NUMBER 3

COMBAT LESSONS

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Rank and file in combat: What they're doing How they do it

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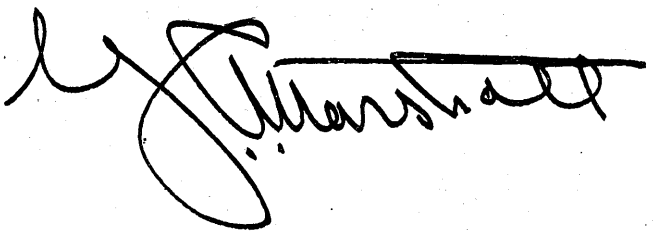
INTRODUCTION

The purpose of "Combat Lessons" is to give to our officers and enlisted men the benefit of the battle experiences of others. To be of maximum benefit these lessons must be disseminated *without delay.* They do not necessarily represent the carefully considered views of the War Department; they do, however, reflect the actual experiences of combat and, therefore, merit careful reading. For this reason, also, no single issue can cover many of the phases of combat; lessons will be drawn from the reports as they are received from the theaters of operation and quickly disseminated so that others may apply them. The suggestions which are made or implied are not intended to change the tactical doctrine by which our Army has been trained but rather to elaborate thereon. Much of the subject matter has been covered in training literature, but the comments show that shortcomings continue to manifest themselves on the battlefield.

The paramount combat lesson learned from every operation is the vital importance of *leadership*. Our equipment, our supply, and, above all, our men, are splendid. Aggressive and determined leadership is the priceless factor which inspires a command and upon which all success in battle depends. It is responsible for success or failure.



Chief of Staff.

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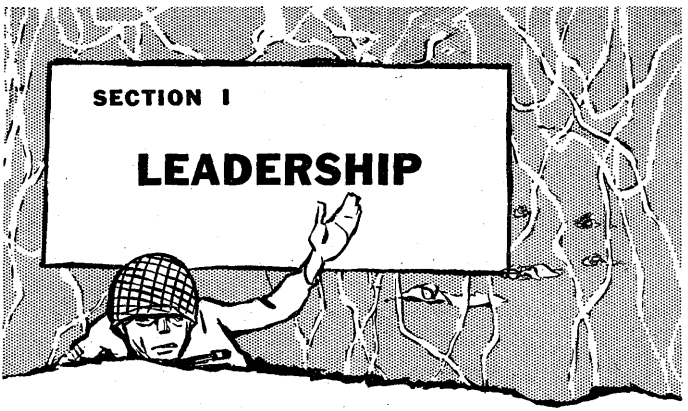

LEADERSHIP AND COMMAND

Need for Leadership Comments received from all active theaters continue to emphasize the need for competent and aggressive leaders. This is especially true as regards junior officers and non-commissioned officers. *Lieutenant General Courtney H. Hodges,* who observed operations in NORTH AFRICA and ITALY, stated:

"Few division commanders are satisfied with the qualities of a major percentage of their platoon commanders. Too many of them are lacking in aggressive leadership, self-reliance, and ability to meet emergencies. Inefficiency of officers in this group in carrying out orders strictly, and in making accurate reports as to locations, dispositions, and information gained, was especially stressed by one division commander.

Course for NCOs "Lack of leadership on the part of non-commissioned officers was also frequently reported. In one division in reserve, a special course was designed to develop more aggressive leadership in noncommissioned

officers and to make the squad a real fighting team, trained to use the fire power of its weapons to the maximum. This leadership course consisted principally in what is termed 'battle drill'."

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Some Aspects of Leadership While most comments on leadership deal mainly with leadership during actual contact with the enemy, the true leader, recognizing the responsibilities of his position, must exercise leadership at all times. He must be unsparing in his efforts to take care of his unit by providing for the comfort of his personnel and at the same time insuring proper maintenance and safeguarding of their equipment.

Irresponsibility In this connection comment of *Colonel Maurice E. Barker, Fifth Army,* ITALY, is interesting: "Younger officers seem to lack a sense of responsibility for the men under their care and for the equipment entrusted to them. They seem to feel that there is an inexhaustible supply of equipment and that all they have to do is throw stuff away when they no longer need it. Of course the noncommissioned officers follow their lead. This lack of responsibility is tremendously important and something drastic must be done about it."

