leader than during World War II. He exercises more personal initiative than his predecessor and is less disposed to wait for officer approval before taking local decision in an emergency situation. In consequence, there is greater stability and evenness of performance in the combat line. The ranks get better personal direction and officer time is less monopolized by attention to small detail. It can be said without exception that in every outstanding company performance included in the survey, there was conspicuous participation by a number of NCO leaders. The record is convincingly to the point that strengthening the prestige of the upper bracket of NCOs within the combat arms will contribute as directly as all else to an uplift of the fighting power of the Army.

That this greatly improved standard of leading, with its characteristics of markedly increased intrepidity and initiative in combat, can be reported of NCOs of itself attests the quality of junior officers in the infantry line. Without their understanding and sympathetic support, no such advance would be possible. The relationship is not unlike that noted between company officers and their non-commissioned assistants during World War I; it is comradely and mutually-supporting without bordering on familiarity. The leadership dynamic of both groups has been proportionately advanced, particularly during combat.

It is therefore an appropriate question whether an even more effective use might be made of this enhanced potential by initiating minor changes in the structure of the smallest tactical units.

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COMPANY STRENGTH

The question of the size of the squad, and consequently the fire team, is best discussed in connection with the consideration of over-all company organization.

Among the majority of regimental, battalion, and company officers with whom the question was discussed in Korea, the consensus was that ideal strength for the infantry company in the field was about 180 men, and that this figure afforded the optimum balance when all factors such as the development of fire power, administrative help in support of fire, and the need for over-all control were taken into account.

A few placed the figure as low as 160 men, and others said that it should be as high as 200. There were no estimates higher than that. The majority did not believe that the 200-strength company is administratively or maneuverably unwieldy, but their attitude toward that figure was frequently expressed in these words: "If we standardize at 200, our average strength level under the best field conditions will probably be about 180, which is about right."

(According to the Korean data, this is an optimistic outlook. The average strength of the companies which were interviewed was about 125.)

The consensus as to the fighting worth of the below-strength company can be summed about as follows:

100-125 — "At this level the company is still in business and can carry out normal missions."

85-100 — "Too light. The company begins to drag its feet and becomes dependent upon extraordinary help from the outside."

The data, however, do not altogether support these opinions of the commanders. In many of the actions taken under study, the companies were under 125-strength at the beginning and took higher than average losses. Yet their response was well-collected, sustained, and aggressive. In several of the most noteworthy company fights, there were fewer than 80 fighters on the line. But there are also several graphic examples of the hard penalty which may be exacted from higher commands when an understrength infantry company, being placed in line, becomes suddenly the focal point during a main surprise onfall by the enemy. Hard pressed to do the physical labor required for elementary protection in the local position, the company foregoes patrolling, extends itself over too much ground to remain unified should it become heavily pressed, and neglects the essentials of completing a firm communications tie-in with upper levels. Thus the door is opened wide to a penetration which may cut to the rear without anyone's knowing. The company in strength of 80 men or under can still fight. But except in situations where companies are aligned virtually shoulder to shoulder, it cannot prepare for a fighting job and still do the work required to give it unity with all other elements. This lesson is repeated many times over in the study of Korean small unit actions.

But the fighting record provides no final answer to the larger question of what size the rifle company should be for optimum effectiveness. The combat company with strength of 125 appears to be equal to any normal fighting mission; by the same token, if another 50-75 men are added, the force is manageable and its fighting power is increased proportionately. The company commander in combat is not particularly concerned

with the size of the unit so long as the assigned task seems to be within its capacity. If his communications are sufficient, he can exercise adequate control. He operates in terms of three rifle platoons, a weapons platoon, an administrative CP, and various supporting arms loaned him by higher headquarters.

In training, however, there is a definite requirement for the company commander to establish some personal contact with his men. The question is whether the present TO company isn't just a little too large to enable proper cultivation of the moral resources of the unit. The company contains many diverse activities which tremendously increase the training difficulties of the company commander, such as five vehicles, mortars, machine guns, and recoilless rifles. A possible approach to reducing the size of the company during the training cycle might be to kick some of these odds and ends up the chain of command where they could be pooled in specialized groups and loaned out to the company commander for his use. He would then have to impart a smaller number of specialized skills to the men under his control. The problem of combined arms (at the infantry level) could be met during maneuvers or exercises and in periods when the leaders themselves could study its varying aspects.

THE SQUAD

Conspicuously, in the Korean fighting, there is strong and clearly defined squad action compared to the general lack of it in World War II engagements. That is partly due to the effect of the terrain. Because of the sharpness of the ridge crests and the narrowness of the approaches, the company frequently must advance with a radically narrowed front, sometimes a squad or half a squad. In defense, the company perimeter may build up around several knobs on one hill, and the separate squads in one platoon holding one particular knob may be facing and fighting in different directions. Troops advance as squads. They retire as squads. They get cut off as squads. In the course of action, there is less scrambling of the company than occurred in World War II engagements.

Under these conditions, the advantages of squad organization, as well as its deficiencies, are much more clearly profiled. As now set up, it does not appear sufficiently flexible and well guided. Where the BAR man moves, there is a marked eddy in the fighting. Or if the squad leader is an unusually strong personality, a majority of the men may build up unified fire action around him. But it is not likely to happen. In the usual case, half of the squad or less does active fighting, while the other half, though present, tries to duck trouble. The question is whether, by a further tightening and better aiming of squad organization, it would not be possible to increase fighting power without adding men.

There is nothing in the data indicating that the 12-man squad organization used by the Marines is in any wise a more practical maneuver unit than the 9-man squad, provided that the most is made of the latter's potential. The 12-man squad's prime advantage would seem to be that it conserves unit integrity when the squad begins to contract from battle losses. That is a point to be considered, but it is not vital, so long as the replacement system provides some safeguard of small-unit integrity, whereby strangers are not required to undergo a supremely testing experience together.

On the other hand, the data indicate that there is room for improvement in Army squad organization, toward the end that there will be a higher average of individual participation within each squad. A squad with two wings, each working under its own leader, but both working toward the same object, is demonstrably capable of stronger action and closer direction than eight men operating under one man.

Moreover, there is no advantage to the 3-man fire team which would not be increased by going to the 4-man fire team, particularly when battle shrinkage is taken into account. Under average fire conditions, one man can direct three others and always keep them within voice range. If he loses one man, he is still in business; if he has to pare off one man to serve as a runner or ammunition bearer, he can still protect himself over an arc.

Fire-team leading would be the natural school for potential squad leaders; it is the proper starting point for the naturally aggressive soldier who hasn't yet quite enough finish to lead the full squad.

Suppose then that each fire team included three riflemen, one of whom was a specialist grenadier, and one BAR man. It has all of the elements needed for outpost duty or serving as a small patrol. The squad has balance and flexibility within itself. Either of its wings is ready for semi-independent action. Each can give equal support to the other in fire and movement. The platoon has greatly increased fire power. Company deployments, and deployments in all the components thereof, would be simplified. The contraction of the company, as fire reduced its numbers, could be done more evenly.

The question finally with an infantry company, as with an army, is not how much killing power is potential in its weapons but what methods, training-wise and armament-wise, will most efficiently increase the average of individual participation and unified group action, with all such weapons as are available. This means that the weapons equation should be directed primarily toward giving troops the impulse to fire and to advance.

The Korean data reaffirm substantially what a majority of infantrymen have long held to be true — that active and intelligent use of the rifle is the mainspring of sound company action. Here it is not easy to distinguish cause from effect. Is the development of a consistently strong volume of rifle fire within the unit the product of a company discipline which begets equally strong usage with other weapons, or is the generating of consistent rifle fire the main problem, which once solved, carries other solutions with it? The analyst cannot answer. The data show only that within the unit which demonstrates all-around strength in its weapons effects, there is conspicuously strong M1 action, and troops speak warmly of their regard for that weapon.

Whatever the main motivation, it would seem obvious that aggressive use of all weapons is closely identified with strong belief in, and effective use of, the rifle, and that overcoming the inertia in the rifle line is the main stride toward achieving unified action.

In infantry operations in Korea, it is conspicuous that rifle firing builds up strongly around the BAR. It is therefore reasonable to believe that an increase in ratio of BARs to rifles would stimulate stronger M1 fire within the squad unit. In

every engagement there are pivotal influences — fire builds up because one man is doing a particular thing with his weapon and others move to support him. BAR action is most frequently the moving force because of the high mobility of the weapon and its solid fire effects.

Other than this change in the ratio of BARs to rifles, and replacement of the carbine by the M1 in the infantry company line, those sections of this analysis which deal with the evaluation of weapons now in hand do not indicate the need for major alterations in infantry company armament or organizational structure. Each weapon is analyzed separately, in terms of the occurring usage; the data and analysis, however, do not indicate that existing assignments in mortars, machine guns, rocket launchers, etc., to the company structure are wrong. Hence there is no object in herein extrapolating a new T/O with T/E based upon Korean experience and describing how each weapon and required service can be fitted into company organization. Yet it is hardly possible to discuss the rifle (which is done in the next chapter) without looking at the rifle company, and it is scarcely practical to look at the company from an over-all view without having the questions of its total strength and squad structure come uppermost.

IN SUMMARY

These standards are recommended:

- Total strength of 180–200.
- Division of the squad into 4-man fire teams.
- Two BARs to the squad (see Chapter X).
- Grenade specialization within the squad (see Chapter XIV).

Many of the most effective infantry companies in the Eighth Army are already reorganized approximately along these lines save for formalizing division of the squad into fire teams. Even this last expedient has been tried by some line infantry companies, for example in the 24th Division, and they have proved in combat that it works.

Provided that the recommendation is favorably considered, its logical derivative is to base the infantry replacement system upon the four-man unit rather than upon the individual. The roots of the fire teams should be nourished in the training center, and replacement methods should be reorganized to see that the object of a continuing group unity is not permitted to wither. When new men go into a company, or when new companies are formed, the team principle should be maintained. Four men who have worked and trained together and have developed confidence in each other will never be thrown by entry into a new environment, so long as they retain group unity. The fire team, once formed, should be kept intact in so far as is possible. Promotions, personal animosities, and individual changes in fortune will inveigh against continuity. These are minor objections, however, since the important thing is to keep the group welded during the training period and until after the fire team is fitted into the company; the major adjustments would occur in this latter phase; by then, the individuals would feel at home in the unit.

If this were done, and the four-man teams went through the pipe-line as one

man now moves, they could be fitted into a front-line organization, ready to fight, without the feeling of being personally lost.

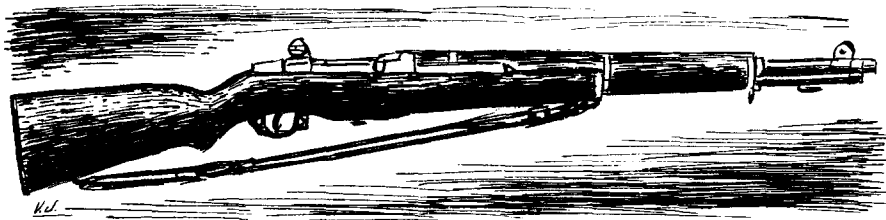
There are a number of cases in the record of winter operations in Korea in which infantry companies, already committed and moving forward under fire, had to suspend operations for a few minutes to receive freshly arrived replacements and fit them into the attacking line. To comment on the weakness of command procedures which permit of this happening would be gratuitous; that it is unfair to the man and to the unit is so generally recognized that not even an emergency circumstance can justify it. Suffice to note that it is still going on.

The innovation of sending four-man teams through the pipeline would hardly entail excessive difficulty for the personnel system and in the long run might even simplify it. It would certainly provide the most available cure for one of our main combat problems. Doubling the number of BARs and inaugurating fire teams would increase company fighting strength in any tactical situation and against any type of opponent. By contrast, other major changes in organic weapons (except for elimination of the carbine) are marginal, and would be desirable or not according to variations in the fighting situation, armament of the opponent, etc.



Part II

WEAPONS — USE AND USEFULNESS



THE RIFLE

THE OLD STANDBY

In the Korean fighting, there is manifestly a higher percentage of active fire participation by riflemen (including those armed with the carbine) than in operations during World War II.

This can be felt, rather than accurately counted, and therefore it is difficult to arrive at an accurate percentage figure indicative of the increase. However, averaging out the night and day operations which were covered in the survey, it is considered that well in excess of 50 percent of troops actually committed to ground where fire may be exchanged directly with the enemy will make use of one weapon or another in the course of an engagement.

The pattern of Korean operations is such that the hand grenade is frequently the first weapon employed by the novice in combat. But again it is observed as an almost invariable rule that once the individual uses any weapon against enemy personnel, he will go on then to become in future engagements relatively a self-starter with his personal firearm.

In the daylight attack in Korea, troops frequently advance with an extremely narrow front, the company going forward in depth because of the lack of space for deployment in the movement along the ridge crest. This cramping of the formation by its nature often makes it impossible for all hands to use their weapons freely. Of a given company, only two or three squads, and perhaps the same number of heavy weapons, may be able to take position where they can bear against the enemy-held ground. In such instances, the terrain itself reduces the number who participate actively with weapons, except as squads are rotated in and out of the forward positions.

Again, in the assault upon the lower sub-ridges, which can be attacked frontally, the foot force is likely to close as rapidly as it can toil uphill, with the climbing men depending more upon the barrage fires of the artillery, armor, multiple mounts, and mortars to beat the enemy down than upon the relatively feeble power of their hand-

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carried weapons. In this type of action, marching fire is rarely given effective use by the infantry. In the average situation, it would serve no object, since the bulge of the hillside intervenes between the two forces until the military crest is reached, and the fire would not even serve to keep the enemy pinned. The rifle line will halt and fire when it sees anything resembling a target. But in this type of action, there is likely to be small practical use for the rifle, whereas the grenade may prove very handy.

The night engagement on defense provides the most favorable opportunity for M1 fire. Whether it can be developed quickly in considerable volume depends primarily on the distance at which recognition takes place. If the enemy gets in close before firing starts and the initial phase sees the two sides engage in a heavy exchange of hand grenades, the rifle firing is apt to develop raggedly, even though the defending line is on higher ground and the incoming grenades are doing little damage. The study of actions in which our firing groups are closely pressed by enemy grenadiers shows almost no exception to this. Heavy use of grenades in the first stage of defense tends toward the repression of other, and perhaps more useful, fires by the defense. Men do not shift readily from the grenade to the rifle and back again as enemy movement might seem to require. Steady rifle action will usually await the dying-away of the grenade exchange. In close defense, where the two-man foxhole system is used, it could conceivably build up the effectiveness of infantry fire as a whole to designate one man primarily as thrower and the other as firer, in any situation which calls for both grenade and bullet fire. Out of a three-man or four-man fire team, one man should be encharged with the main duty of grenading. To advert to World War I terminology, he should be the "bomber" of the team.

When the enemy in the attack is intercepted at such range that the automatic weapons can first engage him, their fire is highly stimulating to the rifle line, and general use of the M1 and carbine (provided the ammunition holds) is likely to persist until the action is concluded. In connection with rifle fire volume, again it should be noted that there is a direct relationship between the rate of buildup and mobile response to the tactical changes in situation. As with shouting and cheering along the rifle line, there is something about steady fire production, and participation therein by the individual, which enlivens his senses and makes him move about more, in the endeavor to see where the fire would be most useful. The entire study of night actions is conclusive to this end: the unit which engages strongly with fire will also make the most rapid and practical adjustment to the changes in situation and will leave the fewest openings to the enemy.

In Korean operations from November to March, there were relatively few examples of units — even of platoon strength — being actually physically "overrun" by the CCF attack. Generally, our infantry stood its ground and fought until most of the weapons ran dry; the men then withdrew as best they could to positions farther back. They did not yield to the desire for flight; they went back in reasonably good order — those who survived. But in the rare cases in which the line was cracked apart without giving a strong account of itself, it was because the men in the foxholes were taken by swift surprise, getting their first warning as fire broke around them from 25 to 30 yards range. They "felt that they could not get their heads up to fire"; for lack of fire, the position fell.

But there were just as many more case studies in which our troops, taken initially at this same heavy disadvantage, still rallied and opened fire with their M1s and thereafter managed to hold the position. When strong direction was given, and commands were shouted, the men responded, no matter how close the enemy. But when they were left to their own devices, under the shock of dramatic surprise, they either did nothing or made feeble attempts to grenade the enemy to a halt. The record provides some very startling examples of this difference.

The lesson is again drawn that a charging enemy, even at close range, can be stopped by bullet fire, though the grenade is not likely to avail as long as he is in motion. After his line has gone down, and grenades can be rolled downhill or thrown against his line, that is a quite different situation. But in short range action, combining grenade and bullet fire is still more effective than either weapon used separately.

Because of the high incidence of panic firing among the unseasoned men during night defense, it was not possible in the Korean critiques, even when full attention was given to detail, to determine the total circumstances in which each man used his weapon, or even to be sure that he had been an active firer. That could not be finally ascertained even by those junior leaders who made a check of weapons and personal ammunition supply following engagement. There is considerable weapons-switching in the confusions of a strenuous night engagement; moreover, junior leaders cannot always determine, in the darkness whether each of their men is taking an aggressive part. Hence the data on personal action is not always obtainable and verifiable, and it must be recognized that, when some of the actors are dead or missing, and all of the witnesses have been shaken, there is a considerable margin of error which may apply either way.

However, from synthesizing incidents around which the fighting developed, and from the post-critique showing of hands on the questions of which men had used weapons in addition to those who had played a prominent part in the engagement, this estimate is supportable:

- In the average infantry company in Korea, between 12 and 20 percent of the men not only participate actively in the firing, but exercise varying degrees of initiative in on-the-spot leading and taking personal action of a type that betters the unit position and induces cohesion.

- In addition to this control force, there are between 25 and 35 percent of the men who take some part in the fire action, with varying degrees of consistency, but without otherwise giving marked impulse to the course of events.

It is believed that this showing is a substantial improvement over the participation averages among World War II troops.

The infantry soldier, so commonly met with in World War II, who made the stock answer: "I saw the enemy; I didn't fire; I don't know why," is strangely missing from the Korean scene. In fact, this reply was not returned by a single man among the non-firers at any critique.

Among the reasons given by the non-firers would be these:

"I didn't see an enemy target at any time and I thought it best to hold fire until I did."

"Grenades were coming in at such a rate I couldn't get my head up."

"There was a rise of earth in front of me which hid their people to view."

"I was captured from behind before I saw anyone come against me."

"I was helping the sergeant get the machine gun back into operation."

"There were so many of them that I held fire, thinking they might pass us by."

"My gun was frozen and I couldn't find another."

And so on. All of these explanations made sense in the situation. But in contrast to World War II experience, there were no answers returned indicating that the soldier's hand was held by some deep-rooted inhibition.

Statistically, the absence of such answers may not be as important as it appears on the surface. We may even take it that there are a few such men in the average company, and that they are covering up. But there is a strong implication that the idea has become ingrained in the infantry line that fire participation is an obligation of honor, and the obligation is felt by the average soldier.

SNIPING

There is minimal use of sniper tactics among American forces. Leaders are in general agreement that the situation would often lend itself to exploitation by individual sharpshooters working stealthily into the forward ground, taking independent cover, and there awaiting any target of opportunity. The enemy occasionally employs such tactics. It is never systematically done by our side, and such actual sniper tactics as are employed are usually an improvisation of the moment by one or two individuals. Whether the limiting factor is the rigidity in our tactical teaching and training or some inhibition in the nature of today's average young American would be hard to say.

The Eighth Army is short on special equipment for the sniper, particularly the infrared scope needed for night work. During winter operations these were present in such limited numbers as to be hardly more than a novelty for the amusement of the command at a regimental headquarters. Infantry line commanders frequently expressed the view that if they could get the equipment in quantity, it would be a godsend in night defense. But it was impossible to find any data on individual usage in amplification of this estimate.

Outposts and outguards posted along the flank tend to rely more on automatic firepower than on precision work by a few marksmen with the rifle. When the position comes under an increasing pressure and begins to contract, riflemen incline to fall back toward the ground covered by the machine guns and BARs rather than to deploy toward the adjacent spaces which the automatic fire cannot protect. Despite a general increase of firing by those who are armed with the M1, it is rare indeed that a knot of riflemen, unaided by one of the heavier weapons, plays a pivotal part in the stabilizing of the defensive position. The examples of great individual initiative are generally provided by a bazooka man, a BAR carrier, or a machine gunner. When, for example, an enemy machine gun sets up somewhere within 75 to 200 yards of the defending line, and brings it under punishing fire, it will be eliminated in most cases by the enterprise of a firer with one of the heavier weapons, rather than by the mobile aggressiveness of two or three riflemen. It is really astonishing how few exceptions to this are to be found in the record, though one suspects that it is by nature the case, in the absence of

persistent indoctrination in sniper tactics. The rifle-armed individual can hardly express initiative in the employment of his personal weapon except by taking up forward ground whenever so doing gives him fresh advantage against enemy personnel moving in the open. This individual mobility, plus marksmanship, plus a talent for concealment, is the essence of "sniper" action.

Our general lack of it, and the tendency in our infantry to move with, and around, one of the heavier weapons in the line, or else forego all movement, materially reduces the chance that fire as a whole will be evenly distributed along the length of the defended front. This is a collateral argument for doubling the number of BARs per infantry company. In ratio, it might very well have the effect of doubling the useful fire from the M1 and carbine.

LACK OF TACTICAL SURPRISE

Since the lack of true sniper tactics in our infantry force appears to stem from doctrinal emphasis on the importance of unity within the group, rather than from negative characteristics in the American individual, one other of the constricting effects upon tactics might well be examined at this point, though it is not directly related to the use of the rifle.

The American company under pressure, during nighttime defense of a perimeter, is never inclined to throw a surprise counterpressure against the open flank of the enemy, even when the situation appears wholly favorable to such a design.

It holds ground, if possible. It contracts toward the center or toward the strongest flank if the general pressure becomes uncontainable. If an opportunity affords to seize and use more advantageous ground within the outline of the general position, some part of the force will usually grasp it. Should the enemy overlook a fold or attenuation of the ridge, in juxtaposition to the main position, from which automatic fire can be turned against the enemy flank, weapons men will take advantage of it.

But practically all main movement appears to be circumscribed by the principle that all forces should remain continuously in juncture, if not contracting toward each other. There are no surprise tactics in which some fraction of the force detaches itself temporarily from the main body with the object of creating a demoralizing diversion.

Take this situation: The Company is deployed along a ridge top with its strength distributed quite evenly. The enemy attack develops strongly against the front and right flank, and the whole appearance of the situation is that the line will win or lose according to what happens in that quarter.

The left flank remains practically unengaged. The machine gun in that sector continues to cover a forward slope, though seeing no targets, and the riflemen stay in their foxholes, awaiting the time when they can be useful. The 60-mm mortars are behind the hill in a draw, but because the enemy has closed in right next to the friendly foxholes, their fire is not a decisive deterrent.

It seems never to happen that any of these weapons from the quiet zone, or the mortar battery, will be moved out quickly into ground off the enemy avenue of approach with the object of throwing a shock fire across his rear. Such hit-and-run missions conceivably could be done either with machine guns, BARs, or light mortars minus

base plates. They would be transitory by nature, done for surprise effect, and sustained just long enough to unsettle the opponent and make him divert some part of his force.

When artillery is interdicting the general area, the lack of such enterprises as these is subject to explanation. But the significant fact is that it seems never to be attempted even in situations where infantry is operating on its own, and its hope for survival depends upon what can be achieved with its own weapons and manpower.

The moral values in local surprise should be relatively as great as in major surprise. But it is not of record that we attempt systematically to explore them. In this, as in the lack of true sniper tactics, our small-unit operations have a gregarious quality which ultimately must provide some comfort to the enemy. In his grapple with the small unit he can pretty well count on not being bluffed.

In the larger scale of operations, we employ surprise and bluff to a maximum; for example, in the sorties made by armored columns. The reason why we are loath to work by the same principle in our small-group teaching should be well worth searching consideration. In all the operations brought under study in Korea, there is not one example of an American company attempting to use diversionary fire. However, there are numerous examples of the Chinese enemy successfully exploiting his use of weapons in this manner.

M1: EVALUATION

The issue rifle (M1) has performed adequately in Korea and is regarded by troops with a liking amounting to affection. This is true of all forces, Army and Marines alike. They have found that it stands up ruggedly against the most extreme tests by terrain, weather, and rough handling. They want the weapon left as it now is, and they have no suggestions to make as to how it might be changed for the better.