Along this same line *Lieutenant Colonel E. W. Gibson, G–2, 43d Division,* NEW GEORGIA, commented: "The chief fault of the inexperienced junior officer is that he does not realize his responsibilities with respect to looking out for his men, finding them food and water, checking their bivouac, and seeing to their clothing. If he will evidence his concern for their welfare, he can forget about morale, they'll fight."

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Widespread Effect Junior officers and noncommissioned officers seldom realize the widespread effect on major operations of their failure to do their particular jobs properly. Being an excellent fighter is not enough; unless the junior leader performs his other command functions in an efficient manner the resulting failure of his personnel or equipment can imperil the whole action of a major unit.

The following comment is from the *Division Commander, 36th Division,* ITALY: "At SALERNO carelessness was noted in the landing of communications equipment. Most communication failures are believed to be the result of careless handling of equipment by personnel. Without communications, even the best trained troops very often cannot be employed where desired."

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Practice and More Practice *Commanding General, 3d Infantry Division,* ITALY: "The development of leadership is largely a matter of practice—practice in leading. Make these lieutenants actually lead, exercise their voice, and issue commands. Require high standards of physical condition.

"Every infantry lieutenant should be thoroughly trained in the firing of all infantry weapons. He cannot know too much about them. He may have to fire or direct the fire of several different weapons and he never knows when.

Theory Not Enough "A thorough and practical knowledge of his job is the basis for efficient leadership. This knowledge must be gained in a practical way, by exercising leadership under all conditions. Too much of our leadership training has been theoretical in nature; there has been too much dependence on and listening to lectures.

"Opportunity must be given the junior officer to put this theoretical knowledge to practice by actual leading. Criticisms of errors made must be so couched that they do not destroy the initiative and spirit of the individual.

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Leadership on the Beach *Fifth Amphibious Corps,* TARAWA *and* MAKIN: "Squad and platoon leaders must expect that mixing of units, and an apparent state of confusion, are normal in an operation of this nature. When troops have gained the beach, and coordinated battalion and company attacks are broken up by enemy pillbox defenses, leaders, whether lieutenants, corporals, or privates, must take the initiative and push on with men in the vicinity, whether of their own units or not. This assault was successful because men moved on in spite of heavy losses."

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ADMINISTRATION, SUPPLY, AND SANITATION

Duty Rosters *Sergeant, Infantry, Fifth Army,* ITALY: "The company duty roster which controls the daily activities of a large proportion of the company personnel is a serious handicap to the leadership training of junior officers and noncommissioned officers. It makes the first sergeant the leader of each individual soldier and ignores the responsibilities of his future battle leaders. When I was the squad leader back home I never knew who would be in my squad for training from day to day. On some days I would not even have a squad. Over here in Italy it is somewhat better but even here your squad members don't stay with you too long."

COMMENT: Many units do not permit the first sergeant to deal directly with the individual soldier in the matter of allotting administrative duties controlled by the duty roster. Instead he notifies each platoon or other subsection the number of men required for duty-roster tasks. He equalizes the load among the various sub-units in accordance with their morning-report strength.

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No "Duds" Need Apply *Major General Ryder, Commanding 34th Division,* ITALY: "If you put in 'duds' as battalion supply officers everyone is going to suffer. The battalion supply officer of an infantry battalion has to be a hustler. Very frequently in this unit you will find that he is an officer who has been decorated. The men will attack, hold, and throw off counterattacks, but the supplies *must be taken* to where the men are."

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Sanitation and Health A digest of the opinions of several senior commanders in ITALY emphasized the importance of maintaining the health of the command and its direct effect on combat efficiency. In practically all theaters nonbattle casualties are approximately three times as great as battle casualties. Even under conditions of extreme hardship, the enforcement of pertinent sanitary measures will greatly lessen the drain on the combat effectives in a unit. Enforcement of preventive measures against malaria, dysentery, insect infestation, trench foot, etc., are command functions and call for a high degree of leadership and discipline.

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ORIENTATION

The Need for Explanation The American soldier always performs better if he knows the whys and wherefores of the problem confronting him. His willing and intelligent cooperation can be gained if commanders will take the time and effort to explain the situation, the mission, the plan devised to accomplish it, and the effect success will have on the general situation—in short everything concerning the operation that the time and available information will permit. Such explanations will do much to forestall rumors, anxiety, and mass hysteria—all factors which contribute to the incidence of "war neurosis" cases.

Method of Dissemination If possible this orientation should be conducted by the leaders in immediate contact with the soldier, by the individual he instinctively looks to for guidance during the stress and strain of combat. It should reach the private soldier through his squad leader, the squad leader by means of the section or platoon leader, the platoon leader from the company commander, and so on. However, each higher echelon of command must be certain that the information is carefully and accurately disseminated by those next lower in the chain of command. This method of orientation also tends to enhance the prestige and influence of each echelon of leaders with those junior to them.

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Tell the Story *Colonel Earl Maxwell, Surgeon, XIV Corps,* NEW GEORGIA: "A soldier needs to know what is going on, what is expected of him, what he may expect to encounter. He must have a definite objective or goal. Without these, he is an automaton, with no personal interest

in the efforts of his unit, and is entirely unprepared when the unexpected or the unexplainable happens. Without proper orientation, he is more prone to absorb wild rumors, loose talk, misinformation, all resulting in constant mental stress and strain evidenced by apprehension, fear, anxiety, incoherence, and confusion."

After-the-Fight Conference Every effort must be made to emphasize the important part each individual plays in the successful combat of his unit. A method used by one infantry regiment to accomplish this and, at the same time, provide information which would furnish background orientation is described in the following comment:

"They Eat It Up" *Major Kermit Hansen, Assistant G–2, 34th Infantry Division,* ITALY: "While I was S–2 of an Infantry Regiment, I found that it aided the efficiency of the regiment to have material assembled as the fight was going on. When a battalion was pulled out for a rest all the men and officers were assembled in a group. First I would use the collected material to give them the whole picture from the viewpoint of the Army, Corps, and Division, and then I would get down to more detail on just what the battalion had done, what German units they had fought, and how many casualties they had caused the enemy. Such a conference keeps the men abreast of the situation, increases their morale, and keeps up their fighting spirit. The men eat it up. During this after-the-fight conference I would emphasize how much of our information regarding the enemy was obtained from prisoner-of-war interrogation, impressing on them how disastrous their talking could be if they were captured."

BATTLEFIELD GALLANTRY

He Didn't Know When He Was Beaten *Seventh Army,* SICILY: "During one of the more fluid situations in the Sicilian fighting, the wire line running from a battalion command post to the rear suddenly went out. *Sergeant Joseph Gorlesky,* with three men, started back to check and repair the break. After they had traveled about one-half mile, they were ambushed by a patrol of 30 Germans who had managed to infiltrate our position. Sergeant Gorlesky and two men were wounded while the third man was killed.

"Crazy Americans" "The German patrol leader called in perfect English, 'Give up, you crazy Americans!' Although severely wounded and outnumbered ten to one, Sergeant Gorlesky ordered his men to open rapid fire.

After emptying his rifle the sergeant rushed the enemy with hand grenades. The German patrol, surprised by the unexpected stubborn resistance, was defeated and driven off with the loss of a number of its men.

Protected By Valor "The Germans have a nasty habit at times of opening fire at extreme ranges and making you advance under it. While this long-range fire is not particularly dangerous, it is very disconcerting.

"The platoon of which *Private Shelby R. Hord* was a member had been advancing under this long-range fire until, despite several casualties, they had secured a position within 300 yards of the gun which had been harassing them. From here on there was no cover. This did not deter Private Hord who, suddenly springing to his feet, raced some 250 yards until he was within grenade-throwing range. With four grenades he silenced the gun, and, rushing in, killed four of the remaining enemy and wounded three others with his carbine. He then turned the machine gun on other enemy elements in the vicinity.

"The success of his apparently suicidal rush demonstrates the fact that valor can sometimes provide protective armor. The enemy simply did not realize that any man would try such a thing and were not ready to put their fire on him."

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Keep the Guns Fed "The following outstanding example of devotion to duty in carrying out the assigned mission is being constantly emulated by our fighting 'red legs.'