The rifle is sufficiently accurate for the purpose intended.

Its record of high serviceability remained unimpaired during the worst storms of the winter.

Of all weapons carried by the infantry, the M1 appeared to be least sensitive to heavy frost, extreme cold, and icing.

Its "durability" is the great reason why it stands in such high favor with the men. They no longer mind the weight of the piece because of its consistent performance.

MISFIRES

Misfires from all causes by the M1 average out at somewhere between 2 and 4 percent of all rifles engaging in operations during the winter fighting.

The chief causes of misfires are: (1) frost lock, which, according to the record, is most likely to occur in temperatures just below freezing; (2) broken firing pins; and (3) fouling of the chamber.

Included under the latter heading are such reports as "the ejector wouldn't work" and "the empty shell was extracted but the live round didn't go in." Also, this tabulation covers those incidents in which the firer reported that his ammunition responded irregularly, No. 1 round firing, Nos. 2 and 3 missing, No. 4 firing, No. 5 not, and so on. Usually, in describing any of these misfires, the rifleman would say that he didn't know what had gone wrong with his weapon in the emergency.

According to Ordnance authorities (the writer is not an expert on the Garand) these varying malfunctions are all a result of the chamber becoming excessively dirty. Even the spotty performance of the ammunition is usually attributable to this cause. But in combat, and particularly in night fighting, the small brush on the issue servicing tool is not sufficiently abrasive to relieve the working parts. It has been suggested that a larger (.50) brush would be likely to bring the chamber clean of the particles and oil gumming which foul it.

WEAPON INTERDEPENDENCE

Fox Company, 27th Infantry Regiment, engaged the CCF to the west of the Chongchon River on 26-27 November 1950. This brief descriptive passage extracted from the company critique illustrates the interdependence of hand-carried weapons in close engagement.

SFC RAY W. HENDERSON — When Second Platoon moved around to fill in on the right flank, we got not more than 200 yards when bullets began flying all around us.

PFC DEAN K. GIBB — They weren't shooting at us. These were "overs" coming at us from the Chinks shooting on the task force ahead of us.

HENDERSON — At any rate we had to hit the ditches and gullys for about 30 minutes. When it quieted a little, we moved forward to the TF CP and were told by Capt Wilson to move the platoon into a dry creek bed just south of the CP.

SFC EDWIN F. MAHONEY — Lt Melvin Anderson, our leader, was just in the act of complying. Then it occurred to him that he had better go forward and get an idea of the ground.

HENDERSON — He called to me to get my men in on the left of what was to be the platoon's general position. He was still forward of it. From his signals, I judged I was to deploy into a shallow gully on the left. I moved into the gully. There were three of my men to my left. I got ready to station the BAR team. The gunner was PFC Walter Hrycyna. Before he could move, a squad of about six Chinese raised up from the rocks in front of us and opened fire with rifles and a burp gun. One ROK was killed; the man next to him yelled: "Medic, medic!" Anderson was looking in the other direction; he was standing beyond the Chinese. I yelled: "They've stopped us!" and I called to Hrycyna to open fire. He shouted back: "They shot up the BAR." Then a bullet hit me in the shoulder. I told Hrycyna to stay flat and I'd try to get them with my M1. I got off just one round and missed. Then Anderson, appearing out of nowhere, tried to come around me. I don't know what he was trying to do. He got within a few yards of the burp gun and they shot him right between the eyes. That was enough; I pulled back into the river bed and went to the first-aid station. It wasn't until next morning I learned that their first volley, which got my BAR man, also killed MS William Stephens, though he had been within a few yards of me.

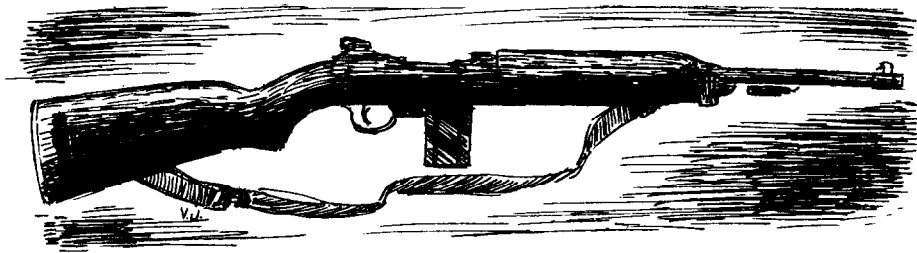
SGT ALLAN D. SNIDER — The loss of the BAR at that point came near folding the whole position. When Henderson's survivors crawled back to us, their withdrawal left the machine-gun squad exposed. The Chinese had been crawling toward us around both sides of the gully. They got within 15 yards of the gun, and grenades began to fall around it. PFC Burke was wounded. PFC Esser was killed. The gun had been

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firing but the trouble was that the enemy grouped around the burp gun were in defilade to it. Then just after Esser was killed, the gun jammed. The survivors crawled back, dragging the gun to the river bed. SFC Edward E. Mash talked it over with me; he figured someone had to get back into that gully with a BAR. So I went forward with 3rd Squad's BAR team. But we had already won the skirmish without knowing it. Bullets — probably from rifles along our flank — had killed the burp-gun man and one or two other Chinese. To our surprise the gully was quiet and we didn't have to fight for it. Mash joined us there. An hour later we were told to leave the river bed and move back to the TF CP. As we started out of the gully, a machine gun bullet got Mash through the legs. We moved along, with Mash crawling behind us. By then things were getting quieter.

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THE CARBINE

ANVIL CHORUS

In subfreezing weather, the carbine operates sluggishly and, depending upon the degree of cold, will require anywhere from 5 to 20 warm-up shots before it will fire full automatic.

Since being made full automatic, it is hypersensitive. In hot weather, even small amounts of dust and moisture together will cause it to misfire. In cold weather, it is more sensitive to frost than any other weapon, and more difficult to lubricate in such a way that it will remain operative.

The magazines are a source of continuing trouble. After only a few weeks the clipped ammunition begins to corrode at the edges where it rubs the metal of the clip, and as the oxidization proceeds dirt becomes mixed with it. The discoloration is obvious, and the dirt can be scraped off with the fingernail. When the shell is injected, the fouled metal leaves its accumulation on the chamber. As this builds up, it gradually develops a block, and the piece goes out of action. There is no way to prevent such stoppages except by frequent unclipping and cleaning of the ammunition; time is insufficient for that.

The weapon lacks "power." It is "too delicate." Its day-to-day operation is "too variable," according to changes in the weather. It was "more dependable" when it was semi-automatic. When fired full automatic, it "wastes ammunition." When fired semi-automatic it isn't sufficiently accurate for "aimed fire at moderate distances."

. . . These are a few of the criticisms voiced by troops who have used the carbine in Korean operations. The anvil chorus is much louder than during World War II operations, including the Pacific, where the carbine was hardly an outstanding success. The Marine criticism is even more harsh than that of the Army. From top to bottom, 1st Marine Division takes the dim view of this weapon; their experience with it during the Chosen Reservoir operation was the final blow to confidence. They want it either eliminated or made over into a dependable weapon. The clear majority of Eighth Army infantry feels this same way about it. An occasional platoon or company can

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be found which does not feel particularly harshly about the carbine; the reaction of the average unit depends upon whether it has had a particularly costly experience with a number of carbines in a critical moment; since usually the carbine men are in the minority, it is possible for a company to go through a stiff fight without undue injury from carbine failures. That makes the almost unanimously strong feeling against the weapon all the more surprising. Not alone does the infantry feel this way; the artillery batteries, which have had several experiences with close-in defense of the gun positions against infiltration, are also going over to the M1 as rapidly as they can convert.

The rancor which attends this judgment of the weapon can be attested by one incident. On the night of 26-27 November 1950, Easy Company, 27th Infantry Regiment, fought a desperate action when serving as the point, well to the fore of the main body of the 25th Infantry Division. They were vastly outnumbered by the Chinese, but they held their ground with such valor that the enemy, after a last full-scale charge, drew back just as dawn came. The company was then ordered by higher command to fall back on new ground to the southward. The pressure had eased. Dead and wounded were removed from the hill. Also, as the men explained in the course of the critique, all weapons were brought out "except the carbines. They were scattered around the hill, but no one felt like picking them up. We had found during the fight that they were no damned good and we figured they wouldn't help the enemy."

As to the possible effect of full automatic fire by the carbine upon enemy action, there are no sound criteria for attempting an evaluation. In the perimeter fights which are covered by the record, there are literally hundreds of incidents in which the individual relates how with aimed fire from the carbine he shot one of the enemy. There are other instances, limited in number, in which the firer, using the weapon automatically, brought down two, three, or four of the enemy in one burst delivered at exceptionally close range. But what the weapon accomplishes to discourage the enemy and deter his aggressiveness by putting out a considerable volume of fire in a short space, is not provable by the data on enemy reaction. There were no clean-cut examples establishing that, because of a high rate of fire from the carbines in a particular sector, the enemy became discouraged and drew back.

The conditions of limited observation and high nerve tension which attend night-time engagement are generally exclusive of any such possible findings.

However, the persistence of the Chinese after-dark attack has a partial bearing on the question. The carbines produce their heaviest volume of fire in the earlier stages of the fight. They begin to run low on ammunition before there is any marked flagging in the strength of the enemy attack. Their fire does not prevent the enemy from closing to within grenade range of the defended ground, nor for that matter does the slower fire of the M1. When men are pinned fairly close to earth by an enemy down slope at close range, the grenade thrown from the high ground has a good chance of finding its mark, whereas because of instinctive reaction to the desire for self-preservation, fire delivered from a shoulder weapon will likely go high. On flat ground, the tendencies would be different. But there is relatively little fighting on an even grade in Korea. In the hill fights, carbine volume does not prevent the enemy from closing, and when his final rushes are made, the carbines are beginning to go empty.

In the daylight attack, the weapon more nearly pays its way. Only then it is used more frequently in semi-automatic firing, and its power is more evenly distributed over the course of the engagement. Sufficient to note that this was not the purpose for which the carbine was intended or the object for which it was changed to full automatic.

INDIVIDUAL USERS

The carbine is a handy weapon for the individual whose duties take him to the line only occasionally, for rear area troops dealing with minor threats to their local security, and for minor escort and convoy duties where there is a danger of being jumped suddenly and at close range. In guerrilla-infested country, or in lateral operations by vehicles behind a thinly held front where the threat of infiltration is constant, its automatic features provide an additional measure of protection. For example, three men in a jeep, moving through country where they might be jumped by a small enemy group at a bad spot in the road, are doubtless better protected if they carry one tommy gun and two carbines, rather than a tommy gun and two M1s.

The carbine is a simple arm as to loading and firing. Given reasonable maintenance, it is therefore a useful arm to the individual who, while not committed to the fire fight, must be ready to meet unexpected danger. The question is sometimes asked whether some special indoctrination is needed for the American noncombat soldier so that he can adjust easily to such contingencies in a changing situation. From what is to be observed in Korea, the answer is "No," provided the individual has working knowledge of the arm. Average Americans, once having received basic training with a weapon, can adjust quickly and naturally to the necessity for arms-bearing when self-protection requires it. Were it otherwise, the extreme difficulties along lines of communication in Korea could never have been solved. The men called to move goods through guerrilla-held country were for the most part noncombat soldiers. But they did not have to be "re-indoctrinated" before being armed. However, it would have been yet easier for them, and better for the Army, if all troops were required to live with arms. One commander of an infantry regiment spoke forcefully on this point: "There have been many occasions in my experience wherein individuals from non-frontline units who were personally capable and willing, if not eager, to fight, proved of little use in an emergency because they knew nothing of group tactics. Using them as replacements because there was no one else, we found that they were ineffective because they did not know how to act in concert with other men. Therefore, I believe that all personnel within the division must be taught to fight within the frame of the squad and platoon. For example, if a division ordnance company is in danger of being overrun, we cannot afford to have 200 or so brave individuals fighting in all directions because they do not understand what must be done to insure central control. These men, too, should know how to coordinate and fight as a team."

CARBINE AND PATROLLING

On chance meeting engagements during patrol duty, the high fire rate of the carbine may offer some advantage. When men armed with carbines are assigned to a patrol mission in Korea, they do not tend to exchange it for an M1 before moving

out. The record does not include any incidents establishing that the automatic fire of the carbine was of particular importance in this service; nor are there any conspicuous examples of carbine failures bringing about a patrol failure. It is to be doubted that when men on patrol are armed with M1s and the BAR, there would be any strengthening of the fire readiness of the patrol through the substitution of the carbine for either of these weapons.

RANGE AND EFFECT

There are practically no data bearing on the accuracy of the carbine at ranges in excess of 50 yards. The record contains a few examples of carbine-aimed fire felling an enemy soldier at this distance or perhaps a little more. But they are so few in number that no general conclusion can be drawn from them. Where carbine fire had proved killing effect, approximately 95 percent of the time the target was dropped at less than 50 yards.

Because of the frequency of hand-to-hand fighting in Korea operations, there has been a suitable opportunity for judging of the takedown characteristics of the carbine round when delivered at close range.

This is not a source of general complaint. However, there is some illuminating comment. In the approximately 50 infantry actions covered, there were in all 7 witnesses who said that they had fired at an enemy soldier under conditions where there was no doubt that the bullet had struck him in a vital part of the body, and that he had kept on coming. One such witness is 1st Lt Joseph R. Fisher, 1st Marine Regiment. He was speaking of the defense at Hagaru-ri. The 1st Marine Division regarded him as one of its ablest and most objective company commanders. These were his words: "About 30 percent of our carbines gave us trouble; some wouldn't fire at all; others responded sluggishly. But the main reason my men lost confidence in the carbine was because they would put a bullet right in a Chink's chest at 25 yards range, and he wouldn't stop. This happened to me. The bullet struck home; the man simply winced and kept on coming. There were about half a dozen of my men made this same complaint; some of them swore they had fired three or four times, hit the man each time, and still not stopped him."

INACCURACY

Complaint against the inaccuracy of carbine fire was general throughout 1st Marine Division following the Chosen Reservoir operation. In this action, there was considerable daylight fighting over a period of two weeks against enemy forces moving within moderate distance; these testing conditions do not occur frequently in Korean warfare. Koto-ri, Hagaru-ri, and Udam-ni were all virtually siege operations, with the enemy pressing forward around the clock. There was thus a real opportunity for marksmanship to count. The accuracy of the carbine did not meet the requirements of the situation.

CONDITIONING

Commanders noted that it took two to three engagements at least to settle their men to the automatic feature of the carbine so that they would not greatly waste

ammunition under the first impulse of engagement. By experience, they would come to handle it semiautomatically, but it took prolonged battle hardening to bring about this adjustment in the human equation. *The real significance of this comment is that the carbine, made full automatic, has provided no additional power to the infantry line in virtue of the change, but, to the contrary, in the hard terms of tactical practice, has served but to weaken the infantry fire base.*

Greatly to the point are the words quoted by E. J. Kahn, Jr., from what was said by SFC Joseph P. Reeves, George Company, 27th Infantry Regiment, about the weapon: "It fires too fast. It'll get off 30 rounds before you know it. When a man is shooting at somebody — I don't care who he is — he'll get excited and grab the trigger, and if he's got a carbine, his weapon will just keep on talking. That's wasteful. Hell, you can kill a man with 1 or 2 rounds as easy as with 30."

Concerning the carbine, there was comment of the same kind in every company critique held in Korea.

EXCEPTION

The following is extracted from the narrative account of the action by Easy Company, 27th Infantry Regiment, on the night of 25 November:

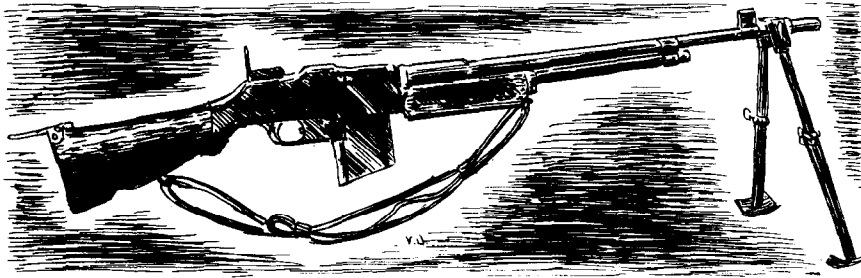
"PFC Navarro met the Chinese attack with machine-gun fire but got off only one short burst. The enemy went straight for the gun. Navarro and his assistant, PFC Beverly, were shot to death by a Chinese with a tommy gun, standing directly over them. A grenade landed hard against Sgt Hawkins, lying in the shadow beside Lt Burch. The explosion lifted him bodily and blew him across Burch; his leg was shattered. PFC Brinkman, already wounded in the skirmish on the right, was struck by a second bullet. Cpl Barry, who had been trying to dress his wound, was also shot down. Someone yelled: 'The BAR's jammed!'

"These things happened as fast as the next second. Burch shook loose from Hawkins and jumped to his feet. Now he could see from 75 to 100 Chinese in a wide semicircle so close upon him that he could have dented any part of the line with a well-thrown rock.

"He knew that his own position was no good. From the higher cone on the right, the Chinese could look right into his ground, and their fire would take him in flank even if he could beat back the line closing around his front. He shouted the order: 'Fall back on the Company!' and as his survivors took off at a run, he stood his ground — one man, covering their retreat with the fire of his carbine.

"It worked beautifully — full automatic as long as he continued to pull the trigger. At less than five yards range he killed two Chinese who tried to take him in a rush. The rest hesitated just long enough. His men got away without a shot being fired at them. He turned his back and followed them down the path."

Note: It is this same witness, Lt Burch, who first described how the men of Easy Company, following the fight on the second night, left many of their carbines on the hill, though they retrieved all other weapons. He was personally fond of his own "pet" carbine and said it had always served him well. Thus he can hardly be regarded as a biased witness in making his statement unfavorable to the weapon in general. The other witnesses confirmed what he said.



THE BAR

THE MAINSTAY

Under the conditions of the average infantry fight in Korea, the BAR, even more than the machine gun, provides the fire base around which the action of other infantry weapons builds up and the force expresses itself unitedly.

It is not alone the case that analysis of company operations warrants this appreciation of the weapon; the men also make this estimate of its effectiveness; they state frankly that it is the mainspring of their action, and that wherever the BAR moves and fires, it gives fresh impulse to the rifle line.

Appreciation of the BAR within Eighth Army therefore reaffirms experience with the same weapon in World War II operations both in the Pacific and in Europe. What makes this reaction all the more noteworthy is that *there has been a markedly higher incidence of failure by the BAR in Korean operations than in World War II fighting*, for reasons which will be explained later. Even so, there is no diminishing of general infantry confidence in the effectiveness of the automatic rifle. It is still considered "indispensable" and troops shudder at any suggestion that it might ultimately be replaced by some other weapon. They cannot imagine having to get along without it.

The reason that the BAR is rated as the mainstay of the fire base is because of the greatly modifying influence of the Korean terrain upon the utility of the machine gun. The CCF are good machine gunners; they are more expert in their employment of this weapon than in all else; they are persistent; their guns are of every type under the sun; even so, they have the knack of keeping them going; in the attack, they bring the gun in very close; but they are good at concealment behind brush, thicket, and rock ledge, and therefore the close-in target remains very elusive. The record contains many examples of CCF machine guns bearing on our positions at 30-40 yards range and continuing unseen. To counter this fire with one of our own machine guns usually necessitates bringing it far forward, with consequent sudden death, either in transit or soon after placement. Our MG crews are far more obvious in moving and in setting

up. The BAR, which is a lesser target and usually has as its operator an individual who combines boldness with a requisite stealth, is therefore the main counteragent.

BAR fire is also the chief depressant of sniper fire delivered from ranges which are too close in for the mortars and too far out for the grenade. One man with a BAR, if he is the right man, will have a stronger neutralizing effect upon a local sniper-infested area than the random fire of five or six riflemen. Almost invariably, BAR men are exemplary in their conservation of ammunition. They do not have nervous fingers; they sustain fire only when the situation truly demands it. Why this is so is something of a mystery; it is recorded here as fact because the BAR record in Korea is one of consistently strong performance by the operators.

On defense, the machine gun will usually be sited to cover a draw, the gentlest hill facing, or some other avenue of approach which seems particularly favorable to the enemy purpose. Because, as the attack develops, the threat from that quarter will continue more or less constant, even though the enemy does not initially take advantage of it, the employment of the machine gun is more or less rigid. But under attack, the defensive dispositions seldom remain static; the lines contract and expand as the pressure changes; men and weapons are shifted as an excess of danger threatens from a new point. The BAR is the pivotal weapon in this eddying of the tactical situation. Should the rifle line begin to bend at one point, the BARs are sent there to stabilize it. If the machine gun, stopping the enemy frontally, is threatened by flankers circling toward it over dead ground, BAR fire is used to cover the corners and save the gun. During the mop-up, it is the main weapon for neutralizing foxholes; when, on defense, strong out-posting is required, the BAR is also given that assignment.

EFFECT OF RECONDITIONING

Concerning the new BAR, fresh from the factory, there is no problem. Practically without exception, this weapon has met with full success every test which the inclement weather of Korea and the dust and grime of the countryside have imposed upon it. The record is unmarred by any major entry of cold-weather failures.

When, during the November battle, it became evident that locking and misfires in the BAR were occurring at such a rate as to raise the question as to what had gone wrong with the weapon, the circumstances were investigated. Particularly in one battalion — the 2nd of the 38th Infantry Regiment — there had been so many failures by the BAR in the fighting along the Chongchon River and near Kunu-ri that the commander and his men all said that it no longer had their confidence. (No other unit held to this extreme view, though others had experienced some BAR failures.) Much of the trouble seemed to be centered in a weakness in the recoil spring, though because of complications due to seeming frost-lock it was not always possible to determine the seat of the difficulty.

The check-up revealed that almost without exception, the BARs which had gone out of action were old weapons, reconditioned by Ordnance in Japan. The old springs, it was reported, had been cleaned but not replaced. Also, according to staff information supplied from Tokyo, the inspection system (native Japanese) during the initial phase of the weapons-reconditioning program had been technically inadequate

and generally weak, with the probable consequence that some of the rebuilt weapons had not been adequately tested.

In the circumstances, it was impossible to determine whether the 2nd Battalion, 38th Infantry (a remarkably staunch fighting unit and one of the few that spoke favorably of the carbine) had chanced to receive a disproportionate number of reconditioned weapons, and that this accounted for its bad experience. Very few of its BARs had survived the battle and the retreat through the fire gantlet south of Kunu-ri, though the men remembered quite well when and where the BARs had failed them. Also, the ordnance records had been lost. So there was no way of checking through on this significant detail.

Elsewhere, though the record was occasionally spotty, the rate of failure was not such that the troops felt any real distress because of it or tended to sell the BAR short. However, the spot check revealed that almost invariably where the weapon had failed, it was a reconditioned BAR. As troops got further along into the cold weather campaigning, there were fewer and fewer complaints of this character.

On the whole, therefore, the BAR in Korea merits a clean bill. Under conditions of even greater difficulty, the prestige of the weapon is not less than during World War II, and its tactical employment is more greatly varied.

AUGMENTATION

● In the view of the great majority of infantry troops and commanders in Korea, the fighting strength of the infantry company would be greatly increased by doubling the number of BARs, while reducing the number of M1 carriers proportionately. This could be done without adding an upsetting burden to the company load. The final argument for the change is that it would make more perfect the balancing of offensive-defensive strength within the infantry company.



MACHINE GUNS

THEIR USE

The pattern of machine-gun operation in Korea is highly unconventional and contrary to the book, but the ground permits of nothing else.

In defense, the gun is most frequently used to block the more likely avenues of approach; its fire is directed straight ahead instead of from flankward across the front. The average hilltop position, by reason of elevation and the unevenness of the ridge crust, does not lend itself to over-all protection by machine guns. They do their bit, but usually they are set to traverse over a relatively narrow sector of the perimeter.

Occasionally, as the ground and situation permit, the guns are set up on a nose or fold in the ridge running at right angles to the defending line, in such a way that their fire will take in flank any body moving directly into the position.

More frequently they are disposed in such a way as to cover the main draws or the slope which looks most favorable to ascent by the enemy.

Good fields of fire for the machine gun are rarely met with in Korea. This limiting factor in the terrain deprives the weapon of its normal tactical power and persuasion, and throws an extra load of work on the mortars, the BARs, and the riflemen.

Even though all guns remain in operation, machine-gun fire alone is never enough to break up enemy attack and give security to the position.

The CCF develop their fighting power largely around a base of machine-gun fire by (1) bunkering the guns behind heavily resistant works when on defense, and (2) advancing the guns well to the fore in the attack, despite the entailed exposure.

Our guns are seldom employed in this manner.

In the attack our man-handled machine guns are not ordinarily pressed far to the fore but are more likely to be used to provide a semi-covering fire from whatever ground will provide them reasonably good protection. Even so, we lose a high percentage of machine guns to enemy fire.

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On defense, the gun is usually fought in the open and is seldom given better than superficial protection — such as an earth bank or a rude parapet of loose rock. We maneuver more than CCF; changes in position are most frequent. There is rarely time to provide the gun with a protected siting. Our own attack is likely to wear along until late afternoon; the guns must be ready to fire by dark from the new defensive position.

These general differences in operating method do not accurately reflect relative efficiency, or lack thereof, in the development of machine-gun technique. Rather, they arise from the fact that the two sides are employing two greatly differing tactical methods, in which emphasis on the machine gun is only part of the over-all fire equation.

CCF operations are characterized by simplicity of fire means, centering around maximum use of the machine gun. The expendability of this force's human material is one of the enabling factors toward this end. When Chinese MG crews can be committed repeatedly to situations permitting no escape, the weapon *ipso facto* is given a chance to score heavily prior to liquidation.

Our operations develop around multiplicity of fire means — an evolution more marked in our Army than in any other. The effects of the gun are less decisive simply because of the existence of so many complementary weapons. We habitually think of machine-gun usage in connection with expansive and favorable fields of fire. In Korea these are generally lacking. There are some occasions when the gun is useful at the longer ranges for relatively brief periods. But in the crises of action, the preponderant portion of its fire almost invariably is directed against the immediate foreground. As with the rifle and the BAR, its killing effects for the most part are achieved at ranges under 300 yards.

The CCF employ the machine gun effectively at ranges running between 30 and 500 yards. In the attack, when there is suitable cover in the foreground, they will get in as close with their machine guns as with rifles and sub-machine guns, and in local counter-attacks during daylight, if they are advantaged by a thicket or brush-covered salient, they will sometimes run the machine gun out as a point beyond the rifle line.

Their reckless and effective use of the weapon at extreme short ranges, however, is less instructive than what their gunnery appears to lack over distances which we have always considered quite normal for the HMG. It is only in the exceptional tactical circumstance that CCF employ the machine gun successfully against our infantry at 500 yards range. When they attempt to engage with the gun at ranges longer than that, say adding another 200 yards to the distance, our troops are relatively unsusceptible to the fire and pay it little heed. That holds generally true even when the fire is delivered broadside against a body of infantry (or a column of vehicles) offering a fairly substantial target. According to the book, the HMG should be an accurate stopping weapon at these intermediate ranges. Insofar as the general experience of our own line during the winter campaign sheds light on this subject, it does not work out in practice. There are numerous examples in the record of engagements wherein two or three enemy guns, firing from 600–700 yards distance against one limited target area, failed to bear effectively during several hours of fighting. All of the attendant circumstances appeared to indicate that when fires are exchanged at ranges in excess of somewhere between

550 and 650 yards, the rate of effectiveness is less dependent on what the gun can do than on what the human eye can see.

Their use of machine guns is most persistent. They have the knack of keeping their guns fed and operating under any weather conditions. Their fire is accurate at the short distances. They make maximum use of grazing fire, with the object of keeping troops inert, rather than wasting an excess of bullets by shooting into the dirt embankments. Out of these rather elementary techniques, they achieve large effects. The gun is pretty much the pivot of their attack.

In general, the impact of our own machine-gun fire upon the local situation in the Korean fighting, when considered in relation to the effects of other weapons carried by the infantry (this refers to the .30 fire), would seem to be somewhat less than in past performances by modern American forces. The instances are few indeed in which the operation of the machine guns appears to be the decisive factor in retaining a position, or in depressing the counterfire which is deterring the attack. Why this is so becomes difficult to evaluate, since the LMG is almost never mentioned among the overburdening items in the company load by the load carriers. The weight of the gun is not prohibitive; the gunners do not straggle. There are instances in the record where it was carried by troops directly charging the enemy position. But the average employment of the gun is not mobile in respect to local changes in the tactical situation. This may well be the consequence of an inertia inherent in our multiple weapons system: is it not within reason that one of the tactical effects of weapons multiplication is that the addition of each new weapon tends to lower the relative local mobility of every other weapon? The employment of machine guns in Korea, particularly by our attack, would seem to call for exploration of the question, though the phenomenal enterprise and mobility of the average BAR carrier is evidence to the contrary.

AUGMENTATION

At least 50 percent of company officers, and many of the NCOs, suggest augmenting machine-gun strength within the unit, some even urging that it be doubled. This reaction is perhaps less due to strong convictions about the positive tactical effects wrought by the weapon in varying circumstances, than to the circumstance that because of mechanical breakdown and losses to enemy fire, etc., the machine gun is almost never present in TE strength. In the company operations brought under study, the average per company per engagement was two guns in operation. Frequently there was one .30 operable, sometimes none. The maximum was three. Whether there was a chronic shortage in resupply, weakness in the resupply channel, or a deficiency in repair and maintenance function were questions which the surveyor lacked the facility and competence for a follow-through check, despite their critical importance. The salient fact was the small number of machine guns available for commitment to the average company action.

MALFUNCTIONING

Not less surprising is the percentage of failure in machine-gun fire at some time during the course of the average engagement because of mechanical trouble of one

kind or another, faulty handling by the crew, etc. It is not possible to analyze the varying reasons for failure. In many cases the crew itself did not know. Some other hand had finally gotten the gun back into operation. Or the gun had been lost. Or in the midst of failure it was shot through and abandoned. These actualities of the battlefield prohibit precise evaluation of weapons difficulties.

But a 20-percent estimate of machine-gun failure during combat in Korea (again speaking of the .30) is on the conservative side. Too, this is exclusive of the exceptional cold-weather difficulties. The estimate can only be a rough approximation because it necessitates dealing with small figures and averaging out many actions. Also, it is wholly possible that in the sample studies the incidence of failure by the machine gun were in disproportion to the averages of performance within the Eighth Army. None the less, it is an arresting fact that, in the narratives of company action which were completed, the entry occurs, more often than not, that in the course of combat, one gun or more went out of operation either permanently or for a prolonged period and that the company felt the loss.

The score does not include those guns which ran out of ammunition and therefore ceased fire. In tense night defense, this is more or less normal.

Though the statement cannot be documented for the reasons already outlined, the repetition of incidents in which the gun went out of action at or near the beginning of firing sustains the impression that the fault is less in the weapon than in its handlers. From the questioning of crews, there is reason to believe that careful inspection of the belt prior to firing is not consistently done even when the circumstances permit it, and that the origin of considerable of the trouble is in bad alignment, etc.

FIRE DISCIPLINE

This is extremely difficult to estimate unless one has been right with the gunner through a number of engagements with different units. The writer did not choose to take advantage of that opportunity; machine-gun fire was observed from no closer than the battalion OP or its equivalent, and this only in six instances. According to the testimony of all troops, panic firing and excessive rates of fire among the machine guns are not in evidence. By their own statements, the gunners exercise restraint even under conditions of great pressure, such as surprise or the presence of a numerically superior enemy force in night attack. "I continued to fire in short bursts," is the customary size-up by the gunner of his own action. This testimony must be received with some reservation. The interrogations indicate that in the mind of the average gunner "firing in short bursts" is about synonymous with lifting the finger from the trigger for a few seconds at frequent intervals rather than resting the gun at all times when there are no manifest targets and no compelling tactical reasons for firing. This affords no relief to the weapon so far as over-heating is concerned, and it does not conserve ammunition. In past wars, when the feeding of machine guns was not a particularly limiting factor in operations, and a barrel could be more easily replaced on the spot, the fire discipline of the crews was less acutely tested. The machine gunners within the Eighth Army infantry are possibly as aggressive, intelligent, and conservative as any we have had in the past. If there are some minor training weaknesses which show up more prominently in combat, it is because of the peculiar exactions of the general situation.

IN REARGUARD

The record is replete with incidents in which a platoon or company, under heavy pressure in its position on the high ground, is compelled to withdraw and seek to reorganize along some other portion of the ridge. The Chinese take over the vacated ground, and an interval ensues before they are ready either to press forward again or to concentrate fire against the line along which the US forces have withdrawn.

Among these incidents, there is frequent repetition of this occurrence: the gunner on the LMG does not clear the original position in time, either because he freezes on the gun, or from his view of the field does not sense what is occurring, or because, being told to stay there and fire, he is not given a personal order to pull out when the moment arrives. He is usually the first target in the attack. The enemy kills the gunner and, seizing the gun, then turns its fire against the US company.

This repetition raises the question whether, so long as BARs are present, use of the LMG to provide a covering fire in support of any limited withdrawal of this character isn't a doubtful tactical expedient, and whether it shouldn't be standing procedure to clear machine guns away first and leave it to more mobile automatic weapons to provide the protecting fire. When an envelopment is in progress on uneven ground, the LMG, with its fire radius limited by the terrain even more so than is the BAR, can do little or nothing to slow the attack from any direction other than the line along which the gun is sighted. The BARs and rifles have more freedom of action for reasons which are quite obvious, and their operators are far less apt to become trapped. There are examples in the record of platoons being wiped out after losing their LMG in this manner. By comparison, the BAR gets results without attendant jeopardy.

THE .50

Though the .50 caliber figures little in the hilltop fighting, it has paid its way in Korea, particularly in defense against infiltration of ground rearward of the infantry main line. Close defense of the artillery gun positions could hardly hold together without this weapon. When the ground is suitable, the artillery during bivouac outposts the high ground along its flanks with .30 machine guns, BARs (if they have them), and maybe a covering detail of riflemen. The .50s are likely to be employed within the position or right next to the guns. The outposts are supplied with radio. Again, depending on the ground, the light machine guns may be 150-200 yards forward and to the flank. The effort is to establish a killing ground over the main slot as the enemy advances toward the guns. The vehicular-mounted .50s also cover the rear, and if the guns finally have to be withdrawn under pressure from the enemy, fire from the .50s provides the main protection for the movement.

The following extract from a critique covering the defense of a gun position by the 8th FA Bn at Ipsok on 27 November 1950 shows the action only from the viewpoint of Charley Battery, though all batteries were covered. It is a good example of defensive employment of the .50 in combination with other weapons.

LT ROLAND B. SHRIVER, JR. — Our two outposts were as shown on the sketch map. Sgt William F. Aragon was on the .50 alongside the road, which turned out to be the pivotal position. The gun had been moved up just before the attack on the perimeter.

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The Ipsok Position

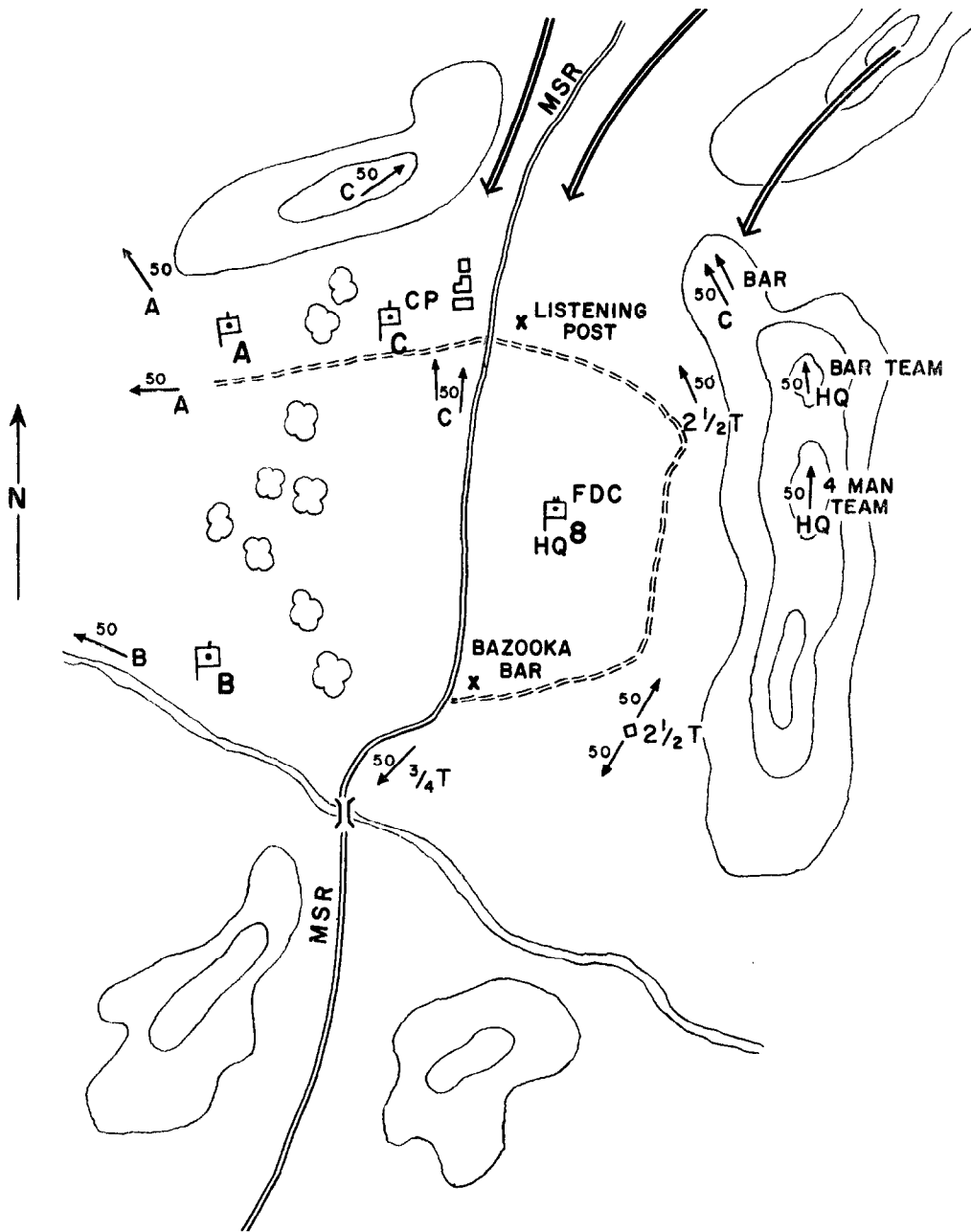


Fig. 5 — Shows Use of 50-caliber Machine Guns and Organization of Outpost Line

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Able and Baker had fired harassing missions for the infantry force up front of us almost to the moment our own fire fight started. We hadn't fired a round. About midnight we began to hear sounds of the fight up ahead, where TF Dolvin and Second Battalion, 27th Regiment, were engaged — some 4000 yards away. One hour later we got word by telephone that the infantry was under strong attack and might not be able to hold. At 0130 we were told that the Chinese were moving around the left flank of the infantry and would soon be on our left. That came from Capt Millett, the FO. Right then we alerted everybody.

CAPT PAUL C. KUEBER — About 0230 HQ Battery's wire truck went out. Simultaneously we heard from our outposts that they could see movement to their front and could hear bugles. PFC Elmo L. Barrett was at the OP on the right. When he told me about the bugles, I said: 'Bunk! You're hearing things,' figuring that he had a case of nerves. He said: 'Well, just listen!' and held the instrument out toward the sound. Sure enough, then I heard bugles.

SHRIVER — Our outposts hadn't fired because they weren't sure. Our infantry was having a hard time up front and we were afraid some of them might be drifting back upon us.

M/S STANLEY WOOD — I had been circulating among the gun positions with M/S Eddie R. Crocker just to check on things. I called the Captain and said: 'There are people just 50 yards in front of me. They're talking a strange language; I'll be damned if it's Korean.' He said: 'Hold fire! I'm not certain yet.'

KUEBER — We still hadn't fired a shot. I wanted to be absolutely sure. Then SFC James E. Holster, who was on one of the lead guns near the forward house next the road, heard a bugle blow. It came from a group of about 50 soldiers dead ahead of him on the road, not 200 yards away. That was enough for Holster. Without waiting for an order, he put an artillery round right into them. It was the first shot. Then suddenly everything opened up.

SHRIVER — Just then, I tried to order in both outposts, figuring that otherwise they'd be overrun. I got through only to the one on the right. Cpl E. Opperud, who had a BAR, and PFC Elmo L. Barrett, who was on the LMG, were in such a hurry to get out that they left the LMG behind. I ordered them to go back and get it. But M/S William Golden spoke up and said he'd bring the gun in, which he did. By that time the Chinese were all over the hill and Baker Battery was firing on the hill with HE and WP. PFC Stanley Welchel, who had the LMG in the outpost on the left, continued to fire away, though the enemy column cut directly between him and the battery. There were two ROKs with him. Both were killed. Welchel stayed there all night defending his ground. When we evacuated him in the morning, both of his feet were frozen.

ARAGON — In the beginning, I turned the fire of the .50 against the hill on the right since the attack seemed to be building from that direction. But about one hour after the firing began the Chinese in the center got into the house next the CP and began firing from the window with burp guns. The fire was high. They still didn't seem to know that the CP was right under their elbows. Crocker and SFC Robert E. Gafford got a 3.5 bazooka. Standing right in the middle of the battery position — the guns

were on line with the CP — they blew the house apart at a range of about 35 yards. KUEBER — We didn't fire on the hill with the big guns, but rather down the road to our direct front. The range was less than 500 yards. We saw four or five groups maneuvering directly in front of us. By the light of WP we could see others moving in from the flanks. Then we saw an AT gun moving toward us along the road. Able and Charley both took it under fire. We don't know who hit it; we only know it was got.

ARAGON — When the Chinks got into the house, a few of them spilled over into the No. 2 gun position, which was under Holster. One Chinese was shot; the others were driven off, and except for one ROK wounded, the gun crew was unhurt. The bazooka crew continued to bang away at the houses, and our small-arms fire was being directed obliquely toward the road so as to cut across the rear of the Chinese who had moved in closest to the guns. I was firing straight down the road with occasional bursts.

KUEBER — About 0430 we got our march order for the withdrawal, and Lt Col Augustus Terry asked me if we could get out.

SHRIVER — The Captain left on a reconnaissance about 10 minutes before we moved, taking along two ammo trucks, a kitchen truck, a wire truck, and a jeep. Then I took the guns out with the exception of the No. 4 piece. There were several large craters in the middle of the battery position. The prime mover was with Baker Battery. We tried to get the gun out with a $\frac{3}{4}$ ton, but it got stuck in one of the craters. So, being unable to handle it, we had to leave it.

WOOD — Just as SFC Lester S. Stevenson was getting ready to march-order his gun, he saw a Chinese sneaking up toward the gun, about 60 yards away. He pulled out his .45 and plugged the Chink in the head with one round. Then dusting off his hands as if he'd been doing that kind of shooting all of his life, he yelled: 'Let's go men!' Everybody got a laugh.

SHRIVER — The whole area was still under intense small-arms fire. Several trucks and jeeps were shot full of holes just as we began to get underway. I told SFC Richard Turek to put a thermite grenade in the No. 4 gun. That was the last act just before we started rearward.

ARAGON — With the .50 which I was operating, and with an LMG which PFC Lloyd A. Perry was firing from right next me, we put up the covering fire which enabled the battery to hit the road. As the position was laid out, the guns had to come from my left and turn around the .50 to get on the road. In making the turn they were a pretty well-exposed target. But the .50 and the LMG, together spraying the area ahead of us, kept the enemy fire pretty well dampered.

SHRIVER — After daylight we sent a patrol back to the position to see what could be saved. It recovered the No. 4 gun. The thermite grenade had failed to do the business. Chaplain McCluskey volunteered to go on this patrol. I asked him why. He said he wanted to look for wounded; he was worried because Welchel was still missing. So we let the Chaplain go along. But when we got even with the old battery position, we met Welchel walking down the road on his frozen feet. He was carrying his machine gun, tripod, and empty boxes. He laughed when he met the others and said: 'I feel happy as hell.'

Comment — Although Ipsok was an artillery perimeter defense, many of the

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personal responses were quite typical of what occurs on the American side in any close-in engagement. For example, Capt Kueber's action in restraining fire despite the closeness of the enemy force, because he wished to be doubly certain he was not hitting into a friendly group, is a variation of what appears at many points in the record. So was the act of Sgt Holster in taking the play away from him because he already felt sure enough and saw a first-class target. Typical also was the employment of the bazooka: when enemy personnel gather around some object vulnerable to bazooka fire, then it is quite apt to be used as an AP weapon — not otherwise. In this case the camp was given an early full alert by reason of the infantry fight 4000 yards to its fore. Even so, its relatively close-in outpost line caught the play in time and would probably have sufficed in any case. In the conventional defensive action in Korea, troops feel no need to have security posts far out in front to give long warning to the MLR. It is an aggravated danger to men, an unnecessary precaution, and most of the time it doesn't work. Under some conditions in warfare, use of a distant alarm or interception post may be sound enough. It has little relation to the realities of the Korean fighting. So long as the outpost is in a working physical relationship to the defensive circle, it can do it practical good and the defenders can get ready in time. The distance will vary according to the nature of the ground. But this is the general rule.

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RECOILLESS WEAPONS

USE OF ARTILLERY AND RECOILLESS WEAPONS

These two subjects are considered together at this point because they are conjoint in operations against certain major enemy targets.

Among artillery officers in Korea there is heard the usual plaint against infantry that it calls on the artillery for fire missions which could be better carried out by their own weapons; not less frequently is heard the story that the infantry would get along better, and save more lives, if it called on the artillery more frequently when operating against targets too big to be reduced by infantry fires.

All of this has a strangely familiar ring.

But since the two ideas, however general their circulation in past wars, are mutually exclusive and therefore cancel out each other, neither provides a satisfactory approach to the problem of how infantry and artillery fires are best balanced in combination. The question is whether either fault is chronic in such measure during infantry operations in Korea as to indicate that infantry officers are insufficiently trained in knowledge of the potential, limits, and logistical problem of the other arm.

Because of infantry's present possession of heavy weapons capable of producing heavy blast effects at long range, similar to the explosion of artillery shells, the need to conserve fires by both arms in conformity with sound evaluation of target areas is more pressing than ever. Employment of the recoilless weapons by the infantry is one of the new developments in Korean operations; whether the weapons are being employed in balance can only be assessed by reviewing certain aspects of the artillery problem.

The check of artillery fires called for and delivered in the infantry actions which were taken under study, as to the situation, the target, etc., indicates that the equation is kept in reasonable balance. The infantry does not tend toward over-exploitation

of its artillery support. In the main, its requests are reasonable. In the winter operations, the infantry was inclined to press hard for interdictionary artillery fires for protection of the night position, and perhaps more shell was wasted this way than the situation sometimes warranted. However, it would be immoderate to view this as a fault in infantry appreciation of the artillery role and problem, for to do so would exclude the very human consideration that the first obligation of the infantry commander is to do all possible to relieve the anxieties and protect the position of his men, rather than to worry about artillery logistics. It is up to artillerymen to harden against this tendency when convinced that they have read the situation correctly. According to the data gathered for this study, our infantry in Korea was more inclined to take the casual risks of combat without crying for artillery help than during World War II. However, one infantry battalion commander, who had served almost one year in line, made this comment: "From what I observed, and what I learned from other battalion commanders, much of our artillery and air support was needlessly expended. We used both air and artillery in too many instances for outright insurance. I have called for air and artillery on hills which we were attacking, not knowing positively that there was any enemy within range. In combat, we seem still to place too high a premium on the worth of one human life. Ten enemy riflemen may sometimes hold up an entire regimental column until a battalion of artillery, tanks, and every supporting weapon within the battalion are ready to aid the advance of a few riflemen. The practice can become unduly expensive." This was one man's point of view.

In Korea, the baffling character of many of the main enemy targets has brought about use of a seeming excess of means in the effort to reduce them. But it is to be doubted that there is any help for it; duplication is the inevitable consequence of the extreme toughness of the targets and their resistance to normal fires.