"While we were fighting in TUNISIA in April 1943, *Sergeant E. A. Hamberlin* and *Private Earl A. Valk* of one of our armored artillery battalions were driving forward in an armored half-track full of ammunition and towing

a trailer containing 45 additional artillery shells. This ammunition was desperately needed at the guns, but to reach those guns it was necessary to pass through the accurate fire of several German 88s. A salvo from these guns struck near the half-track, seriously wounding Private Valk in the leg and blowing him out of the vehicle. The trailer was also set on fire.

Trailer Explodes "Private Valk immediately climbed back into the half-track, in which a box of small-arms ammunition was on fire and exploding, while Sergeant Hamberlin, fully aware that the ammunition in the burning trailer might explode at any moment, unhooked the trailer and signaled Private Valk to drive the half-track away.

"Just as this exploit was completed, the trailer went up in smoke, but the fire in the half-track was extinguished and its load of precious ammunition delivered to the hungry guns."

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No Surrender *General Douglas MacArthur:* "It should be constantly emphasized that there must be no thought of surrender as long as it is possible to do damage to the enemy. The men at Bataan and Corregidor fulfilled this condition. However in some cases we have not done so. The Japanese soldiers always do. Unless all our *individuals* also do it, we will suffer serious set-backs before Japan is conquered."

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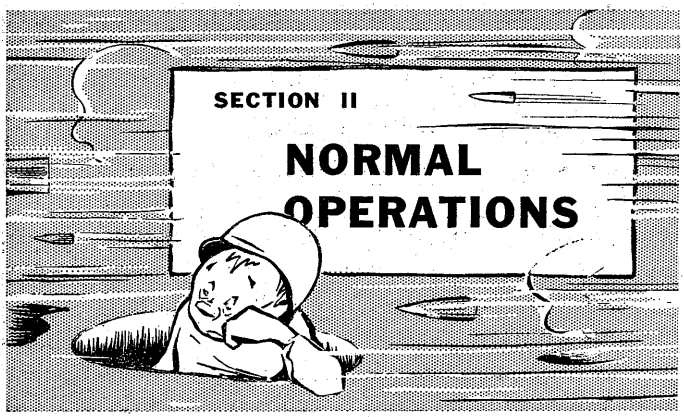

COMMENTS ON RIVER CROSSING

Crossing Expedients *Colonel Harry Sherman, Infantry,* 3rd Division, ITALY: "At the VOLTURNO one of our major problems was to devise a means of crossing troops and equipment over the flooded stream. The problem was a difficult one due to the very limited amount of material of any nature from which to devise crossing expedients. Enough ¼-in. diameter rope was procured to provide each leading battalion with two guide lines across the river. Tarpaulins were removed from all the ¾-ton trucks in the regiment and, with frames made from salvage timber, improvised rafts were constructed. These rafts were buoyant enough to float ten men riding or holding on to the sides while crossing deep water.

NOTE.—Company officers reported considerable difficulty with these rafts due to their light construction and unwieldiness in the swift currents encountered. Several of them either broke up or overturned dumping machine guns and other equipment in the stream.

"The Engineers were able to furnish us a number of rubber pontons and a few 7-man rubber boats. These boats were used initially to cross the stream with the guide lines and subsequently to ferry equipment.

Communications "Attempts to provide wire communication across the river were unsuccessful as German artillery fire disrupted the lines, and enemy machine-gun fire which covered the banks of the river made their daylight repair impossible. However, due to the relatively level terrain, the radios worked well and provided satisfactory communications with the bridgehead battalions. The German rubber-covered quad cable, to which normal field wire was spliced proved to be a very satisfactory submarine cable when wire could be kept in.

Guarding Against Tanks "There were two stream lines running generally north and south through the regimental sector, which constituted serious tank obstacles and which would severely handicap tanks if they attempted to work through the area from one flank to the other. Since the most serious threat of this nature was from the high ground on our left flank we selected the crossing points and battalion sectors so as to have one of these stream lines on the left flank of each assault battalion.

"Also, one tank company and one tank-destroyer company were waterproofed and moved up to the near bank during darkness on the night of the crossing with the expectation of crossing soon after dawn. However, the steep banks of the river could not be negotiated until an engineer bulldozer had cut a path. It was not until 1300 hours that a few tanks and tank destroyers were able to get across the stream."