The use which CCF make of dug-in positions along the rocky ridge crests is frustrating of precision fire by the heavy weapons, including air power. Doing their best to destroy the enemy strong points, frequently in the end they bring off nothing more decisive than a strong shock effect and the elimination of a certain number of the enemy who are disposed in the more shallow works; it then remains for the infantry to close and make the final kill with its own weapons, with the heavy works of the enemy sometimes holding out until the occupants are killed with grenades.

Traditionally, it is the task of artillery to knock out the "big stuff," and the infantry is ever ready to concede it that privilege. But in terms of target area, the "big stuff" in Korean operations is peculiarly elusive. It would be a fair mark for the guns, if they could see it and lay directly on it, but such is the nature of the ground that they rarely have that opportunity.

When the CCF have as many as four to ten days in which to organize a ridgeline position, they customarily hinge it upon machine-gun bunkers built close to the skyline. The mortars may operate from either the forward or reverse slope, depending on range and the availability of cover. The riflemen are disposed in foxholes covering the approaches in relatively close juxtaposition to the main works. They rarely waste force in an attempt to defend along the lower slopes.

The walls of the bunkers are frequently double tiers of thick logs bound together

by cable. The roof may be an overhang of earth and rock between four and eight feet in thickness; so being, it is shellproof to a collapsing fire from anything except an 8-inch gun. Except for a direct hit, light artillery fire cannot neutralize it, and in the nature of the position, direct hits are a 1-in-1000 accident. The embrasures are between 14 and 30 inches in height and are usually recessed. Frequently these nests are sited in a fold along the facing of the ridge, putting them at right angles to our MLR and parallel to the fire issuing from it. They are thus sited to block the infantry advance when it moves in from the flank, attacking down the length of the ridgeline.

This means that they are almost perfectly hidden to observation from the front. One ridgeline may hold anywhere between two to six such bunkers. Persistent machine-gun fire may be received from the general area for hours. Still, at between 1500 and 2000 yards range, the trained observer cannot pick up a specific target or see any significant activity.

On the surface, this appears as a problem to be solved mainly by artillery intervention. The artillerymen accept it as such, and the infantry is never inclined to say no. But in the average situation, the high ground held by the friendly infantry inter-

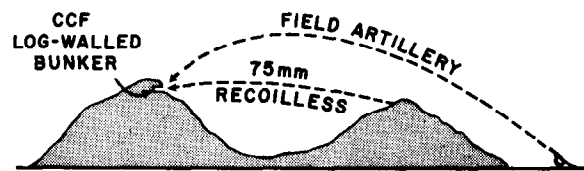


Fig. 6 — Anti-Bunker

venes between the artillery and its target. This may be one ridge or a series. Therefore indirect fire is required. The chance that the bunkers will be neutralized through a normal shoot by field artillery under these conditions becomes very small indeed. One need only plot the curve of an artillery shell moving

against such an object to see why this is so. If the line is only a few inches off, the effect is a total miss.

During the operations taken under survey, there was not one instance of an artillery shell scoring a direct hit on a Chinese bunker, despite consistent fires against these objects. They were resistant also to air attack both with rockets and napalm; the record includes examples wherein the air scored direct hits with napalm atop the bunker. The napalm rolled over and down the front of the recessed embrasure. Still, the occupants were not killed, and, after a brief interlude, resumed their fire.

The advantage which the recoilless weapons give infantry in firing against targets of this character from the opposing heights scarcely requires description. At ranges between 1000 and 1200 yards, the 75 recoilless is the only piece which can take them under direct fire, with a relatively good chance of hitting dead on and destroying the object in one round; pack artillery might do it if it were available, but in its absence, the recoilless weapons are the main hope. In this type of usage, they have justified themselves time and again. The 57 is too light for such work at ranges exceeding 1000 yards, though troops have wasted an excess of 57 ammunition trying to prove otherwise; because of the weight problem with the 75, it is often left behind during movement into the higher ridges, and the attempt is made to substitute the 57 at prohibitive ranges.

In the nature of the problem, the range of fire that is needed is quite apt to be in proportion to the height of the ground which is to be surmounted. In other words,

when troops are fighting across low ridges, operating distances are apt to be foreshortened. Thus under conditions which are less prohibitive to weight carrying, when the ranges are shorter and the 57 would do the work, the 75 is still very apt to be taken along because it packs the extra wallop. To this extent, there is an overlapping.

On the other hand, the 57 becomes invaluable during the closing infantry assault on an enemy-held high hill mass. Always a few bunkers remain in operation; those which were protected from the long-range fires by the folding of the ridge are likely to be almost unscathed. Falling back toward these works, after quitting the outer line of foxholes, enemy skirmishers are apt to seek protection in small caves and behind rock outcroppings. The 57 can blast them out from cover which would provide immunity to bullet fire.

APPRECIATION OF WEAPON

Appreciation by troops of the recoilless weapons is exactly in proportion as they have been given employment in those situations for which they were intended. There was no exception to this. Troops would be asked: "What do you think of the 75 recoilless?" The answer would be negative. *Inquiry would then develop that they had never once used the gun:* they disliked it because it was heavy. But among the users, there was only one reaction — enthusiastic approval. They found no fault whatever in the weapon and were amazed at its capabilities.

In the ZI there has been considerable concern about the flash, and a general feeling that this made it a dangerous weapon for infantry. These doubts have no echo in the field. Unanimously, troops and commanders said that flash was not a problem in actual operations. This feeling was usually resolved in some such answer as: "Why worry? They know we're there." One sergeant replied: "Some of my men were concerned about flash and back-blast because they had read so much about it. But when we opened fire, they settled down." In general, it is not a factor in the morale of operating crews. They feel that if they can displace a short distance after firing, that affords sufficient protection.

AGAINST ARMOR

In the operations studied, there were no examples of these weapons being used against enemy armor. In two instances, the 75 had been employed to fire on an SP gun; in both cases, it had knocked out the gun. The Seventh Marine Regiment did, however, recount its experience with the 75 in earlier operations against enemy armor. In one case the gun had been used to knock out four nesting tanks, the closest being 15 yards and the farthest 75 yards. In the critique attended by the commander, Col Homer Litzenberg and his officers, it was stated that the 75 had "never once failed the regiment" in action against armor, but that experience had proved that when fighting tanks "it is necessary to hold fire until the target is *very* close or the 75 will not knock them out." A very revealing estimate of the weapon's usefulness was given by Capt William R. Earney, S3, in these words: "We do not regard the 75 as a single-purpose weapon; one of its great values is in use against personnel. Because of its flat trajectory, in hilltop fighting it can be used against pillboxes, enemy groups, machine guns, and

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cave entrances when no other weapon will suffice. We have found it sufficiently portable for this general purpose.

"In a particularly bad spot, with two companies having a hard time holding a ridgeline about 300 meters high, we needed something that could knock out Chinese pillboxes and machine guns as far as 1300 yards away across the valley. We went to the AT section, got a group under S/Sgt William L. Vick, one gun and 40 rounds of ammo. The two companies had been cut off, but the section managed to squeeze through. Then once again the enemy closed across the rear, isolating the position. The companies remained there through the night.

"At first light, on his own initiative, Vick located the enemy emplacements and fired on them, using 15 rounds. Then the Chinese came looking for him. He moved the gun to a concealed position, waited until they got within 200 yards of the gun, and then fired 10 rounds of HE into about a company of the enemy. That one gun broke up the attack; also, the circumstances speak for the mobility of the weapon. This action took place just to the south of Udam-ni."

There are many more examples of the gun in action supplied from the Chosen Reservoir operation, and from Operation Punch, three months later. All bespeak the unusual accuracy of the gun and its all-around combat worthiness.

In the siege of Hagaru-ri, the 75-mm recoilless was found to be especially useful in repelling the night attack. It was used to knock out machine guns and mortars firing on the infantry line from relatively long range. The 75's WP shell was found to be most suitable for this work.

During these night actions, the gun did not displace, though there was heavy enemy fire around the position. The men dug in beside the gun and stayed there.

Lest these notes convey an impression that unfamiliarity with the weapon is the only drag on greater use of the 75 by troops in the Korean fighting, it should be emphasized that the higher the ridge, the more prohibitive the weight factor becomes. In fighting across ridges in excess of 300 meters above the LD, it is always a question whether the possible use of the gun justifies the manpower required to move it. It is a positive danger in any movement along narrow trails or over slippery ground. Both in the 2nd and 24th Divisions men have had their backs broken in falls while trying to get the 75 forward.



ROCKET LAUNCHERS

A MARGINAL WEAPON?

Due to the enemy's lack of armor in winter operations 1950-51, this group of weapons had little decisive effect in the local fighting, except as CCF contrived to capture some of our weapons and employ them against our metal. They did not prove inexpert in exploiting the opportunity. There are a number of examples in the record of CCF using the rocket launcher against our tanks, field pieces, and vehicles at comparatively short range (15 to 50 yards) and scoring killing hits. The tank-killing weapons all involve this special jeopardy; no other materiel can be converted more quickly and decisively to enemy use upon capture, particularly when armor, being unopposed by its own kind, relaxes its normal precautions.

In the winter fighting, our bazooka fire was used mainly against machine guns, buildings where enemy skirmishers had taken cover, and other large objects. There was less of a tendency to employ it at short range against enemy personnel, in substitute for mortar fire. The data are insufficient to warrant saying whether the launcher justifies its place in the infantry company weapons system under the conditions in which the CCF was engaged by our line during the winter. There are some graphic examples of its killing effect in the crises of a number of local engagements; these are well outnumbered by the operational narratives in which the launchers are accounted as present, but have no influence upon the course of combat. From the data — which are admittedly an inconclusive sample — it is indicated only that the launcher is a marginal weapon when the enemy lacks armor. With few exceptions, its telling shots could have been contrived by some other weapon present with the line. In other words, it did not have unique advantages in infantry-against-infantry action, as it was used in the average tactical situation.

By the account of our average line officer in Korea, under the conditions of the fighting there, the 3.5 launcher is of greater utility in any situation than the small

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bazooka, and he sees no argument for retention of the latter within the infantry weapons system. It becomes excess baggage as soon as the 3.5 is in good supply. But the question cannot be resolved that easily. If it is true that the small bazooka is an effective anti-personnel weapon, but that its potential has not been adequately exploited because of a hiatus in training, then its extra portability may give it advantage over the 3.5 in particular situations, for the same reason that the 60-mm mortar is useful, though the 81 has greater killing radius. Further light on the subject may come from study of an incident in which the small launcher was given decisive use against human targets.

THE BAZOOKA AGAINST MEN

In the attack of the 1st Marine Division from Hagaru-ri to Koto-ri, the 5th Marines assumed defense of the whole Hagaru-ri perimeter as the column got underway. To ease the initial progress of the column, it was necessary to gain the high ground east of the camp which had been held by CCF throughout the siege. The Regiment's Second Battalion was given the mission and soon won the heights. Prior to the action, it had been reckoned that the Division as a whole would be able to clear Hagaru-ri by nightfall. But fighting along the road had delayed the 7th Regiment and the Division trains, so that the lead elements of the 5th Regiment had still not cleared by dark.

Easy Company held ground eastward of the river from a point approximately 700 yards north of the Hagaru-ri bridge around to the bottom of the main hill and back along the railway track for about 200 yards. The right flank of the Company ran along the railway approximately 400 yards east and north of the bridge. Between 1800 and 2000, the Chinese attacked from the high ground toward the bridge with the apparent object of cutting off troops manning the western half of the perimeter.

Easy's rocket team had been so stationed by Capt Sam Jeskilka that it could fire straight up a draw which ran halfway up the hill then forked off into gullies. This was the natural approach from the hill, as it was otherwise barren of cover. The Chinese pressed forward along the alley, and during an attack which persisted in strength for two hours and recurred intermittently through the night, this key feature was defended by rockets.

On the following morning, CCF pulled back into the hills. Col R. L. Murray, commander of the 5th Regiment, and Lt Col Hal Roise entered the draw and made a cursory examination of the damage done by the 2.36 fire. There were more than 50 bodies on the ground, scattered anywhere from 20 yards to 200 yards from the launcher position.

Murray's most amazing comment on the result was that his inspection of bodies convinced him that practically all of the Chinese had died from burns — that WP rounds had set their padded clothing afire. Jeskilka estimated more conservatively that 60 percent of the deaths were due to burns and the rest to concussion and fragmentation. His crew had fired quite a few HEAT rounds from the launchers. Jeskilka said that while the Hagaru-ri affair was Easy's outstanding use of the launcher, the Company had become habituated to using it as an anti-personnel weapon at every opportunity. It was therefore normal for the men to have final confidence in it in an extreme emergency.

THE 3.5

In the November fight against CCF along the Chongchon River, one of the most mobile and aggressively successful defenses conducted anywhere along the American line was the action by Company F, 38th Infantry Regiment. From a detailed and lengthy narrative of this action, the following extract is made to illustrate the effect of one 3.5 round upon the engagement:

"When the squad on the right flank of 3rd Platoon was withdrawn by Sgt Smith because of the buildup of CCF fire against the nose of the ridge, that action left the machine gun on the left flank of 1st Platoon's position as the chief block to the enemy's main advance up the draw. There was a native hut to the right and forward of the machine gun. Lt Lemuel English, who was in command of 1st Platoon, had one of his BAR men, PFC Cleo Wachel, dug in right next to the house along the right rear corner. Wachel was thus in line to assist the machine gun in covering the draw, and in fact, as the fight developed, he bore the brunt of the defense. There were sandbags revetting his foxhole. He could deliver a grazing fire right down the gut without unduly exposing himself.

"English deployed three riflemen to the rear of Wachel; they were told to fire in time with Wachel and to cut down any skirmishers making a sneak run toward his position. As the Chinese came up the footpath, Wachel was first to open fire on them. He had to be pretty delicate about it. Some of the GIs from 3rd Platoon had been withdrawing along this same path, and he wasn't sure that they had all cleared. So, in the darkness, it was a problem to make certain that he was firing on an enemy target.

"The Chinese got to within 25 yards of the BAR. Wachel challenged them, and they opened fire with two tommy guns. Then Wachel let them have a burst. Even so, they did not go flat. Only a few moved at a time, and they came on in short rushes, taking cover behind the rocks or at the far side of the house, but remaining standing. Immediately after the first skirmishers moved up, the Chinese set up a machine gun on the flat ground directly in front of the BAR position. Both Wachel and the riflemen behind him took the gun under fire, but they couldn't get a clear idea of its position though it was less than 100 yards distant, and it continued to fire away. More of the Chinese worked up to the house and took positions next it, with only the building separating them from Wachel. Grenades began to come in on 1st Platoon's left flank, but the throwing was inaccurate and the explosions didn't worry the men. Then Wachel had a sudden idea; he set the house ablaze by firing into the roof. The thatch burned brightly and the scene became well illuminated. Together, the light and the heat drove back the Chinese who had moved in next the house. The machine gun kept firing.

"In a few minutes, from ground to the rear of the machine gun, the Chinese opened fire with a 60-mm mortar against 1st Platoon's left flank and the CP position. Very quickly, they unloaded about 20 rounds on this critical area. Lt Stevens, Lt Coleman, Lt Benson, and five enlisted men were hit by the mortar fire. Lt John N. Knight moved one of the Company's 60 mortars out to the left of the platoon's line and opened fire on the enemy mortar; for several minutes there was a direct duel between the two pieces, with both crews serving their weapons about equally. Then the Chinese dropped one round right amid the mortar crew. Three men were wounded, and though

the tube was not damaged, it ceased fire temporarily. Sitting a little way up the slope from Wachel and the machine gun was Sgt Paul West, with a 3.5 launcher in his lap. He had been watching the action, but so far had taken no part in it. So he raised the launcher and let go one rocket. His first round hit the Chinese mortar dead on — at 225 yards range. It was the luckiest kind of a fluke shot. That cooled off the enemy force attacking up the draw. When the mortar and crew were knocked out, their machine gun went silent. The pressure was then deflected to an entirely new quarter.”

● In the defense of Hagaru-ri, Company I, 1st Marine Regiment, knocked out two Hotchkiss machine guns at 150 yards range, using the 3.5 launcher at night. One other gun was knocked out at somewhat shorter range. The crew commented that they had to light matches to set the sights on the launcher. They said that luminous sights are badly needed for night operations.



MORTARS

THE FAMILY

The general performance by the family of mortars has been excellent. The several mortars serve the tactical need quite adequately. All three — the 4.2, 81-mm, and 60-mm — are given extensive use. Under the conditions imposed by the Korean terrain, each type has its particular role in the development of a balanced program of supporting fires.

Strong mortar action is perhaps more generally characteristic of the pattern of infantry fighting in Korea than of our operations during World War II. Infantry commanders have greater awareness of the mortar and are more likely to make full use of the mortar potential than previously.

Korea — being an unending complex of steep hills and sharp-faced ridges — is natural mortar country. Because the Chinese enemy in the night attack endeavors to smother the position at close range and his attacking line is frequently in defile to our artillery fires by the time the attack is sensed, the mortars are given a wide variety of decisive fire missions.

The limiting factor in mortar operation is usually the availability of ammunition rather than a failure at any command level to appreciate what the mortars can do.

Why this is so is readily seen. The battalions, and sometimes separate infantry companies, hold ground in relative detachment from other components of the MLR. The unit may be 1500-3000 yards from its closest support on right and left and 2000-4000 yards forward of the supporting field artillery. Its position will usually be a hilltop or a ridge crest, if it is in the front line, or a defile covering a stream bed or roadway, if it is "blocking." The hilltops are a long haul from the nearest supply point; the distance can be covered only by human carriers. Consequently, the 60-mm mortars are carried into the ground somewhat light as to ammunition load. If the 81s are also taken forward, in the average situation their ammunition, too, will be in short supply.

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The usual 60-mm position is in a draw on the rearward slope of the friendly hill or at the base of it. On defense, the mortars customarily set up approximate to the CP. In the attack, they seek a position in defilade in a draw or ridge fold somewhere short of the skyline against which the rifle point is advancing. CCF almost never press an attack on the local ground in such way as to make a main impingement on the rear; habitually, they either attack from the front or from the flank via the gentlest slope (particularly if it is covered with tree and underbrush). In consequence, the main threat to the mortars which close with the company is the enemy mortar fire.

But however the unit is armed as to mortars operating from directly within the perimeter or setting up on the heels of the body in the attack, the heavier mortars are generally able to support the action from a distance. This is one of the very genuine fire advantages deriving from the hilliness of Korea and the enemy's lack of air support and a competent artillery.

Within a few hundred yards to rear of the rifle line, there is always ground where the mortars can set up in defilade, if there is any danger from counter battery. Frequently, the situation is such that the 81s and 4.2s set up boldly in the open, wherever the ground is best for emplacing, and fire away in plain sight of the enemy-held hill, out of practical range of his bullet-firing weapons.

It is not unusual to see the 81s, 4.2s, 75 recoilless, and sometimes the AA multiple-mount weapons all firing in battery from the same location against one broad target — this in support of the attack during daylight operations. The highly competitive aspects of this combined firing in close juncture tend to develop excessive expenditures.

BREAKAGE IN EXTREME COLD

This subject is covered in some detail in the document, "Notes on Infantry Tactics in Korea."² During operations in temperatures ranging between 0° and 32°, the mortars stand up well, and there are no extraordinary problems; the ground is still sufficiently yielding to cushion the shock to the base plates, and there is no undue loosening and wearing of the elevating screws. In temperatures ranging between -10° and -30°, this condition appears to alter radically, and if the mortars are fired for prolonged periods at a high rate, the rate of breakage in firing pins and particularly in base plates becomes disabling to operations. Other than the data from the 1st Marine Division during the Chosen Reservoir operation, there is no broad basis from the Korean experience for the making of this comparison. This was the only winter campaign wherein the mortars were fired excessively for prolonged periods (12-14 days) under sub-zero conditions. Over-all, the durability of the mortars in all sizes was well attested during the course of Korean winter operations. Troops had no complaint on this score; within the 1st Marine Division; despite the fact that most of the mortars had to be replaced in whole or in part when the operation was completed, the commanders and crews felt that this did not reflect a lack of serviceability in any of the three weapons, though it did warn that a surplus of spare parts was a prerequisite for sub-zero operations. They said frankly that the rate of breakdown was due to *excessive firing* in extreme cold rather than to any fault in the structure.

² See ORO-T-7 (EUSAK), *op. cit.*

THE 4.2

This weapon is the workhorse of infantry operations in Korea. None of the other relatively new weapons has been put to more general usage or found greater favor among troops. The enthusiasm for it is unanimous. The 4.2 is accurate and sturdy; the round packs as much wallop as a 105-mm shell; for continuity of performance, and visible impact upon an emergency situation, it is valued perhaps more highly than any other weapon within the infantry regiment. A number of battalion and regimental commanders commented that they would like to see twice as many 4.2s within the infantry regiment, and that they felt that the gain in fighting power, under almost any condition of terrain and climate, would more than justify the added burden. This comment was made by Col Lewis Puller, after extensive use of the 4.2 in the defense of Koto-ri: "It is a beautiful weapon. With a fast and well-trained crew and with all eight mortars firing, we found it possible to put 96 rounds in the air before the first one burst."

EXAMPLE

On 15 January, Third Battalion, 187th Regiment, was defending a pass south of Tannyang, its position being right in the saddle and covering the approaches to it via the road and the ridgelines. A large underground spring made the earth within the defensive circle almost boglike and forbade the digging of useful foxholes. At the pass the ridges on both sides rise sharply from the road. There were outposts halfway up the ridge on both sides. The mortars were so placed that the 4.2s could shell the ridge crest on one side with direct fire, while the 81s could directly engage the high ground on the other side, directly above the 4.2s.

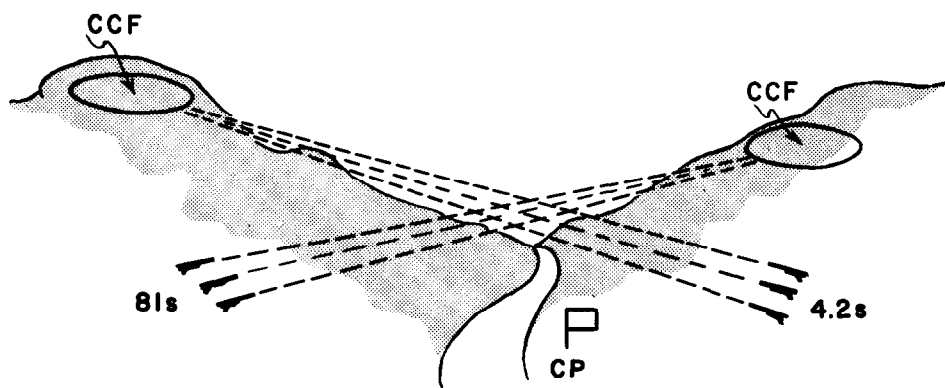


Fig. 7 — Mortars in Direct Fire

About 2200 the perimeter was alerted by several bursts of machine-gun fire from the ridge top on the left. Tracers began to find the CP area. The outpost on the left-hand ridge, falling back into the main lines, reported that 50 NKs were coming down the ridge. Several enemy mortar shells exploded in the marshy ground near the CP. The flash from the enemy tube was plainly visible. It was firing from about 400 yards up the slope.

By depressing the tubes of the 4.2s slightly, it was possible to fire toward the enemy flash by direct sighting. In all, 16 rounds were fired by the friendly battery. But the 4.2 crew had trouble with the powder increment holder in the bottom of the tube. The weather was -10° . Because of the cold, the metal was breaking frequently. Therefore after each round the crew flashed a light into the tube to see whether it was in firing condition, and the enemy mortar fired at the flash, though with no telling success. As the mortars on both sides continued this unequal though unorthodox duel, rifle fire built up around them, and the two skirmish lines closed distance to within 10 yards or so. The fire fight continued for perhaps the greater part of an hour until, on the sixteenth round from the 4.2s, the enemy mortar went silent. The enemy riflemen then gradually faded back except for a handful of snipers who continued to harass the camp until after daylight.

There were no losses on the American side; 21 enemy dead were counted strung out over the ridge on the left. Of that number, however, 17 had been killed by bullets. The 4.2 round which had stopped the enemy tube at the height of the action had been aimed in practically the same way as a flat-trajectory weapon. This was a trick not possible to the enemy, for all his advantage in possession of the high ground.

THE 81-MM

This mortar has done trojan service throughout the Korean campaign, and its illuminating round was used with particularly good effect during the Korean fighting until the scant supply petered out. It is given relatively more work than during World War II because of the short supply of 60-mm shell in the average company position. For close support of the infantry company withstanding night attack, the 81 mortar illumination is probably better than the 155-mm artillery shell because the circle of light created by the latter often covers too large an area, yielding some advantage to the attacker.

This typical extract covers operation of the 81s during the attack on Hill 440 in February 1951. The unit was Heavy Weapons Company of the 27th Regiment. The description is by Lt Frank L. Dietrich, commanding: "We went into position at 1645 on 4 Feb but we did not fire that night. At 0430 on 5 Feb I got word that the 35th Regiment on our right was under attack. We fired 155 rounds against the Hill in support of the 35th. Our map data was almost exact; it came out within less than 100 yards. Shortly after daylight we began firing in support of the battalion (3rd Battalion of 27th Regiment which was attacking Hill 440 along its length from the left flank). We were firing at 2800-3000 yards range. During that day, we fired 500 rounds, resupplying twice with carriers, using $\frac{3}{4}$ tons with one-ton trailers. Of this amount, 57 rounds were WP; two salvos were altogether bad; seven or eight other rounds failed. We have also had misfires from breakage of the projector that the charge fits on. During the operation we had one radio failure — the SCR 300 in Love Company; we changed over to the battalion wire net until we got another radio up there. Otherwise, it was perfect fire all the way through — right on the button. There is one barrel in the battery which has served all through the Korean campaign."

The 81s in this case were employed to fire against the central mass of Hill 440, covering the narrow, stony passages along the heights and leading back to the enemy's

support area. The 4.2s were used to smoke the hill as the American attack developed. The AA quad-50s, firing from approximately the same ground as the 81s, traversed over a much wider arc, adjusting so that their fire kept approximately 50 yards ahead

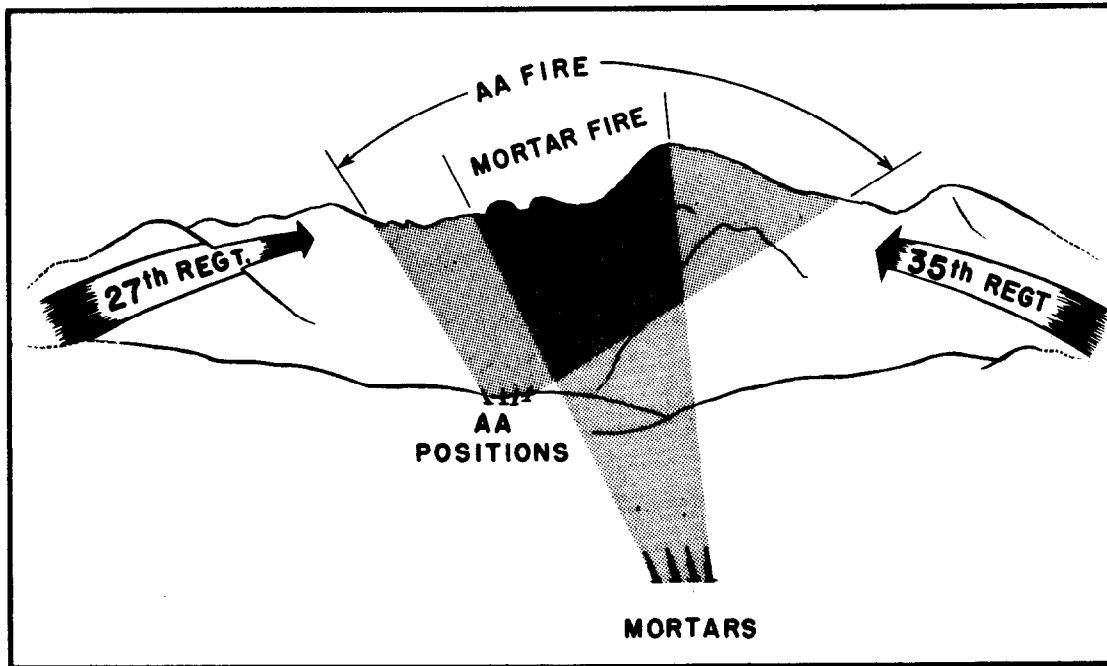


Fig. 8 — Fire Distribution in the Attack on Hill 440

of our most forward skirmishers. The artillery was used both to augment the 4.2 in smoking the hill and further the HE missions of the 81s.

The atmospheric conditions were just right for the use of smoke. The first cloud effects were promising; the smoke held fairly well to the ridge crest. The infantry needed about 30 minutes of smoke to cover the distance with relative immunity to the CCF machine guns firing from bunkers tucked away among 440's rocky ledges. But they had bounded not more than half the distance before all weapons ran out of smoke. The commander said this about it: "It was all due to lack of practice. We laid the smoke on too heavy in the beginning even before we had moved into the right area. I believe in the use of smoke, particularly in the attack. But this was the first time I've used it — with mortars — for screening since I've been in the Theater. Consequently the mortars had cut down on the amount they carry for our support, and when called on to use it, they couldn't apportion it evenly, according to the time required to work out the maneuver."

SUGGESTED MODIFICATIONS

Among the suggestions put forward by various commanders for modifying the 81-mm so as to make it more useful to the infantry regiment there were the following:

- Lighten it in "any manner possible" to increase its cross-country mobility.
- Build it so that it could be broken down from a long barrel to a short barrel, thus making a lighter pack possible while preserving its heavy punch at the short ranges.
- Sectionalize the base plate so that the load can be distributed.
- Alter metallurgically or in design the elevating screw, the breaking and rapid wearing of which is now the chief structural weakness in the weapon.

THE 60-MM

The unreliability of 60-mm ammunition in several types is the cause of chief criticism of the weapon in Korean operations. In test firing of the 60 illuminating shell along the Imjin River in January 1951, the 25th Infantry Division found that the ammunition was approximately 35 percent defective. The round would leave the tube but would not produce a light.

Firing in combat, under more extreme cold, the 1st Marine Division at Koto-ri and Hagaru-ri got 80 to 90 percent negative results with the same round in the November battle.

The WP round has also performed spottily; more failures are reported with the 60 than with the 81 WP. It is conservative to say that during winter operations at least one in every five WP 60-mm rounds failed.



GRENADES

ONE OF THE MAIN WEAPONS

As happened with Grant's troops in the Vicksburg campaign, the hand grenade has become of ever-increasing importance in the Korean fighting because the ground and the enemy's use of it necessitated a return to this weapon. Practically without exception, all in-fighting in Korea is attended by hand-grenade action. In comparison to the numbers engaged, use of the hand grenade by American troops in Korea is manifold what it was in either World War I or II.

For this our forces were ill-prepared in point of training; in the early stages, appreciation of the usefulness of the grenade (both hand and rifle) was at a low ebb; there were few specialists at hand who were prepared to coach others; within the squad, men did not know how to organize as a grenade team for the systematic bombing-out of ground; there was little or no control over grenade supply, which resulted in large wastage. That the situation has gradually improved is due to what has been learned through combat trial and error.

In sum, the grenade is one of the main weapons of the fighting, but training had never anticipated any such condition. Unfortunately, that has been pretty much the training history of this weapon since 1918, when grenade practice, in anticipation of trench-raid operation and the clearing of traverses, was rather thorough. In more recent years, we have proceeded more or less according to the theory that since an average American knows how to throw a rock, it is a waste of training time to devote any large amount of attention to grenade technique.

In consequence, though approximately 40 percent of American troops have good throwing arms, our grenade tactics are for the most part mediocre, with just here and there an occasional brilliant performance.

In its practical effects, grenading in uneven hill country is not unlike going

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against a trench system or a fortified hedgerow. There is dead space which can be used for the bomber's protection. One strong-armed thrower can clean out all ground 20-35 yards to his fore. Part of his team can cover him when he rises to throw. He can be kept supplied by relay. Under cover of the explosion, the group can bound ahead. There is nothing complex about this procedure; but men do have to be organized for it, and its success usually hinges around the selection of the key man. In daylight attack against dug-in positions along the ridge crests, there isn't anything else in tactics which is more likely to close the last gap. Even so, there is no general application of this method by our infantry in the hilltop fighting because none has been taught. Only now and then an inspired junior leader or a determined squad empirically puts it into effect and discovers that it works.

In night defense, efficient use of the hand (and rifle) grenade would have given American forces a heavy advantage in the early stages of the campaign against CCF. The Chinese fancy themselves to be grenadiers; also, they were suffering from the illusion that American troops were unduly fearful of this weapon and that it had an extremely demoralizing effect upon them. (This is known because of the capture, during the November battle, of a secret CCF paper on weapons usage in the attack which categorically stated these propositions, and because the tactics pursued followed this instruction absolutely.) But the enemy was mistaken on both counts, as was proved time and again in the early fighting. The CCF were not physically suited to aggressive use of this weapon, being weak-armed throwers. Our troops had toward the Chinese grenade (light potato-masher type) a scorn bordering on contempt.

The enemy's election of these tactics, combined with his lack of natural aptitude for them, would have given us a priceless advantage in the arm's-length fighting which followed, had our men been prepared by training and the state of their supply to recognize the opening and exploit it. Such was not the case. It is true of any weapon that when training is generally of superficial character, instead of being vigorous and imaginative, troops will put a low estimate on the probable fighting value of the weapon, be careless of its conservation when not in contact with the enemy, and, after the fighting starts, will be slow to see how use of the weapon should be applied to the situation. *Men in battle cannot think as grenadiers unless they have been specifically schooled as grenadiers.* For almost 30 years now the Army has discounted the value of systematic grenade training and the pre-eminent worth of having a few grenade specialists in each infantry company. The price for this neglect has been exacted in Korea.

When our forces began to engage CCF, they were in no wise prepared for the exchange at short range. Rifle-grenade launchers had been thrown away. The troops had carelessly disposed of their hand grenades during the advance. When re-issue was effected on the spot, it was too late to school the company in the efficient use of the grenade in night defense toward the end that the weapon could be conserved for timely use against suitable targets instead of exploded to make noise over relatively empty terrain. The troops knew little or nothing about how to use grenade fire and bullet fire in combination. It was not seen that for the good of the company the best results would ensue if a larger share of grenades were given to the strong-armed and

active throwers. All that was done with respect to employment of this weapon was uncoordinated and haphazard.

Not having been grenade-trained, junior leaders did not recognize that the tactical situation in the night fight was made to order for the illuminating rifle grenade, the hand grenade, and close-range fragmentation bombing of the revealed targets. In consequence they did not press upon higher command any demands for these materials. Weeks passed before men within the squads began to recognize these possibilities and to improvise methods which would give greater effectiveness to their own grenading.

● One of the main lessons of the Korean campaign is that the grenade school should be restored by the Army and used in about the same way as during World War I to promote systematic and intelligent understanding of the weapon throughout the service.

COLD WEATHER OPERATIONS

In sub-zero operations the hand grenade is a source of deadly danger to the user. The pin is hard to extract because of the cold; therefore the mitten must be removed prior to throwing. The cold metal, held in the hand for only a few seconds, will freeze the fingers. Infantry companies took frostbite losses from this cause even though the users held the bomb only long enough to work the pin loose and get the grenade away. Furthermore, in the winter fighting, grenades placed on a dirt shelf cut into the side of the foxhole soon absorbed moisture from the half-frozen ground and became inoperative. Many company officers reached the conclusion that for these reasons the present grenade is useless during in-fighting in temperatures running -20° and lower.

GENERAL UTILITY

Under the conditions of the night perimeter defense, it is impossible to make any estimate of the effectiveness of American grenading upon enemy action. Interrogation shows only that perhaps an excessive percentage of grenades is used in general fire, resulting in subsequent shortages during the crisis when there are live targets within close range. There are very few clean-cut examples of an enemy group being stopped or destroyed by concentrated use of the grenade during close action, and even fewer examples of leadership directing co-ordinated use of the weapon in situations well suited to it.

The grenade is not used as extensively for mop-up purposes in Korea as during World War II operations because of the enemy's general lack of heavy installations, other than the hilltop bunkers, which are usually knocked out by flat-trajectory weapons before the grenadiers can close in. However, when the infantry has no recourse but to take the position by direct assault, the tossing of a few grenades through the embrasures is the accustomed *coup de grace*.

There are no examples of the use of rifle grenades. The weapon was not used during any of the operations included in the analysis, except by the CCF enemy. Rifle grenades could have proved useful in the hilltop fighting; the distance between the engaging sides was usually such that its range was appropriate. But the launchers had been thrown away.

Except for operations in extreme cold, the issue explosive-type grenade is generally satisfactory to the tactical need in the Korean fighting.

The more experienced troops comment, however, that the serrated, modified Mills bomb is more practical for both offensive and defensive uses, so long as it is employed offensively by an average strong-armed thrower. This would include individuals who have played baseball or have had considerable experience with passing the football in their high school years or later. There are always such men in a company. They can use the weapon in a natural way and they are more likely to get it on the target.

In the company actions taken under study, all of which made some use of the hand grenade, there is no instance of an American casualty resulting from our own grenade fire, either in consequence of a premature explosion or from being too close to the impact area.

The percentage of dud grenades is so small as to be inconsequential except in extreme cold weather; on the other hand, the figures indicate that somewhere between 20 and 30 percent of CCF grenades do not fire because of defects either in the mechanism or in the handling.



THE BAYONET

MORE FOR MORALE

In most of what has been reported in the American press, and in part of what has been circulated officially within the Army, the role of the bayonet in Korean operations has been stressed far beyond its intrinsic importance, when the latter is estimated in the very real terms of the battlefield and the thinking of troops about the weapon.

It is no doubt true, and subject to competent proof, that there has been more legitimate bayonet fighting by our troops in Korea than by our armies of World War I and II.

Largely because of this comparison, and partly because the upsurge of interest in the bayonet and the exaggerated wave of publicity concerning bayonet action coincided roughly with the beginning of American recovery, there is a tendency to credit the bayonet with almost miraculous powers as a catalyst of the fighting spirit.

There is nothing particularly new about this supposed connection. Indeed, it is because this view of things is so very old and traditional that it always reasserts itself upon the slightest provocation. In Korea the bayonet advocates have a considerable case based upon an impressive body of evidence — even when rumors and provedly false reports are thrown out. The main question is whether the case as it stands is being argued to a rational set of conclusions, or will serve once again to place undue training emphasis upon the weapon and what it contributes to the building of an aggressive spirit.

At least four-fifths of the reports of “fierce bayonet charges” by our troops emanating from the Korean theater are false either in whole or in part. In some instances, the troops which were described as engaging in this manner did not even possess bayonets. In others, they had bayonets and fixed them, but, during the attack, did not close with that weapon upon the enemy. One of our allies was credited in the operations of the

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early winter with a bloody repulse of the enemy at bayonet point in which scores were skewered; this story drew attention the world over. It helped inspire the new interest in the weapon. No doubt the killing took place. But all of the attendant circumstances indicate that its main victims were friendly ROKs, trying to fall back into protective lines after their own position had gone; it was a case of mistaken identity.

The need for a sharp killing instrument at the end of a rifle is well indicated by the course of Korean operations; the need of a discipline which will compel troops to retain such a weapon and will enable them to use it with some efficiency when an emergency requires it is equally well indicated. Recurrently through the winter in the defense of hilltop perimeters, infantry companies were engaged with the enemy at such close range that the rifle used as a spear would have taken many a victim. But killings by Eighth Army infantry under these circumstances were so few that they could be counted on one man's fingers. When the rifles began to run empty and the enemy at last closed, with very few exceptions the men had no blade with which to stand off the rush. For lack of bayonets, they fought with clubbed rifles, stones, and sometimes with their bare fists. All of these things are in the record: the companies and individuals who so participated can be named. Oddly enough, however, the repetition of situations in which the bayonet might have proved useful did not of itself stimulate the interest of troops in the return of the weapon. The companies which had been caught short for having thrown the bayonet away did not demand its re-issue. They were not "bayonet-minded," and they seemed perfectly willing to fight again under the same odds in the next round.

1st Marine Division retained the bayonet. The Corps has continued to hold with the idea that the bayonet makes men aggressive. The entire Chosen Reservoir operation was fought at close range, with the Chinese repeatedly charging the defensive works in the night attacks and occasionally breaking the circle. Even so, the bayonet was used with killing effect in only two instances. Three Chinese were bayoneted at Hagaru-ri — all by the same man. Three, possibly four others, were either wounded or killed by the bayonet in the one assault that managed to break into the lines at Koto-ri. The Marines make a strong display of the weapon when in defensive position. They argue with some cogency that this may be one of its chief values. It is within reason that the Chinese attacks upon Marine perimeters north of Chinghung-ni might have been pressed with even greater determination had the attackers not anticipated that they would be met with cold steel. But to attempt to justify Marine retention of the weapon, and the attendant burden, upon what the bayonet has done as a killing weapon in Marine hands during Korean operations is impossible in view of the cold figures.

The same would have to be said of results through the Eighth Army as a whole, including those non-American elements which have received especial acclaim because of their ferocity in the bayonet charge. In February, outside of Suwon, the writer visited a hill where a battalion belonging to one of our Allies was said to have killed 154 of the enemy with bayonet thrusts; these figures were publicized in the theater. Examination of the bodies made it conclusively clear that the preponderant number of the enemy dead had been killed and badly mangled by artillery fire prior to the

direct assault upon the hill. In some of these bodies, there were superficial bayonet wounds. Judging by the condition of the bodies, there may have been a dozen or fewer who were eliminated by the bayonet.

Not since the rifle bullet began to dominate the battlefield has there been any sound tactical ground for contending that the bayonet was per se an efficient way to kill and an agency toward keeping one's own casualties low. Argument for its retention and use has been built largely around these points: (1) it creates aggressiveness in troops, (2) it instills additional fear in the heart of the enemy, and (3) troops need a last-resort weapon when other means fail.

None of these points is to be despised. If all are true as stated, they compose a valid case for retention of the weapon and a discipline serving that end. When gradual restoration of the bayonet to infantry forces was undertaken in the mid-winter of 1950-51 by the Eighth Army and lower commands, the impulse developed partly around consideration of these ideas.

But there was one other thing — the bayonet in this instance served a conspicuous need of the moment. The Eighth Army at that time was a greatly demoralized body, and lack of confidence was manifest in the ranks. The command greatly needed something to symbolize the birth of a new spirit. Restoration of the bayonet, and a dramatizing of that action, was at one with the simple message given to troops: "The job is to kill Chinese." Once men could be persuaded that those in other units were deliberately seeking the hand-to-hand contest with the enemy, they would begin to feel themselves equal to the over-all task.

There can be no question about the efficacy of this magic in the particular situation: *it worked!* But rekindling of the spirit of the Eighth Army was due even more to loud talk about the bayonet, and the power of suggestion, than to the effectiveness of such bayonet action as took place against the enemy. The benefits came from the rallying of the intangibles rather than from direct use of material means. The rapid moral recovery of Eighth Army in January is one of the true phenomena of our military history. Here there is time for reflection only on certain of its tangential aspects.

The Army had spent five weeks in retreat; the salient fact in its operations had been the avoiding of close contact with the enemy. Ranks were discouraged; having no idea what the main purpose of the nation might be, they could find none in themselves. It was an interlude of negative leadership and moral vacuum. Where a spate of words about the need for personal decision and maximum individual aggressiveness might have been received by troops as just so much bombast, emphasis on bayonet fighting served pointed notice that the period of uncertainty was over, and henceforward all ground would be contested. In combination with other techniques employed by the command and staff, it shook Eighth Army out of a state of extreme depression and gave it fresh confidence in its own power and in leadership's hold upon the general situation.

This was the significant contribution of the bayonet to the restoration of Eighth Army. It was a device toward the restoring of morale in a particular situation. But it does not follow by any means that the bayonet and bayonet doctrine make the difference between half-hearted troops and stalwart, strong-going fighters in any situation.

Some of the ablest and hardest-fighting infantry companies in Korea have not taken up the bayonet and say outright that they see no good in it. They resent the effort by higher authority to persuade them to use it because they say that it is an invitation to be killed uselessly.

There are also other companies which have used the bayonet with great intrepidity during the recent months. It may be remarked of them, according to the record, that they were already combat-worthy, aggressive, and efficient in the use of their other arms before they became bayonet fighters. There is no proof whatever that the bayonet transformed them as fighters or added materially to their fighting power as a group.

CASE STUDY

The bayonet charge by Easy Company, 27th Infantry Regiment, against Hill 180 (both the critique notes and the completed narrative of this action have been previously published)³ is the one modern operation of this character which may be studied in its full detail, in the light of knowledge of the individuals concerned, their prior service in combat, their reactions, physical and emotional, during the fight, and the operational results.

It therefore throws a revealing light on the general subject and particularly on the degree of emotional intensity which is required before average Americans can go all-out in bayonet fighting.

The results were truly phenomenal. One cannot help but marvel at the impetuosity of these men, once they got started forward with their rifles ready for a cutting action. But this was not an "average" infantry company nor an average man who led it. Both had already made a reputation for unusual bravery and sangfroid before ever they got together. The company included a high percentage of individuals with Spanish or Mexican-American blood; they were represented in great disproportion in the actual employment of the blade against enemy soldiers.

The mortality figures show this breakdown: Of the 18 enemy soldiers killed by the bayonet after Easy Company had closed on their foxholes, 6 met death that way because something untoward had happened to the attacker's rifle — either a misfire or a failure to load consequent to the excitement. In four instances, the bayonet was the "weapon of last resort" because one group had used up its ammunition. In most of the other killings, the men were in so close that if a bullet missed, the consequence might have been fatal.

There is no need in this writing to dilate upon the emotional stress undergone by the bayonet fighters of Easy Company or to attempt an answer to the question of whether troops could for long be sustained at such a pitch without risking total nervous breakdown. The record is the best evidence of the varying reactions of the individuals; the question is one which could be answered competently only by medical authority. But it is germane to any study of how far bayonet training and use of the bayonet in the attack should be pushed in the interests of increasing the combat quality of the Army.

³ See ORO-T-7 (EUSAK), *op. cit.*

The tactical omissions, which accompany and seem to be the emotional consequence of the verve and high excitement of the bayonet charge, stand out as prominently as the extreme valor of the individuals.

. . . The young Captain Millett, so intent on getting his attack going that he "didn't have time" to call for artillery fires to the rearward of the hill, though that was the natural way to close the escape route and protect his own force from snipers who were thus allowed a free hand on that ground.

. . . His subsequent forgetting that the tank fire should be adjusted upward along the hill.

. . . The failure to use mortars toward the same object.

. . . The starving of the grenade supply, though this was a situation calling for grenades, and the resupply route was not wholly closed by fire.

. . . The fractionalization of the company in the attack to the degree where only high individual action can save the situation, and individual ammunition failures may well lose it.

These are not entries on the debit side, or words uttered in criticism. One cannot study this fight without being reminded of the words of Justice Holmes that "heroism alone promotes belief in the supreme worth of heroism." But it is precisely because of the extreme determination of the action that its negative lessons should be held at as great value by the Army as the inspirational effects of the example.

IN SUMMATION

The main issue in regard to the bayonet is not whether troops in combat should have a knife ready for use at the end of a rifle, but how much time should be devoted to bayonet in the training schedule, and what type of blade would best suit the general purpose.

There is every advantage in equipping troops with a "last-resort weapon" provided that it is a model which they will prize for its manifest usefulness, and which, at the same time, will give them extra protection in an extreme emergency.

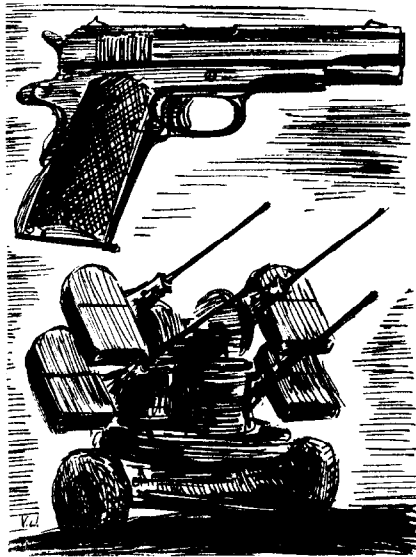
Of the value of the bayonet charge as a nerve tonic to troops or as an expedient in tactics, this report cannot attest. The data from Korean operations proves nothing except that given an unusual company of men, an unusually effective use of the weapon may occasionally be made. There is nothing to show that it induces phenomenal moral results when employed in the attack, either upon the using individuals or the targets; proof is lacking that in any particular situation it achieved a greater economy in operations than increased fire power might have done.