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Smoke *Lieutenant Colonel F. Clay Bridgewater, Observer,* ITALY: "Smoke was extensively used after daylight to screen the crossing troops. All the German observation points were covered throughout the day. The selected bridge sites were also covered. Considerable smoke was placed on the division left flank in an effort to confuse the enemy and lead him to believe that the division's main effort was being made in that direction."

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REORGANIZATION AFTER THE ATTACK

Don't Waste Time *Lieutenant Colonel Murphy, Executive, Infantry,* ITALY: "When an objective is captured, immediately push reconnaissance elements of the supporting weapons unit forward behind the riflemen. Get rifle groups out for local security as soon as the position is captured. Have the weapons platoon immediately take position to beat off a counterattack. Displace promptly at least one-half the Heavy Weapons company forward to the captured objective. Get your artillery observer up front in a hurry. We were taught all these things and they are still perfectly sound.

Delay Brings Trouble "Where an outfit gets into trouble it is usually because they haven't pushed these points hard enough—when they waste just a little time instead of getting set and moving the stuff forward *at once.* You probably will have only a little time to dig in before the counterattack hits, but if you get set *without delay* you will be all right whether you plan to keep going or to hold what you've captured.

Sergeant Gives Example "Back on the other front about two months ago we captured Hill ——. Two companies took it. After its capture, the two company commanders dilly-dallied around. When ordered to consolidate their positions immediately, they said they would have to attack again to drive off some Germans who had infiltrated to the slope of the hill. A platoon sergeant intervened at this point. He said he had made a personal reconnaissance, had posted squads at the key points in defending the hill, and could state positively that there were no Germans on the hill. This noncommissioned officer recognized the need for proper reorganization and the importance of promptness in its accomplishment."

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Keep Forward Observer on the Ball *Major Howe, Battalion Executive, Infantry,* ITALY: "Be sure that after a successful attack you have the artillery forward observer move up fast and that he immediately registers his guns on all dangerous approaches. Make him do this first, before he fires on any targets of opportunity, no matter how tempting."

COMMENT: While immediate registration is extremely important and should be completed before engaging targets of opportunity of minor importance, vitally important targets, such as an enemy counterattack, would take precedance.

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How We Reorganize *First Lieutenant Benjamin A. Blackmer, Company Commander, Infantry,* ITALY: "Usually the Germans counterattack in not over three hours after you capture an objective: his counter measure may come in as little as one-half hour. On the heights above VENAFRO we captured a ridge at 0330, the Germans

counterattacked at 0620 and pulled eight more counterattacks during daylight that day. You had better be ready in half an hour to meet a counterattack or you are likely to have trouble.

Getting Ready for the Counterattack "Whenever the terrain and the enemy fire will permit, pull the bulk of the company back on the reverse slope to shake it out and reorganize it. However before doing that, put out outposts consisting of small rifle groups and BARs, get your weapons platoon all set in position to stop a counterattack, and have the artillery FO start his registration on likely avenues of approach.

"As soon as the company is reorganized and set to go I push more riflemen out to the front and flanks. I always try to hold the bulk of one platoon in hand so as to have a force with which to counterattack the counterattack. Because of the low strength of the platoons, and the losses sustained during our attack you are seldom able to hold all of one platoon in support.

Avoid the Crests "When I say 'pull the bulk of the company back on the reverse slope' I don't mean to pull them back just behind the crest, but well back. The Germans will inevitably shell their former positions which are generally near the crest of the heights; this shelling will fall on both sides of the crest—some on your reverse slope, some on your forward slope. The whole idea of pulling the bulk of the company back is to get them out of the area of this shelling, so don't stay too close to the crest."

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Reorganization Aided by Prior Planning *Lieutenant Colonel Ahern, Infantry Battalion Commander,* ITALY: "From the battalion commander's point of view, the most vital feature of reorganization is prior planning. By that I mean deciding well in advance whether all machine guns are going to displace forward immediately or only half of them, deciding what areas the 81-mm mortars are to cover and what areas the 60-mm mortars of the various companies cover. All this planning is vital so that the prompt issuing of orders for reorganization can be effected immediately following the capture of the objective.

Methods Used "So far as the actual reorganization is concerned, I believe in shoving BAR teams well forward at once to act as an outpost, getting up the heavy weapons promptly, getting the mortar and artillery observers up to the captured objective without delay, and then pulling the bulk of the rifle companies back far enough on the reverse slope to be out of the area of the German artillery retaliation fire before trying to reorganize them."