But a line of sharpened steel along the defensive line is additional insurance for the individual and may well have a profoundly deterring effect upon the enemy's resolve. If troops can be conditioned to having the blade ready for defense, they will soon form the habit of carrying it in the attack, ready for use if needed. The best results will ensue if use of the bayonet is emphasized in this order. There is no steadying value in any tactical teaching which runs counter to the common sense and instinct of the average soldier.

THE KNIFE BAYONET

The issue bayonet is heavy, unwieldy, hard to sharpen, and harder yet to achieve a penetration with. The blade is not liked even by those units which have retained it and used it.

● All infantry companies interviewed in Korea were in agreement that a knife-type bayonet for the M1 would be vastly preferable, and if a knife with a slotted handle were issued, which at the same time would serve a utilitarian purpose, troops would retain it and would fight with it. Such a knife is needed in any case for the cutting of brush, loosening of dirt, first aid, the opening of cans, and a variety of uses. The carbine knife is well thought of by troops, but they believe that an even better model could be designed.



PISTOLS AND AA GUNS

.45 PISTOL

There are numerous examples in the record of the service pistol being used with killing effect at 10-25 yards range in perimeter defense when the firer had no other weapon. In fact, there are more such instances in the Korean operations than were to be found in all company studies made during World War II.

A most dramatic example occurred within the 9th Infantry Regiment. In daylight, the company took under observation an enemy party of about 100 advancing directly toward its position, which was on a low hill shaped like a horseshoe. Two enemy scouts moved about 50 yards in advance of the main body. The sergeant who was in charge of the forward foxholes knew that he had to get the scouts, but he didn't want to fire until the main body was within the deadfall. He waited until the two scouts came up the rise and to within five yards of the foxhole. Then he shot them both, killing one and wounding the other. That was the signal for the destruction of the enemy main body.

The pistol is of definite value in the type of warfare experienced by Eighth Army, and one hears more words said about its proved usefulness than during either World War.

However, at temperatures just below freezing, it gives a great deal of trouble because of frost lock, and, according to the users, must be cleaned of all oil and then fired periodically if it is to be trusted.

MULTIPLE MOUNTS

Some mention of the AA multiple mounts is pertinent to any summary of infantry weapons effects in the Korean fighting because, despite the separate character of the AA arm, it is as an adjunct of infantry fighting that the AA gun has had its most decisive impact upon Eighth Army operations.

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This is particularly true of the quad-50 (M16), which has greater tactical flexibility in ground fighting and a visibly greater demoralizing effect upon the enemy infantry line than the Bofors twin-40. It would be difficult to exaggerate the effectiveness of the quad-50 when used in this role. Based on the Korean record, it can be said that, except for the accurate laying on of an air strike employing napalm and rockets, no other weapon available for the support of infantry will depress enemy firepower more quickly and fully, and in general discourage the enemy from taking any effective action.

In the operations taken under study, there are numerous vivid examples of this phenomenon. The tactical circumstances were of greatly varying sorts and therefore put a wide range of demands upon the weapon. In some instances, its fire was used as the chief agent of a defeated column to beat back enemy forces pressing from both sides of a defile. In another example, it is seen giving sustained supporting fire to an infantry assault closing in along both ends of a ridgeline. In a third case, it is used for the interdiction of an escape route. In a fourth situation, it is echeloned with armor to augment the barrage fire under cover of which the infantry is taking a low-lying ridgeline by direct assault. In a fifth situation, it is the escort for a small column of unarmored vehicles.

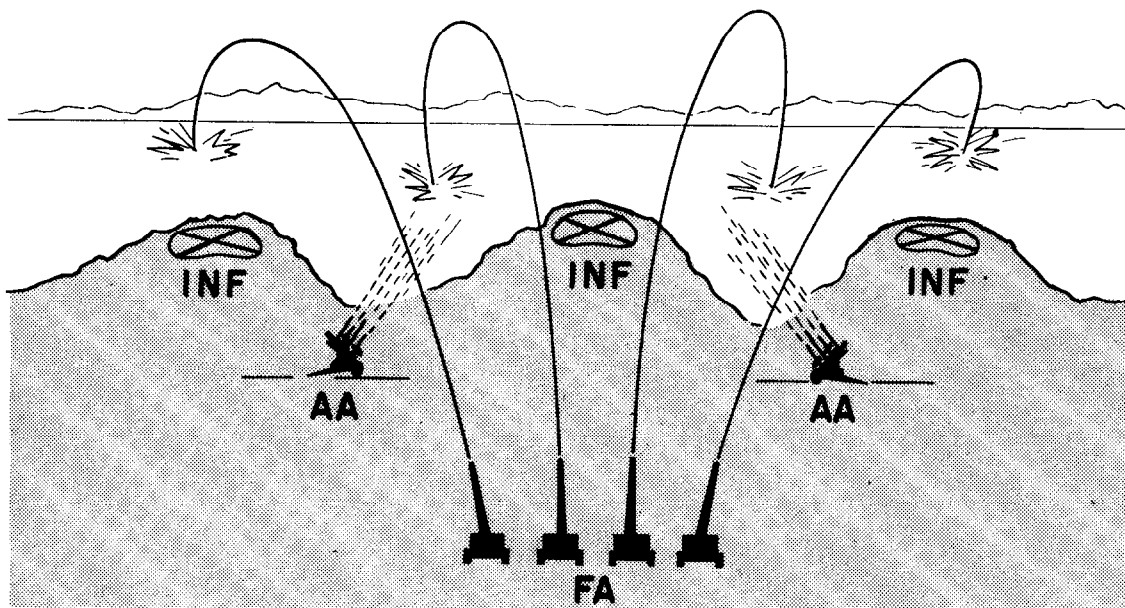


Fig. 9 — AA Guns in a Blocking Role

In these greatly different employments, the .50-battery has proved its potency. There is something about its multiple fires, which in effect brackets a man target, and at one and the same time searches for him along the ground while denying him the chance to get up and run for better cover, that serves powerfully to depress enemy

action. Infantry and armored commanders comment, however, that for operations in company with armor, the battery should be mounted on a tracked vehicle.

Probably the most common employment of the quad-50 in Korea is in the so-called "blocking" role. The term is an understatement, since in effect the gun is an integer of the main line of resistance and is doing work which might otherwise be assigned to an infantry company. Usually, it is displaced somewhat to the flank and rear of the line of infantry perimeters; its fire is purposed to block the avenues of low ground through which the enemy might filter at night, either to take the infantry in rear or harass rearward installations. When doing this type of duty, the AA mounts are commonly some little distance forward of the FA positions. The accompanying rough diagram illustrates the relationship.

In Korea, the record of AA operating in close support of infantry has been one of steady progress and rapid evolution. It is to be noted, however, that it is generally consistent with the doctrine taught at the AA Center since the close of World War II, and that the conditions in irregular warfare which would bring AA forces into closer working union with the infantry were well anticipated by the other arm. The anti-aircraft crews do a lot of superficial protesting against the new risks attendant on this conversion, but this does not detract from the effectiveness of the union.

Detailed study of the AA weapons and their effects would be inappropriate to an analysis of strictly infantry weapons. Suffice it to conclude that support from the AA mounts has been one of the chief sources of stiffening to the infantry line in Korea.

As for possible lines of future development, the placement of AA multiple-fire weapons, in combination with lights and in operational juncture with armored forces prepared for counter-hitting, could well become a main technique in the filling-out of a crenellated front which the infantry force is not sufficient to hold strongly in all parts.





Part III

COMMUNICATIONS AND INFORMATION



THE PUBLIC AND HEADQUARTERS BE INFORMED

NEEDED: ACCURATE BATTLE DATA

Using the November battle as a case study, it is proposed herein to examine the efficiency of present Army methods in the field of public and operational information, and raise the question whether present results do not fall gravely short of optimum and attainable standards because of the failure of the Army to appreciate that soundness in policy must derive fundamentally from an accurate and complete coverage of battle forces.

The informational values which serve to enlighten public understanding of how the Army is faring in war will be compared to the other area of information which specifically serves the commander to provide him with a more objective appreciation of his own forces and more perfect knowledge of the enemy. It is believed that, to a far greater degree than the Army generally is aware, these two lines of search coincide or run roughly parallel, and that from measures taken to more correctly inform the public of how the Army is responding to its battle experience will come intelligence of decisive importance to field operations, once a system of battlefield data collection is directed toward serving these two main objects.

It is of extreme importance that a nation have accurate knowledge of the character of its army during service in war. But it is yet more vital that the commander and the forces serving under him be enabled quickly to catch an exact reflection of their own image, so that weaknesses will not be magnified and strengths unduly discounted. Under the present system of operational reporting within the United States Army, neither of these objects can be assured, and the total impression in both spheres is a derivative of hit-or-miss calculations leading to hit-or-miss decisions, as the November battle proved. That the consequences were not far worse was due more to our luck

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than to our wisdom. Policy might have been abandoned and the Army itself ruined because of the simple failure to gather and to make known the facts.

The role of infantry in the sustaining of public confidence in the Army is that of a linchpin. This is by nature the case, and there is no way to alter it. Consequently, if infantry action and infantry moral power are deemed to be inadequate under the test of battle, no amount of bravery and resource by the other arms can redeem either the tactical consequence or the position of the Army in the opinion of the public. Further, if the infantry line is falsely evaluated by the press and public and, contrary to fact, is accused of conducting itself weakly and unconfidently, these incorrect judgments will react adversely upon the morale and will of the total force, and may even influence the decision of the commander, *unless the Army is in position to apply interior correctives through the possession of superior information*. It is not enough for troops themselves to know that they are good and have been doing their duty. If others place a low value on them because they have been badly informed, that estimate will in time corrode the spirit of the total force.

WHAT WAS WRITTEN

The Eighth Army in December was the victim of this circumstance. In practical effect there was no censorship. The Command did not possess objective information covering the conduct of the tactical forces which had been defeated by the enemy in the battle along the Chongchon River. Lacking factual data on the battle, the younger, less-experienced, and more irresponsible correspondents let their imaginations run riot, wrote reams based on hearsay evidence, and put a tragic overemphasis on some of the minor happenings of the battlefield to the exclusion of a fair report on the remarkable bravery and creditable conduct of the majority of troops of every unit in line.

The result was an outrageous slander of the Army as a whole that had no real relationship to the event. In an hour when the force needed accurate appraisal and due recognition of how it had faced a great trial in a soldierly spirit, it was portrayed to the nation by some members of the press as a horde of runaways and miscreants. The damage done by these false reports could not be counterbalanced by the work of the more responsible correspondents who had viewed the battle in perspective. There is a regrettable tendency in the public, particularly in times of crisis, to conclude that any damning report is the work of a fearless and honest individual, while the words of those who speak in praise are discounted as coming from a friendly source, attempting to cover up the wretched mistakes of the Army.

The fact was that the only real panic had taken place among the correspondents. The infantry companies and artillery batteries had behaved well. Nowhere along the line was there any incidence of what could fairly be called "panic" among them, until at last they had been cut down to 20-30 men per unit through battle losses and, in that pitiful strength, had gotten into a final entrapment.

However, because Eighth Army command did not have the tactical data on how the line had fared under pressure, it, too, was overly doubtful about what had been proved as to the reliability of the line under pressure. For more than two weeks after the battle had closed, the late General Walker entertained the impression that the

infantry companies defeated along the Chongchon had voluntarily surrendered ground instead of making a stand-up fight for it. This impression was wholly incorrect; all units save one artillery battalion had reacted to the surprise attack by CCF in a highly creditable manner; this could be well established by information then in possession of the troops. But the impression in the Commander's mind died very slowly and perhaps colored his subsequent estimates of his Army's situation.

Certain of these press appreciations of the December situation and the November happening are deserving of current re-appraisal in the light of subsequent developments. Writing from Korea in early December, David McConnell, correspondent of the New York Herald Tribune, said this:

"There is something radically wrong with the American boy today. He won't fight. He gladly takes a whipping, thinking only of running away. In my day he might have taken a whipping in a fight or baseball game but always scrapped back. These boys are weak."

In later days, McConnell wrote a left-handed apology, never admitting that he had been wrong in December, but excusing himself with the statement that the Army had changed since he wrote his words of condemnation, "in other words, the hard-fighting Army of today is made up mostly of the bug-out boys of six months ago." It is an alibi that doesn't wash, since the record itself belies that McConnell had knowledge of the facts on the November battle. The companies which bore the brunt of the CCF attack did not "run away." Unit by unit, they conducted themselves gallantly. This surveyor so reported to the Eighth Army command in December, with these words: "There is nothing wrong with the quality of these troops. Americans have never fought more bravely in any war." The record of unit actions supports this early estimate even more competently than does the showing by these same forces in the months which followed. But at that stage, arbitrary opinions were influencing judgment more directly than the weight of the material evidence.

Another exhibit of the same kind is quoted from the syndicated column written by Drew Pearson; it was published in the United States in January 1951. Here are the words: "The 2nd Division of the Eighth Army panicked. It had been left behind as a rear guard for the Eighth Army with South Koreans on its flanks. Friction developed between the South Koreans and the Americans, including fist fights, and the Americans were finally ordered to keep away from the South Koreans. This led to loss of contact between the two, so that the 2nd Division did not know that the South Koreans had dropped back, leaving the American flank exposed. This gave the Chinese a chance to infiltrate, and the 2nd Division panicked and ran. Four battalions unhooked their field artillery and made a dash for the south. It was while thus running that the 2nd Division suffered most of its casualties — which amounted to over 50 percent and caused MacArthur to cable Washington that the 2nd Division was 'unfit for further duty.'"

With the possible exception of the last statement pertaining to FEC's cable (concerning which this writer is uninformed), there is not one word of truth in this description of the 2nd Division's experience. It is false as to the general charge that the Division ran, false as to what is said of 2nd Division relations with the ROKs,

and false as to the implication that the artillery behaved in other than a most soldierly manner.

But it is unfortunately the case that Eighth Army command, during the first weeks of December, was hardly better informed about the operations of 2nd Division than was this Washington columnist. If the Army morale was being seriously undermined by false rumor and report, and the Army potential was in serious danger of being underestimated, the Army's normal staff processes did not embody the means essential to correction.

The cause in Korea had been pushed to the brink of failure for lack of objective knowledge of what had been done.

● The extent of this jeopardy needs to be recognized in full dimension if the case for amplifying and perfecting Army information policy is to be properly understood.

THE EFFECT

In December 1950, the Eighth Army was near total defeat. Though corporally the Army remained in reasonably sound condition, and in relation to the Chinese enemy its material contending powers had not been seriously diminished, the spirit of the Army dragged bottom. There were many factors contributing to this condition, among them being that leadership at the high level remained peculiarly mute, saying no words of reassurance and confidence to troops, making no estimate as to the future course, doing little or nothing which would give the Army fresh conviction of its own powers or conveying that the nation which had sent it forth would give it determined backing. It was in these circumstances that talk of evacuating the peninsula became current among troops, and fighting men said frankly to one another that the situation would probably permit of no alternative. To look back now and say that things were never as bad as they seemed, that subsequent developments proved that these fears were unjustified, and that there was never any real danger that all ground would be lost, does not mitigate whatever the gravity of the December crisis.

For it was a crisis in the thoughts of men, and could be eased only by the substituting of ideas which would supply new mental vigor. In the nature of the situation, the impetus could not come from Washington or Lake Success, since decision there was vitiated by the same doubts which assailed troops. The all-important question was whether the Army then in Korea possessed the power to contend against its new adversary. To make a true answer required first of all accurate measurement of the moral and material values. That could only be done by assessing what had occurred along the line of battle. In the November fight the Eighth Army had acquitted itself well. *But this vital truth remained unknown to ranks*, as well as to high commanders, and because several splendid divisions had been mangled, it was perhaps too easy to conclude that conduct had been inferior or that the new enemy had magic beyond anything previously experienced.

These illusions in fact made the situation. In the wake of the November defeat, exaggerated notions about the powers and methods of CCF were as much a part of the atmosphere of the Theater as were low appreciations of the fighting capacity of our own field forces. Correspondents worked overtime portraying the new enemy in the most

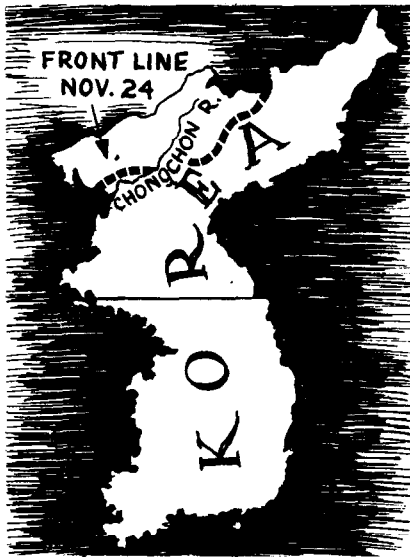
terrible aspect permitted by their imaginations; he was described as a fanatic horde breaking over our lines in irresistible waves, charging into the cannon's mouth with maniacal fury, as if under the spell of some drug.

None of this was true. We were fighting a less-than-average soldiery, strong in numbers, yes, but without marked characteristics of unusual weapons proficiency or individual ferocity. The detailed study of *all major engagements* during the November and December fighting showed conclusively that the Chinese were a vulnerable enemy and that they could be beaten on local ground in any situation where our own battalion dispositions were sound and troops were well supplied with ammunition. It remained but to develop a sharper focus on the enemy tactical pattern, and, our own morale being equal to the test, our superior strength in firepower was certain of decisive impact upon the fighting.

But the falseness of these early random estimates made them all the more damaging in their effects upon the fighting force, as upon those who make policy, because the Army lacked the mechanism to measure its own strength and supply the informational correctives. It is to be doubted if a more striking example of the relationship between exactness and adequacy of coverage in the procurement of military information and soundness in operations, and in decision at all levels, is to be found elsewhere in the record.

The national and UN cause in Korea became nigh bankrupt, not because the Army was inherently weak, but because it was operating under a blindfold, and as is said in Scripture, "When the blind lead the blind, both shall fall into the ditch."

Either our system of operational information procurement will be modernized, so that the means will suffice the proven need, or the same thing will happen again.



THE NOVEMBER BATTLE

FACTS FROM THE INFANTRY

Quite apart from the effect of sound information procurement upon the forming of constructive public policy is its influence toward increased efficiency in combat operations.

Infantry, being the body which under the normal situation in war maintains the most persistent contact with the fighting parts of the enemy, is the antenna of the mechanism of combat intelligence.

Being closest to the enemy, its receptiveness to all phenomena pertaining to the enemy, and its readiness to use this resource toward the fullest possible benefit to the total force, should be almost axiomatic, thoroughly systematized, and made acute through increased attention to the problem during training.

The following is an extract taken from the narrative of George Company, 27th Infantry Regiment, concerning its operation west of the Chongchon River in November 1950:

SFC MARVIN P. MARTIN — Facing 1st platoon, the slope was almost a forest, but directly in front of our pits, the rise was bare for a short distance.

LT JOHN F. LAND — We were well dug in. There were old holes up there. They were too small for a GI to fit in. So we widened and deepened them. The earth around was fairly fresh. The size of the holes and the freshness of the earth was the first tip-off that the enemy must be somewhere close around.

CAPT JACK MICHAELY — I began looking around. Then I found dung from pack animals down among the trees. I had estimated that the holes had been dug five days before. But the dung was fresher; the weather was freezing but the dung had not hardened. So I concluded they had pulled out quite recently.

MARTIN — There was a frame building in front of our position and right next to the

trees. It was well camouflaged and looked like an OP. Some of the area had been burned with napalm. Maybe that was what drove them or maybe TF Dolvin had made them retire.

SFC JOHN W. KENNEDY — We found gourds in that building. They had been using the gourds for eating bowls. There were small particles of rice still clinging to the sides of the bowls. Under the pressure of my fingers they were still pliable.

This incident, and others of the same sort, suggest that in the US soldier there is a marked but latent talent for scouting that could be developed through somewhat more emphasis in training. It would be of great value in irregular-type warfare. Except for bush-whacking expeditions, our other operations in this century have not particularly required it. Hence, it is given little training attention, and the men have to develop this intelligence faculty pretty much on their own initiative.

Even when troops at company level have some grasp of the importance of information which they have obtained by these primitive methods, they are not likely to communicate it to higher authority unless through training they are fully impressed with the fact that whatever new a private soldier may learn with respect to the presence, movements, or habits of the enemy becomes of value to the entire Army.

It is a chronic fault in our service that much of the most vital part of what is learned by the infantry screen during combat never gets back as far as battalion.

During field operations, infantry should be the *most* productive source of information pertaining to the enemy's tactics, use of weapons, combat supply system, habits, and general nature.

It is a fair question whether the Army recognizes the true significance of this role and is established to make optimum use of it.

Our G-2 processes are designed to drain dry any enemy soldier who falls into infantry hands. They take little cognizance that perhaps more is to be learned of the enemy from what has been seen, heard, and felt by our own soldier in the line. There is no steady winnowing of this field of information. There is no machinery for adding it up, analyzing it across the board, and then deducing its lessons. So time is lost, matters which are calculable are left to chance, and many opportunities are wasted.

This infantry analysis within Eighth Army had one initial handicap, which, however, was offset by one factor of main advantage.

The handicap was that the Committee comprised one man; to analyze the operations of infantry accurately and expeditiously across the six-division front of the Eighth Army and X Corps in the November battle would have required a minimum staff of six officers already trained in the work. The advantage was the unqualified support given to the project by Eighth Army Staff, in particular, Col William Bullock, Asst G-3, and Col Robert G. Fergusson, Asst G-2, Chief of Combat Intelligence. All lower commands co-operated fully, and even enthusiastically.

The process was not markedly different from the SOP followed in World War II by the Army combat historians, except for increased emphasis on all logistical aspects of operations, and exhaustive search as to everything which could be learned of the enemy from what our troops had experienced during battle.

Infantry companies and artillery batteries were the main subjects of the interrogations. Higher commanders were interviewed to the extent necessary to develop the general frame of operations and the estimates which led to the taking of decisions.

There is no other way than this to contrast the reality of what occurs along the rifle and gun line with the sensings of situation in the rearward echelons.

In the beginning, on the basis of what was learned from the combat companies, certain estimates were arrived at as to the CCF's tactics, manner of deployment, armament, use of weapons, fire effects, methods of reconnaissance, signals, supply, etc. These were immediately published to the Eighth Army by its commander; the classification was down-graded so that the information could be circulated at platoon level, where it would do the most good. In addition to its analysis of the CCF, the report had put considerable emphasis on the high action of our infantry forces which had engaged the enemy. It was therefore deemed advisable by Eighth Army Staff to rush the report to troops with the least waste of time, although, from the viewpoint of the analyst, the work at that time was far from complete and comprised only a reasonably accurate sampling from the crux of action rather than a comprehensive survey across the front. However, the Staff judgment of what action should be taken proved to be wholly correct. Nothing occurred in later operations, or further along in the analysis, to invalidate any material point in the initial findings. The "shot in the dark" proved to be fairly well on the target.

Because the evaluation of data as to minor tactics which was made in that early period has been published in the Memorandum, "Notes on Infantry Operations in Korea,"⁴ there is no need here to discuss it. There were, however, certain additional values of an intelligence nature deriving from the first interrogations of 2nd Infantry Division which have not been wholly committed to writing and which would therefore warrant recapitulation.

BAKER COMPANY

The mystery of how the enemy had come into the country, by what means he had contrived to conceal himself in such large numbers, how he had managed his shock deployment, and whether the success of his entrapment of part of our force was the consequence of our consummate blundering or of his phenomenal cleverness and a carefully engineered design, was the riddle which, if once solved, would regulate the form of our own counter operations.

The situation requires only this brief summary: Prior to 25 November the Eighth Army had been advancing northward almost unopposed. There had been occasional brushes with light forces of the enemy, such firing as took place occurring at long range, with the enemy skirmishers or small patrols promptly fading back, as if concerned mainly with saving their own lives. There was no general pattern to this interference, no indication that these were not random fragments, or that they might be tactically controlled groups serving an assigned mission, such as reconnaissance or screening for a larger force. Most of these exchanges were at too great range to ascertain whether the riflemen were NK or CCF.

⁴ See ORO-T-7 (EUSAK), *op. cit.*

On initial contacts, these guerrilla-type groups were usually dug in along the ridge tops, and when they fell back, they withdrew along the high ground. The air, during this same period, made numerous reports of having sighted and engaged small enemy groups similarly dug in along the heights. But no impressive maneuver bodies were seen. There was nothing to indicate the Army might be moving toward an enemy mass, except several air reports that the main road running through Tokchon in enemy country had been suddenly widened and re-surfaced, as if in preparation for heavy traffic.

Though there are other details, these were the main indications up to the hour when Eighth Army launched its attack which had been described as the final effort which would end the war. Almost one month had passed since the first CCF ambushes were sprung against Eighth Army columns in the area northwest of the Chongchon.

At 1000 on 25 November, Baker Company, 9th Infantry Regiment, started the ascent of Hill 219, a commanding piece of ground just to the east of the Chongchon River. It got one-third way up the hill when five grenades showered down on its 1st squad, 2nd Platoon, wounding Sgt Lawrence Smith, Jr., in the thigh and Lt Robert A. Kjonaas in the foot. Although the Company did not then know it, this was the first fire in the battle of the Chongchon and the beginning of the CCF maneuver to counter-attack in mass on one main line.

Locally, the situation took a 180° turn at the moment the grenade exploded near Smith and Kjonaas. In the preceding days the enemy groups had traded fire at long range and then faded back. This body waited until Baker came within a few yards and thereafter did not fade back. Continuing to engage Baker with grenades and automatic fire at 20-40 yards range throughout that morning and afternoon, it was still holding the height of 219 when darkness came, and along the lower knobs, where the Company had fixed itself, its skirmishers were putting a harassing fire upon the perimeter. The duel between the forces on 219 continued until mid-morning of 26 November when Baker withdrew on regimental order.

But the early experience of Baker Company was not seen in its true significance, nor was the fact that other companies moving up toward the same line as Baker became engaged later in the day by dug in enemy groups expressing their force with varying degrees of determination. To rearward it was not appreciated that this sudden coalescing and hardening of resistance along one particular line signaled that the general tactical situation had become wholly transposed. It was not until around 2400 on the 25th that the division command sensed that affairs had taken a critical turn, though the artillery HQ had reached that conclusion by about 1800, still without presenting its conviction forcefully to the higher HQ.

By midnight there was no room for doubt that operations were in a wholly new cycle. The Division had become engaged all along the line. CPs and first-aid stations had been struck. Some artillery positions had been overrun. Some infantry companies had been cut off and their situation remained unknown.

From the holding of Baker Company onward, the enemy's counter-movement proceeded with a rhythm which suggests mainly that the march was keyed to this event. CCF had a plan; it could have pivoted only upon the resistance offered by a

somewhat narrow but unyielding screen manning the heights above our own MSR.

But because we were "on the offensive," and the Baker Company fight was taken as an isolated incident unrelated to any major change in the posture of the enemy, infantry companies continued to deploy toward this same line during the afternoon.

Such was the overextension required by the width of the division sector that certain of these companies were as much as 2300 yards from their nearest friendly neighbor when the CCF attack closed down around them that night. Had the enemy in fact been well informed, and had he but possessed one-half the ferocity attributed to him by many of the press correspondents, nothing could have saved our forces from being destroyed in whole.

STAFF AND COMMAND HYPOTHESIS

On the basis of the meager signs seen of the enemy in the days which preceded the main battle, and because of the manner in which the storming occurred in one great thunderclap of action, the higher commanders of the troops which were immediately engaged reached certain tentative conclusions as to how CCF had been disposed and how their counterdeployment had managed to achieve such crippling effects.

The battle had been attended by abnormal confusion, due to breakdown in communications, the direct strike against command structures, the scattering of units, and the subsequent need for quick extrication. It was therefore not unnatural that the G-2 and operational data on the fight proper was quantitatively so unsatisfactory that these surmises were made pretty much in the dark. Be that as it may, the view of CCF effectiveness in grand tactics emphasized the following characteristics, which were held in common by nearly all concerned: (1) The enemy system of reconnaissance prior to combat was little short of perfection itself. (2) The enemy army had been concealed within works on the high ground to either side of the Chongchon, and the American attack on the morning of 25 November had alerted the forward crust of this defensive belt.

The reasoning which led to these conclusions is also substantially clear. First, all that had been seen of the enemy in prior days had indicated that when met, he would be dug in along the high ground. Second, in the darkness, when it was impossible to view the deployment from the air, and the over-all pattern had to be judged from the limited view of what an HQ gets from a few of its rifle companies in the middle of engagement, it had seemed that CCF had moved forward their general front via the high ground. Third, almost at the outset of action, the enemy had struck deep against sensitive points such as CPs, aid stations, and artillery gun positions, while apparently, with full intent, by-passing some of the infantry companies forward of these installations. It was a natural though wholly erroneous conclusion that CCF must have had exact knowledge of these locations and gone straight to them in the assigned hour, calculating that the blow to the rear would collapse the whole body of attack.

Thus the somewhat sketchy portrait of an unusually perceptive, aggressive, and swiftly reacting opponent. But was it true to life? What should have immediately drawn the attention and challenged the imaginations of all who were interested in fathoming the nature and design of the enemy was that an Army, disposed mainly

along the high ground in a countryside where the ridges are not continuous or massive, is necessarily spread over a wide and deep area. It is therefore torpid as a whole, slow to assemble, and incapable of swift reaction and immediate march to the sound of fire. For this elementary reason, the study of time intervals between the possible Chinese alert and the onset of attack became all important.

DATA FROM COMPANY STUDIES

As the data collected during the infantry company critiques began to provide the base on which to study and evaluate the operational design of the enemy, it soon became apparent that the facts of the battlefield were not only discrepant with but flatly contradictory of the off-hand assumptions of the staff and command.

Thirteen infantry companies were interviewed. Their battle experiences were drawn from the surviving witnesses; they told a reasonably complete story of what had happened to each company, and what the force as a whole had learned of the enemy. Included in the 13 were 2 which had been in reserve and had joined action during CCF attack upon an artillery position.

When the whole was recapitulated, it showed that out of 12 localized actions (the defensive perimeters were so far apart that each company action partook of the nature of an isolated fight) there were only two in which CCF moved in such a way, and fixed its assault in such a manner, as to indicate that it knew beforehand that the target was there and was set to blanket it. In the case of the two exceptions, the companies had made the error (against orders) of lighting squad fires during bivouac, and there was nothing to prevent the enemy from seeing the position in outline during his approach.

In the other companies, engagement occurred in such way as to leave no room for doubt that the local contact was by accident and not design. The enemy was groping. There was abundant proof of that fact. In several instances, the full-length fight by the company was the consequence of an outpost along the friendly flank taking a Parthian shot at the tail-end of an enemy column which had already gone past. In other instances, the enemy force was still moving in column when it blundered into the defending foxhole line. In sum, when examined superficially, the whole battle along the rifle line partook of the nature of a chance-meeting engagement.

Was it within reason to believe that a force thus badly informed about the movements of the hostile combat elements closest to it would have almost precise knowledge of the locations of the rear support which was farther distant and had necessarily closed somewhat later on the ground where it was attacked? It did not so seem.

However, there were certain points in seeming conflict within the data covering the local defensive actions. Perhaps the most instructive incident is the enemy attack upon the position of the 61st FA Battalion to the north of Kujang-dong (on the east bank of the Chongchon and just west of the ridge called "Chinaman's Hat") at approximately 1800 hours on 25 November. The 61st FA Battalion and other supporting units had displaced northward from Kujang-dong to that position during the morning of 25 November in order to give better support to 23rd Infantry Regiment, which was to pass through the 9th Regiment, and attack on 26 November. The guns, seriously cramped for space, did not get in firing position until about mid-afternoon. It is not of record that they registered fires on the 9th Infantry front.

The 23rd Infantry, less its 2nd and 3rd Battalions, closed on this same ground at about 1600 and set up a modified perimeter defense to the left of the artillery position and in general extension of its line along the river. The camp was more or less relaxed, being in a support position, but the infantry took over a line of foxholes dug there by some previous occupant.

There was thus a relatively brief interval between the setting up of the artillery and the preparation of the infantry camp beside it.

To again show the chronology of events:

At 1000 Baker Company, 9th, had become engaged to the northward.

At 1430 the 61st Battalion set up in its cramped fire position.

At 1600 the 23rd Infantry made camp next the 61st.

At 1800 the 61st-23rd area was brought under intense rifle and automatic fire from the far bank of the Chongchon.

Within 30 to 40 minutes the gun positions had been overrun and the surviving artillerymen had taken off to the rear.

The enemy assault force had waded the river; the men, bare-legged for the most part, though the weather was near zero, had carried their footgear and trousers in their hands.

Within the next hour and one-half, the CCF which had overrun the artillery, as well as the Chinese on the right who had come directly into the 23rd's camp, had been killed or dispersed in total by the action of two of the battalion's companies.

How had it happened?

SET TO ROLL

By the account of our own infantry, the greater number of enemy soldiers who had crossed the Chongchon were not equipped with small arms, but were carrying special charges of varying types expressly to destroy the artillery pieces. When they found themselves in the infantry camp, and were in turn counterattacked by infantry, they became completely nonplused and offered no effective resistance.

The CCF had crossed the Chongchon in seven columns, total initially committed strength being about two battalions from the 94th CCF Regiment. Several score prisoners were taken. They said they had been told "to destroy artillery" at the objective, but hadn't expected to find infantry. No secondary mission had been assigned them toward which to turn after overrunning the artillery. Because they had not expected to engage infantry (they said) only about half of them had carried small arms in the advance. The interrogations nowhere reveal that these prisoners or those who sent them forth had acted on the basis of positive intelligence that American guns were setting up near Chinaman's Hat. Yet in retrospect this can be seen as the decisive question. The Eighth Army front was as yet unapprised that its general situation had radically changed. If the seemingly local advance against the artillery was in fact part of a "set piece," that made a vital difference in the reckoning of situation.

However, ten days after the battle, on the basis of surface information and the look of the action itself, our staff and command still held to the following analysis of

why things had happened as they did at Chinaman's Hat: (1) CCF's superior observation from the high ground was the key. (2) The enemy had seen the artillery arrive. (3) He had missed seeing the infantry make camp. (4) CCF had mounted a special expedition with the express object of hitting 61st FA Bn. (5) Since the enemy object was localized, the arrival of the infantry was just a lucky break for the defender.

Said the artillery operations report in summing up: "They were looking right down the throat of 61st FA Bn when it arrived and because of superior observation they knew how and when to advance on the position." In brief, even after the minutiae of the infantry-artillery action at Chinaman's Hat had been examined, it did not appear to conflict with the major assumption that the enemy had developed his onfall in a catch-as-catch-can manner after a local sensing of gaps and weaknesses in the battle line which we were then forming.

It is perhaps possible that this somewhat narrow view of the CCF attack on the position at Chinaman's Hat, which gives it a purely local significance unrelated to a general plan of the enemy already then in execution, is the correct one.

But in the absence of any clear proof, the other possible alternative should not be excluded — that the enemy force was already set to roll, and, its timing being part of a general movement, just happened to coincide with the arrival of the American force in the Chinaman's Hat area.

One main item in proof points straight in this direction: The CCF attack against the artillery position coincided to the hour with the initiation of the general assault by the mobile hitting forces of CCF against the forward line manned by the 9th and 38th Infantry Regiments. In the general position lying west and east of the Chongchon River, there had been felt no heavy forward pressure from the enemy until that time.

During the day, at three widely-separated points along the front of 2nd and 25th Divisions, there had been hard fighting by Chinese who refused to yield their dug-in positions on the hill crests and accepted hand-to-hand combat. But it was not until between the hours of 1800 and 1900 that the first main wave of the enemy's counter-offensive rolled forward from behind these positions and proceeded by the shortest routes to inundate the whole area.

It is noteworthy that these maneuver bodies were fresh arrived on the scene and were not simply local reserves of the units forming the rigid defensive screen along the hilltops.

Therefore, as to the fight at Chinaman's Hat, the question is whether the attacking force wasn't committed in conformity with an already set, general counter-offensive plan, rather than being an improvization based upon the developments of the late afternoon. That it looked otherwise to the men on the ground could have been a deception arising from sheer coincidence. CCF had chosen a general battlefield notably short of any meadowland or other flat spaces. The battalions which had been sent forward with special charges to attack an artillery position at Chinaman's Hat could have proceeded with full confidence that the guns would be there, even though their OPs hadn't seen a thing.

In relation to the Eighth Army infantry attack which was already unfolding, and in view of the lack of any other flat spaces to the rear of the infantry line, there

was no alternative for the supporting artillery — it had to take position between the River and Chinaman's Hat.

The general appearance of the battle suggests that the enemy, though in some respects a second-rate opponent, was smart enough to realize that.

CHARACTERISTICS OF THE ENEMY ATTACK

From the descriptions of the combat experience of the infantry companies there were drawn these other common denominators of CCF movement in the attack, all highly significant when related one to the other: (1) CCF almost invariably approached at an oblique to the northward-facing American perimeters; (2) when seen in movement during the approach, the Chinese were following stream beds, or roads or paths parallel to them; (3) they made the approach in solid columns; (4) these columns, though in instances proceeding at double time, appeared fairly fresh; (5) each was a self-sufficient unit, carrying its own supply; (6) when in tactical retrograde, they withdrew via the low ground; and (7) along the whole front, their several general offensive movements all occurred within a relatively limited time bracket.

In the CCF attack against Eighth Army astride the Chongchon, the enemy appeared to be moving generally on an axis running from NW to SE. In the local attack, there would be tactical deviations from this, according to the fall of the ground and the accidental manner in which initial engagement sometimes took place, though these deviations were relatively few in number. On the far right of the sector, after the collapse of II ROK Corps, attack against the 38th Infantry was pressed from the North, Northeast, and East. But when the main battle opened, the line of march was as stated.

Referring to the map (map sheet Tokchon 6433-IV), it will be seen that the Chongchon River trench cuts through this area running from Northeast to Southwest all the way to the Yellow Sea. In the country immediately to the North of Kujang-dong — 2nd Div's Arty base — the Chongchon's feeder valleys to the westward run Southeast toward the river. But along the east bank, the feeder valleys and streams run Northwest to their confluence with the main river.

Thus if any enemy concentration, built up and hidden away in the feeder valleys west of the stream and to the Northwest of the Eighth Army's northward-facing front as on 25 November, was to proceed via the line of water flow toward the Chongchon and, on crossing the river, was to continue its advance along the avenues most favorable for quick movement by foot, it would proceed always on a Southeast-running axis, and so doing would come in against both the infantry and artillery positions of 2nd Infantry Division initially at a Northwest to Southeast oblique.

The tactical phenomena heretofore discussed suggested clearly that this was how CCF had mounted its attack and then proceeded to execute it. As to the opening blow which crushed the front of 2nd Division prior to the turning movement against its right flank, there are no discrepant data. That the attack against the 25th Division front North of Ipsok, on the same day at the same hour, was pressed from the opposite direction is one more item in corroboration. Ipsok is almost due west of Kujang-dong, near the Kuryong-gang — a main tributary of the Chongchon. The CCF, from their

hidings in the feeder valleys of the two streams, were simply rolling down the opposite side of the same watershed.

The following chart is diagrammatic rather than geographical and its purpose is only to give a rough indication of the manner in which the CCF offensive is most likely to have matured:

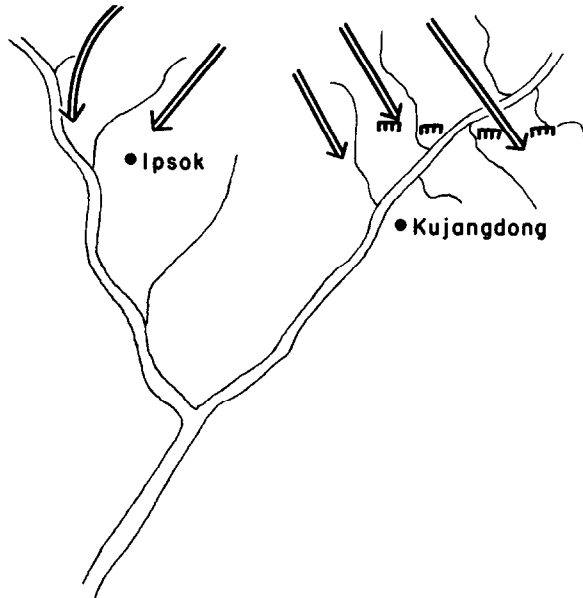


Figure 10

The coincidence of tactical developments along the several parts of Eighth Army's front becomes especially instructive when considered in retrospect. It was at 1000 on 25 November that Baker of the 9th Infantry, in the forefront of 2nd Division, encountered the tough, unyielding screen of Chinese which fought for its last yard of ground. At exactly the same hour, the Ranger Company, at the forefront of 25th Division, was having an identical experience in its attack on objective No. 8 west of the Chongchon. The Rangers did not take the hill until just before dark, and finally the Chinese hold had to be broken by an intense artillery shelling against the enemy's dug in positions. Again, the attack of the mobile

hitting forces of the enemy broke against 25th Division's front at 1800 hours on that same day, just as it did against 2nd Division.

From these data and general indications, arrived at exclusively from the study of infantry company experience, the following tentative deductions were made and forwarded for the consideration of higher command:

(1) CCF's main battle strength was not being disposed to the high ground but was composed of a maneuver mass, which, being brought forward by night along the main roads, was at the appropriate point marched by the flank, concealed in the feeder valleys off the MSR and there held in readiness for our attack (or advance) up the main river valley.

(2) This mass was probably composed of numerous small maneuver groups distributed over a fairly wide area, but in any case the individual groups remained closely concentrated and ready for prompt movement.

(3) They had not been detected by our air reconnaissance; therefore the systematic employment of some form of surface cover was indicated.

(4) In the absence of any thickly forested area, NK villages seemed to be the only cover suitable to this purpose.

(5) CCF discipline probably required that all such mobile hitting forces remain under cover throughout daylight during the staging period.

(6) Mine shafts, caves, etc., were likely to be employed in the same manner.

(7) CCF employed a screen defense put forth in practical tactical relationship to this maneuver mass and established on the high ground on both sides of the main river valley — or other approach avenue.

(8) Any sudden hardening of CCF resistance along one definite line was therefore a signal that the attacker was in the danger hour and area, under threat from concentrations drawn up off his flanks.

(9) The defensive screen was in effect both a trigger mechanism and a delaying force, providing the main body with the interval needed to mount up and get forward.

(10) No warrant was to be found for any assumption that CCF counter-hitting mobility derived from garrisons which had been disposed along the ridge tops prior to assembly for the attack.

(11) The study of time intervals appeared to exclude any such possibility.

(12) The main body of the enemy army was therefore to be sought on low ground, rather than in works scattered among the hilltops and ridge crests, though as defeat began to reduce CCF offensive mobility and confidence, the pendulum would swing gradually in the other direction.

(13) This outlook as to the probable general dispositions of the enemy suggested the pattern which should be taken by our air operations.

(14) The need for wider-ranging patrol actions toward the flanks was plainly indicated.

(15) Negative air reports concerning CCF concentrations in village areas should be treated with a considerable reserve, and should be accepted as conclusive only when confirmed by tactical proof.

The argument for this "case" was first presented orally and was then reduced to writing by Dr. Ellis Johnson, Director of ORO. Subsequently, the study of operations by the 1st Marine Division against CCF in the vicinity of the Chosen Reservoir substantiated the theory in rather complete detail. Because the battle there was a prolonged affair, there was ample opportunity to observe the relationship of the maneuver groups which holed-up in the nearby villages to the defensive screen dug in along the high ground. NK agents (friendly to us) came forward and reported that CCF troops were wedged into the village huts like fish in a can. Still, the air, reconnoitering these locations, reported "negative." Finally, air bombing operations were ordered against the villages because the ground commanders became convinced that the Korean natives must be telling the truth about the situation. When the bombs began to drop, the villages opened up like flower pots, spilling enemy troops in all directions. CCF's hold on village cover was so tenacious that pilots observed surviving enemy soldiers returning to the bomb-shattered hutments even before the planes used in the strike had withdrawn from the vicinity.

In conclusion, it is re-emphasized only that these propositions, appertaining to the larger design of the enemy in ground operations, were formed exclusively on the basis of information collected and reconciled at the level of the infantry rifle platoon.

Furthermore, they evolved only as an afterthought and as the minor by-product of a search which was pointed directly at the analysis of enemy and friendly effects in the direct-fire engagement along the rifle line. What was learned from our own sources

was, in the nature of the case, imperfectly integrated with the battlefield information gained from CCF POWs. There was no personnel available for the work and, furthermore, the importance of the object had not been adequately foreseen. Hence interrogations were not slanted to the serving of this specific end, and many perhaps fertile sources of information on our side (for example, the ROK units which had been beaten south of Tokchon) were not explored.

The exposition of the subject is therefore considered incomplete and unsatisfactory. Though the company data all point in one direction, in so far as the nature of the enemy buildup is concerned, they are not conclusive, and many questions remain unanswered.

TACTICAL UNITY

The company interviews also revealed a chronic weakness in major security measures by some Eighth Army infantry forces. There was no consistent and vigorous patrolling, either to the front, or laterally by the frontline formations. There was no real use of outposts, worthy of the name. What the troops called "outposts" were not infrequently positioned only 15 or 20 feet forward of the main foxhole line. On the march, the point moved in such close juncture to the lead rifle platoon as to provide no additional margin of safety to the main body.

These obvious shortcomings were called to the attention of command in the notes compiled within the Theater. It was also pointed out as an inherent weakness in our defensive tactics that battalions were not being maneuvered as such, and that the space between companies (often a void with no viable communications) was frequently such that the companies could not actually operate in support each of the other, which meant only that the separate units were asking to be destroyed one at a time.

One battalion, solidly fixed on a ridgeline, with all of its weapons prepared to fight for the ground, might well hold out against an enemy division for three days or more. The same force, divided into company units and so positioned on separate hills that the enemy could not be denied entry into the low ground in between, could hardly be expected to survive one night.

The whole course of the Korean War has emphasized the decisive importance of tactical unity and full communications, which together compose the *sine qua non* of freedom of action. But as with other armies in other times, Eighth Army could only master the lesson out of its own hard experience.

The complex nature of the main question — how best to deploy component tactical bodies when over-extension is the dominant condition in the general situation — perhaps calls for more earnest review by all concerned than any staff matter to be re-evaluated on the basis of the Korean experience. The problem, by its nature, concerns all levels, all schools, and all arms. That many of those who commanded successfully in Korea are still in doubt about final answers, and not less so as to whether the search is being conducted in a wholly practical light, is suggested by the following statements.

This from a regimental commander: "I was puzzled through every Korean action in which I participated. The question was whether it was better to defend an assigned

sector as a regiment or as three separate battalions. I know that other regimental commanders prescribed that their battalions would defend in relatively small battalion perimeters, thus leaving wide gaps across the front of the regimental sector. Our policy, on the other hand, was always to tie in from flank to flank, which frequently required positioning of six rifle companies of two battalions on the MLR, backing that up with the reserve battalion. By this means we were able to stop night infiltration by the enemy, and seldom did we have any unwanted characters running around in our rear area or harassing our supporting artillery battalion. I would be very reluctant to defend a regimental sector by means of small battalion perimeters. I don't like to ask my supporting artillery to fight as infantry any more than is absolutely necessary, and the battalion perimeter plan will result in that type of action. Of course there are disadvantages to thinning your line to the extent that you have to eliminate the battalion reserve position, but, oddly enough, it was our experience on many occasions that a platoon or company driven from a hill will readily regain its position if it counter-attacks promptly. On numerous occasions, it seemed to me that the North Koreans and Chinese failed to follow up any initial advantage which they gained locally, and their slowness or lack of depth in their attack permitted us to regain the initiative from them."

And this from a Battalion Commander: "The average frontage assigned to an Infantry battalion in Korea was between 4000 and 5000 yards. After November, we regarded that as normal. It took a long time to decide how to defend that frontage, whether to accept gaps for the sake of reserves, or try to play it tight. I still don't have a good idea how I would do it today; there are great risks either way. When I talk to anyone about this problem, I get the stock answer, 'Oh! That was Korea!' But I can't see that in the future the American Army will have such a preponderance of manpower that, should war come, we will fight on what the FMs call 'normal frontages.' The Army officer today does not have informed knowledge about how to defend on an extended front. In one year of school at Benning, 1946-47, the Advance Class had one eight-hour problem on extended frontage. At Leavenworth today, most of the problems are based on the ideal of FM normal frontage. Isn't it reasonable to believe that for us the norm of the future is the extended front both in attack and on defense, and that this proposition should weight the teaching of tactics in our service schools?"



NOISE: SIGNAL AND WEAPON

TACTICAL USE OF SOUND

The field notes published in the Theater⁵ dwell briefly upon CCF's use of noise-makers to create terror and the use of various wind instruments for giving combat signals.

The problem of reducing these techniques to a pattern which would become comprehensible to our troops impressed the writer as being of prime importance immediately after the study of the November battle was undertaken. Command and staff at the various levels were not as yet concerned about the acuteness of this need and had taken no action with respect to it. Their negative reaction was but natural. They were worn from the strain of battle and engrossed with the problem of rehabilitating the units which had been hardest used in the fighting and conserving those which were still combat-worthy. *It was not specifically the assigned task of any group or individual serving with Eighth Army to collect and correlate battlefield information originating in our own infantry line, pertaining to the tactical characteristics of the enemy, toward the end that by more perfect knowledge of his procedures we would take steps toward their neutralization.* This statement is not made in any spirit of apology but to the contrary is frankly critical; the writer believes that the condition reflects an inherent weakness in the staff system of the US Army. We are in fact overlooking a main avenue toward the perfecting of our combat intelligence.

The document, "Notes on Infantry Tactics in Korea,"⁵ deals briefly with the matter of how the enemy used noise-making instruments against American forces and supplies some detail on the use of these instruments in the sounding of signals on the battlefield. It is set forth that the enemy's noise effects were directed toward (1) the creation of a general terror, (2) the simulating of a more extended deployment than

⁵ See ORO-T-7 (EUSAK), *op. cit.*

in fact occurred, and (3) the control of his own forces. Examples of signals and their meaning were included in the report.

The report omitted, however, any description of the effect on our troops consequent to these surprise methods, and it did not specify how the data on CCF noise-making tactics were collected.

In the November battle, the reaction of the average American company to the Chinese use of this centuries-old technique was one of exaggerated fear and alarm. Of that, there can be no question. Our troops were not conditioned to the expectation of hearing such instruments as bugles, shepherds' horns, flutes, Congo drums, and rattles on the field of battle. When they were employed initially in the night attack, the effect was greatly unnerving, mainly because of the attendant element of mystery. Infantry companies which had survived the attack, when later assembled, admitted this frankly. What the enemy had done was not offered as an excuse for their own conduct. None such was needed. Most of these companies had faced the unknown strongly and even heroically; it is believed that the general level of company conduct will compare favorably with anything in our annals. But when they discussed the features of the enemy attack which caused them the greatest distress, the common reaction to the enemy's noise-making tricks was most frequently summed up in these words: "That was what made our hair stand on end." These were the expressions of men freshly delivered from battle; they were spoken in the presence of other men of the company. For that reason, they should not be discounted, though Eighth Army has long since become conditioned to CCF eccentricities.

At least 95 percent of these same men could remember none of the pertinent details of how and when (at what stage of combat and under what tactical conditions) CCF had used any of the noise-making instruments. The majority could report only that they had heard various noises such as bugles and whistles and that the sounds had impacted strongly on their emotions. Less than 1 percent could remember the sequence of notes in any of the bugle calls or the sound of the "rooster call" blown from the shepherd's horn.

Such specific data as were developed from the numerous assemblies came finally from requesting the companies to concentrate on the point at issue. This had to be done repeatedly, from company to company. One man in the assembly might remember that a call was heard at a particular point in the fight. Numerous of the others would confirm his recollection. Then all hands would be asked to concentrate on the call itself, the question being asked: "Exactly what did you hear?" Many times the result would be negative. But the search was continued until finally here and there were found the few individuals who through concentration could refresh their memories and either whistle or sing the call. Once that was done, the others in the assembly would all remember it and agree that the witness was accurate. The score was then written down.

In much the same way, the distinction was finally made between the Chinese use of noise for the creation of terror and the conditions under which noise-making instruments were being used for control purposes.

There remained the final step — the procurement of the instruments themselves, so that in training exercises Eighth Army formations could be conditioned to the enemy

signals and terror-creating techniques and in the end might be able to turn these same devices against CCF.

At the time the noise-making instruments seemed almost priceless. However, the writer was perfectly sure that with their usual penchant for souvenir-hunting, our troops, even in withdrawing from a lost field, had managed here and there to possess themselves of the CCF instruments. Search was therefore instituted. At every company formation it was explained that these prizes would be of great value to the Army, that they were needed only temporarily, and that the owner would be given a receipt. With a manifest reluctance, soldiers dipped down into their barracks bags and bedrolls and brought forth CCF bugles, shepherds' horns, bronze whistles, etc., in the required number.

Within two weeks after the conclusion of the November battle, the business of indoctrinating Eighth Army infantry against CCF noise-making tactics was well begun. In the conducting of night exercises back of the line, CCF noise and signal instruments were used by the side playing "aggressor." By mid-January, 1951, the sting had been removed from this part of the enemy technique.

● However, in view of the marked effects achieved by CCF with noise-making tactics during the November battle, it is believed, and is recommended, that such innovations should be anticipated by our own training establishment, and that conditioning troops to the eccentric use of noise should be SOP in preparation for combat.



COMMUNICATION WITH OUR ALLIES

OUR ATTITUDE TOWARD ALLIES

This subject cannot be satisfactorily documented since it is composed mainly from random notes made in the course of personally observing the reactions of our commanders and troops in several headquarters and during various situations in which tactical frictions or stresses of some other kind had arisen in our relations with Allied forces on right and left. We would have been well-advised had this area of search been subjected to intensive study throughout Korean operations since the manifold problems there are of similar nature, though different in scope from those which would arise in another Alliance operation in Europe. Because of the mixed character of tactical forces in Korea and the variety of tongues, there was an ideal opportunity to observe the attitudes and reactions of our people at varying levels when this additional complex is added to operations. For one thing, there is no applied and complete solution of the language barrier difficulty within the Eighth Army. Despite the fact that there are doubtless somewhere available many bilingual Koreans who could handle the liaison task with relative efficiency, as of the 1950-51 winter the interpreting problem had not been satisfactorily solved. An infantry battalion commander, going into a new area where he joined flanks with a ROK regiment, might discover quite late in the day that there were no English-speaking officers in the ROK command and that the Korean soldiers in his own unit who spoke some English did not know sufficient military usage in either language to serve his purpose. Our average commander accepted this situation without sweat. The usual reaction was to send a jeep scouting throughout the countryside to find someone who could fill the bill for the time being. Though this difficulty arose quite frequently, almost never did our staff and command seem resentful about it.

The more serious test of American adaptability to environment arose, however, on those occasions when our front line forces were let down by an Allied force next

their flanks. Frequently the trouble was that in any hour of extreme pressure it seemed impossible to get sound information from the other headquarters as to what their front line forces were doing, particularly if they had experienced a setback in the course of a night defense and were undergoing a retrograde movement.

It was surprising and encouraging to observe the soldierly, tolerant manner in which our commanders and troops accepted this added handicap. The troops would invariably do the best they could to shore up the frontal position. Our staff and command not only took the extra difficulty in relatively cheerful spirit, but at all times seemed to be desirous of keeping the real facts "within the family" instead of crying on the shoulder of the public press.

The American soldier, when brigaded with the ROK soldier, spoke always in praise of his courage and willingness to learn. It was many times repeated by troops that those ROKs who weakened in the battle line were usually Koreans who spoke no English, had been but a short time with the unit, and did not know what it was attempting to do in a combat emergency. The front-line fighters' view was therefore somewhat in contrast with the disparaging estimate of the capabilities of the Korean soldier frequently heard from higher commanders.

Over all it can be said, based on the Korean observations, that our people at the lower levels have a much higher adaptability in adjusting to foreign elements under combat conditions than our prior experience in the two World Wars might have led us to believe. There is a solid base of good will within the average American soldier which can be used to greater advantage in any future situation, if meanwhile the educational processes of the Army are aimed in this direction.

SOP FOR COALITION TEAM PLAY

The 7th Cavalry Regiment worked out an SOP and set of principles governing relations with an attached allied force in dealing with the Greek Expeditionary Force (an infantry battalion) from December 1950 through May 1951. Its utility was so well tested during this prolonged association, and the ideas are so fundamental to team play in coalition warfare, that the code is well worth repeating for the benefit of all.

- Whenever possible, make the attachment on a semi-permanent basis so that the smaller unit will feel itself a part of the larger one rather than a stepchild.

- Send liaison and orientation team at once to the new unit to demonstrate American vehicles, communications, weapons, etc.

- Provide the same type supporting weapons to the allied unit to give it equivalent fire power.

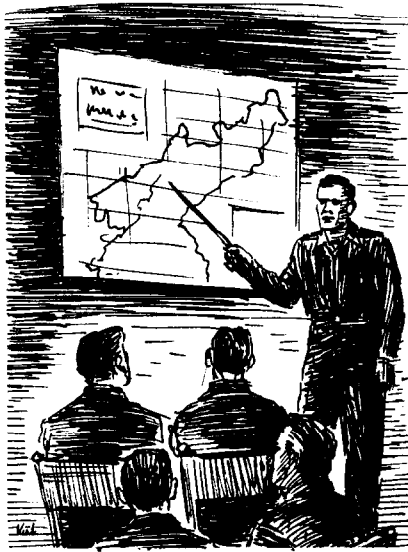
- Treat them as equals at all times in assigning missions as well as in giving support.

- Encourage and participate in observations of national customs and celebrations and assist in the preparation when requested.

- Assist in procuring special food items peculiar to their normal diet (for the Greeks it was raisins, figs, special Greek flour, extra macaroni, etc.).

- While emphasizing the high quality of your own unit, make it clear that the attachment is expected to be just as good.

- Spare criticism unless the case is absolutely clear; on the first occasion when the proof is adequate, lay it on.
- Encourage staff visits. Be quick with praise of any success, both to the commander and to the troops.
- Provide the attachment with two American officers who speak their language, one for their operations and one for their administration and supply; provide enlisted Americans who speak the language to assist the attachment in the kitchens and motor pool and on communications; maintain at least one bilingual American officer in the Regimental operations section.
- Conduct an information program within the Regiment to build up the attachment among American troops; this is needed particularly prior to the time when they first engage.
- Decorate their outstanding combat soldiers according to the same standard that applies elsewhere in the regiment.



COMBAT INFORMATION FOR THE INFANTRYMAN

RECEPTIVE AUDIENCE

Eighth Army combat troops have a keenness for weapons knowledge and tactical discussion unlike anything heretofore witnessed in the US Army. They will respond almost unanimously when called to participate in a battle critique, and their interest can be held indefinitely so long as this subject is kept foremost. The rigor of the situation makes little difference; they will undergo the physical hardship uncomplainingly, and will give their witness thoroughly and even enthusiastically, as long as they are aware that the discussion is serving a valid military purpose. Many of these formations were held in biting cold because no warm place of assembly was available. Others occupied the hours up till midnight. Still others had to be conducted in situations where the general area was under fire. These varying conditions made no difference in the response; the audience was ever as ready as the interrogator to get the work done.

This acute receptiveness in troops is emphasized not only because of its possible bearing upon the validity of the evidence, but because of a general tendency within the policy-making parts of the Army to take the minimal view of the American soldier's interest in strictly professional problems. There is a school of thought that he should be fed everything else under the sun during the indoctrination procedures which are supposed to condition him to soldiering, and that we dare not treat him outright as a warrior with imaginative interest in the tools of his trade. This runs counter to fact, counter to nature, and counter to the best interests of the fighting arms.

What is to be found on the battlefield should not be misunderstood or discounted as to what it implies for the training period. The Army's peacetime policies and programs, intended to make the soldier an "*informed*" individual and a better-qualified citizen, can make no valid claim to efficiency until they are pointed mainly toward giving

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the soldier utmost efficiency in the practice of arms under combat conditions. To take any other course is not only to divert the Army as a whole from its main purpose but to stunt individual growth by depriving the soldier of the conviction that his fighting responsibilities make an absolute demand upon his thought and energy. Both his dignity and his intelligence are affronted by these oblique approaches to the training task of conditioning his character and spirit for the testing rigors of the battlefield. The Army cannot afford other than to stand on the solid ground that as the man perfects himself in the technique of arms for the defense of this Republic, he becomes by that act one of its worthiest citizens, and that as he develops an imaginative interest in his professional task, he will in the process, to the limit of his natural capabilities, grow in appreciation of the institutions which he is sworn to defend.

The lives of many distinguished Americans attest that training in military dutifulness is a main portal to constructive service in the larger sphere of national affairs. The requirements in the thoroughly good soldier are at one with the making of the self-sustaining and public-spirited citizen. Yet in recent years, under diverse pressures from without the military establishment, the Army has sought to make the stream run uphill, schooling its men from the primer of citizenship in the hope of stimulating their military spirit. The experiment is not more fruitful of result than any other attempt to extract the greater from the lesser.

TRAINING MISSES THE MARK

In 1945 the US completed its greatest war. The new Army formed shortly thereafter was largely of young and inexperienced men, as to ranks, though the great majority of the officer corps was either combat-schooled or had operated in support of combat. The main chance that there would be a carry-over of practical field knowledge from the wartime army to its successor lay in the possibility that the Army would constitute itself a combat school in which battle-experienced leaders reviewed their own war problems, lessons, and mistakes for the benefit of green ranks and refreshed their own knowledge of the art of command. This was not done; the opportunity was missed. Instead, apart from those schools which contribute mainly to the further training of the officer corps, the training routine and the information program within the Army were so balanced as to suggest that from the total World War II experience had come no special values to be treasured and circulated toward the profit of the general establishment. Of the materials produced by the Army's I & E Division, approximately 90 percent were altogether tangential to the Army's past achievement and future fighting purpose, and dwelt upon topics which might have been of equal interest, or inconsequence, to the citizen who was never destined to put on a soldier suit.

Whether this outpouring, of itself, either helped or hurt the average fighter who went into Korea is not subject to competent proof. What matters mainly is that it displaced professional information which might have better conserved the Army's fighting power and combat awareness during the transition period. There is a limit to the budget, and what was spent was devoted mainly to the wrong things. Combat men in the Korean Theater blame the Army for this lapse. Having learned the hard way that the indoctrination which they received was not in the main calculated to give

the soldier a better chance for survival and fighting efficiency on the battlefield, they question that it served any worthwhile end. They know that their time was wasted in lectures toward which they felt no real interest, and that when they faced fire for the first time, they lacked knowledge of how to fight which might well have been supplied them.

This discourse is believed to be appropriate to an analysis of field operations in Korea because of emphatic opinions expressed frequently by troops in the course of company critiques that training had in some respects missed the main mark, that combat had been de-emphasized, that the orientation lectures were a waste of time except for those soldiers who were put to sleep.

Combat forces, even under serene peacetime conditions, will always be quickened by combat discussion. Indoctrination for the infantry soldier should be 95 percent tactics, weapons, and knowledge of human motor forces. When the company is sound within, when it achieves a feeling of organizational solidarity because its leaders have mastered their professional tasks and the group feels competent to stand together in war's ultimate emergency, it is then receptive to whatever leadership has to say about the cause of country, the democratic ethic, and individual duty. Short of that point, it is a waste of time and of public money.

READIER MEN

A main lesson of the Korean war is that within the short space of five years even those officers and NCOs who had become skilled combat hands in World War II had been permitted to forget how things were done. By their own account, their knowledge and confidence had not been adequately refreshed, and they were again "green" when they entered battle. This need not have been the case.

It is recognized that the Army carries an extraordinary handicap, compared to other services, which must in some manner be surmounted if its Troop Information Program is to be steadfast in military character and realism. Being the largest service, living ever in close contact and communion with the people, it is the natural target for every crackpot reform sponsored by badly advised though perhaps well-meaning pressure groups. The Marine Corps, by contrast, being a relatively small body, can condition its men as it sees fit, with never a protest from the public. So doing, it enables its champions in the Congress to make invidious comparisons between the "soft" line taken by the Army to its men and the stern call to duty sounded in the Marine Corps. Yet even in the hour that this is done, the Army is under attack in the press for having moderated its erstwhile informational line in an attempt to get the soldier better prepared for the realities of the combat field.

The Army would be less than human if it did not chafe under this crossfire. But it must continue to chafe, since this is part of the inherent problem of keeping strong the spirit of an Army within a democracy. There is a simple saying in tactics that when outflanked on both sides, it may be opportune to attack in the center. Holding hard to the line of concentrating on making the American a superior fighter, through better knowledge of arms and how to use them, the Army would at least strengthen

its interior position. Readier men would come of it even though events should force us to a shorter training interval.

No amount of pressure from without would cause the Army to replace its powder with sawdust. The question of how the potential dynamic of the American fighter is best brought forward is not less vital.

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DEPARTMENT OF THE ARMY
OFFICE, ASSISTANT CHIEF OF STAFF, G-3, OPERATIONS
WASHINGTON 25, D. C.

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DESTROY LTR DTD 6 JANUARY 53

G-3 040 ORO (28 Jan 53)

5 February 53

SUBJECT: ORO-R-13, "Commentary on Infantry Operations and
Weapons Usage in Korea"

TO: Holders of Subject Report

1. Transmitted herewith for your information is a copy of Operations Research Office Report ORO-R-13, "Commentary on Infantry Operations and Weapons Usage in Korea."

2. This publication is a report of the Operations Research Office (Project DOUGHBOY), divided into three parts — the behavior of men in the use of weapons, the behavior of weapons as men use them, and the use of information in augmenting fighting power.

3. The Office of the Chief, Army Field Forces has reviewed this document and states that it is an excellent, comprehensive critique of weapons performance in other aspects of infantry operations, and that based on this report, on the reports of observer teams, and on the numerous other reports received from Korea, OCAFF has taken action on most of the problems discussed in the present study. For example:

a. Carbine, page 67. Development work is continuing on a light-weight rifle. Two weapons in this general class are being tested now at AFF Board No. 3. It is contemplated that it will be used normally as a semiautomatic. It will be modified to allow it to be fired automatically, and will be available for issue to selected individuals as a substitute for the BAR. Meanwhile changes in T/O&E's have been recommended to effect the replacement of carbines by rifles wherever possible.

b. Grenade Training, page 99. The current basic training program calls for 8 hours on grenades. This is an increase of 33% over the training program in effect at the time training was observed. Current training should be more effective due to the use of combat experienced instructors.

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c. Training in the Use of Mines, page 16. Department of the Army Training Circular No. 34, 14 Nov 1952, sets forth current doctrine on land mine warfare. This doctrine will be the basis for an intensive training program on mine warfare. Under this program senior officers will be given orientation instruction, officer and enlisted instructors will be trained in a special school at Fort Knox, Kentucky, and all personnel will receive instruction by March 1953. USAREUR is being supplied with lesson plans and other instructional material to conduct their own schools. After March 1953 all exercises and maneuvers will incorporate mine warfare aspects.

d. SOP for Cold Weather Weapons Maintenance, page 20. A standard procedure for maintenance of weapons in cold weather operation has long been a part of the instruction manual on infantry weapons. Care must be taken by commanders to see that the SOP's provided are carried out.

e. Use of Pyrotechnics as Signals, page 25. The current basic training program prescribes 8 hours of basic communications including the use of messengers, arm and hand signals, colored smoke, pyrotechnics and panels. The latest revision of FM 7-10 increases the emphasis on the use of pyrotechnics as signals.

f. Battlefield Illumination, page 29. Extensive work has been done on battlefield illumination.

(1) Indirect illumination by 60" searchlight has been improved by:

(a) Increasing the mobility of the unit by mounting both searchlight and power plant on the modified bed of a 2 1/2-ton truck.

(b) Reorganizing the engineer searchlight company as a artillery searchlight battery at the corps level, thereby making maximum use of artillery communication and command channels (T/O&E 6-558).

(c) Prescribing principles of tactical employment for this unit (DA Training Circular No. 29, 1 Aug 52).

(2) A searchlight has been developed for mounting on tanks. It makes use of the tank electrical generator and is pointed coaxially with the main armament. This light increases the night fighting capability of

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tanks both offensively and defensively. The light is now being standardized as Class IV equipment for issue as needed and is being combat tested in Korea.

(3) A comprehensive survey of doctrine and materiel for battle-field illumination was made by AFF Board No. 1. This work resulted in the publication of the Department of the Army Training Circular No. 30, 20 Aug 52, which is a guide for the coordinated employment of illumination devices (signals, flares, grenades, aircraft flares, illuminating shells, searchlights, field expedients, etc).

g. Pioneer Equipment on Vehicles, page 38. The brackets for pioneer equipment have been retained on new type vehicles. The pioneer equipment is issued as organizational property. The general emphasis on supply economy at all echelons should improve the conditions observed by General Marshall.

h. Winter Clothing, pages 49, 50 (helmet, shoepacs). The shoepac has been replaced by the combat boot, rubber, insulated which is now standardized for issue to front line combat infantry units. With this new footwear the high incidence of frost-bite should be reduced. Development is continuing on the problem of providing a warm head covering for use with the helmet without affecting a man's hearing.

i. Change in Ratio of Infantry Weapons in the Squad, page 54. OCAFF has a board of officers, headed by a general officer, studying this problem. A recommendation is being forwarded to the Department of the Army for a change in T/O&E 7-17, which will give the infantry squad two BAR's and an increase in personnel to eleven. Overseas theater commanders have been authorized to increase the issue of these weapons to units in their commands. Units in Korea are now using two or more BAR's per squad.

j. Replacements in Four-Man Teams, page 55. Experiments are under way to test the desirability of the four-man replacement unit. Three companies of replacements (two to FECOM and one to USAREUR) were shipped in September and October, 1952 in four-man units. The effectiveness of this operation has not yet been determined.

k. Troop Information, page 139. Subsequent to this report, a radical revision of troop information procedures has resulted in the removal of

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the Department of the Army requirement for a specific number of hours to be devoted to this activity except during basic training, when one (1) hour per week is mandatory. Troop information objectives are disseminated in the form of Phased Minimum Standards, approved by the Chief of Staff, and ultimate responsibility for the attainment of these standards is delegated to major commanders. Aids to the accomplishment of the troop information mission are furnished in the form of materials prepared by the Department of Defense, the Department of the Army and major commanders.

(1) Many of the conclusions made in this report are based upon conditions which no longer exist. In addition, most of the materials used by the Army at the time the report was written for the instruction of troops destined for, and located in the Far East were produced, not by the Troop Information and Education Division, Department of the Army, but by the Armed Forces Information and Education Division, Department of Defense, which prepares materials for common usage by all three services. Exceptions to this were:

- (a) The materials used in basic training.
- (b) The pre-combat orientation course (Korea) and
- (c) The early issues of troop topics which were directly related to military missions, duties and responsibilities.

(2) Troop topics continue to form the principal medium for command conferences within the Army and continue to emphasize subjects which have a direct relationship to the qualities desired in a soldier. It is believed that these materials are in fact "pointed mainly toward giving the soldier utmost efficiency in the practice of arms."

(3) For effective instruction in any subject, good material and good instruction are both necessary. It is probable that much of the material was, indeed, not of such a nature as to be of interest to the soldier. By the same token, it is certain that many very junior officers and non-commissioned officers, lacking in instructional ability, were given the task of presenting the material. The best conceived and prepared subject matter cannot compensate for a lack of effective instructional skill and effective command supervision.

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l. Luminous Sights for 3.5 Rocket Launcher, page 92. A study is being conducted by AFF Board No. 3 on night sights for all infantry antitank weapons. The problem of the 3.5 rocket launcher is being considered in this study.

m. 81mm Mortar, page 97. A new baseplate for the 81mm mortar is now being standardized. This new baseplate, a single piece of titanium, weights approximately half as much as the old baseplate.

4. The information contained in this publication should be given wide dissemination within the United States Army.

FOR THE ASSISTANT CHIEF OF STAFF, G-3:

/s/ H. McK. ROPER
H. McK. ROPER
Brigadier General, GS
Deputy ACoS, G-3 for
Research, Requirements
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