COMMENT: All comment on attack tactics against the Germans emphasize the importance of prompt and thorough reorganization of the attack unit when it reaches its objective. It is necessary that this be accomplished in order to oppose effectively the habitual German counterattack.

There is considerable divergence of opinion as to the use of the reverse slope for this reorganization but all agree that effective measures must be taken to protect the personnel against the German retaliatory artillery fires which he places on his evacuated positions.

The four main methods of evading this fire are: (1) Press on forward to next defiladed area; (2) Pull bulk of unit back onto reverse slope leaving only outposts with automatic weapons on forward slope; (3) Move bulk of unit to one flank of the captured position; (4) Dig in promptly in the position area occupied and hang on until dark.

The choice of which of the above methods to adopt will depend on many factors. Some of these are: (1) Nature of the terrain; (2) Degree

of enemy observation; (3) Strength of enemy resistance. (4) Strength of own unit upon reaching the objective; (5) Hour of the day.

The high degree of efficacy of mortar and artillery fire in breaking up counterattacks before they really get going is reported in most action comments.

Reorganization of an attack unit must begin at the elementary squad level and work to the top. Have squad leaders organize their squads, section leaders supervising the work of the squad leader. The platoon commander, assisted by the platoon sergeant, supervises the work of the section leaders and sees that proper protective measures are taken. The company commander must be planning the defense of the position, checking the dispositions of his weapons platoon and coordinating the fires of his mortars with his artillery support.

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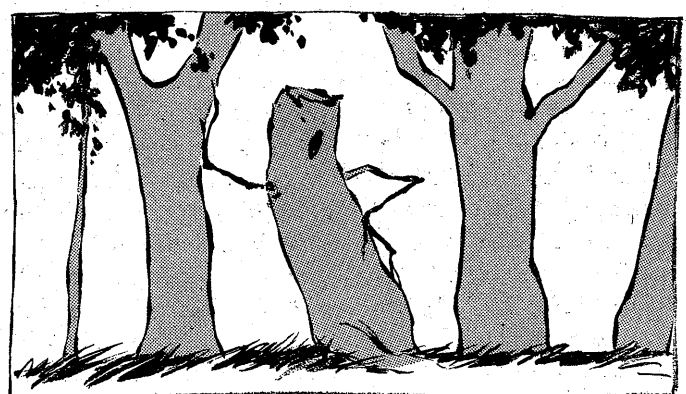
PATROLLING

Blend With Your Background *Brigadier General William H. Wilbur, Assistant Division Commander,* ITALY: "Inter-



rogation of German prisoners disclosed that they all agreed that Americans moving over the terrain were easy to spot. This was particularly true whenever there was a group of more than four or five men and especially

when these men made no attempt to change their appearance. Several prisoners told me that our 'yellow brown' uniforms, as they termed them, were very easy to pick up against the gray, rocky, mountain background as well as against the green field background of Italy (1).

One Mission Per Patrol "A patrol should have a single and sole mission. There appears to be a general tendency upon the part of staff officers and intermediate commanders to add a second mission just because a patrol is going to be in the vicinity of some point in which they are interested. I believe that this point of a single mission is highly important (2).

Dispatching Patrols "Patrols will be sent out by order of division, regiment, battalion, and lower commands. Divisions should make every effort to keep their patrol requirements to the minimum. When they do assign a night patrol mission the assignment should be made sufficiently early to reach the regiment by noon. This will permit sufficient time for the commander to select a leader and issue the necessary instructions.

"Also it allows the patrol leader and perhaps a portion of the patrol personnel to make a daylight reconnaissance of the area in which the patrol is to operate (3). We found it very desirable to direct that the battalion commander give his instructions to the patrol leader in person. This prevented a garbling of the mission if orders for

patrols were passed down through three or four echelons. It also brought home to the inexperienced battalion commander that the procuring of enemy information is one of his important functions.

Composition of Night Patrols "Patrols should consist of as small a number of men as possible, when the mission is reconnaissance (4). There should be very limited use of officer patrols. The number of infantry officers is limited, officer casualties are high, and they cannot be expected to perform aggressive duty all day and go out on patrols for several hours at night. Division headquarters should not prescribe the composition of a patrol. They should order that certain information be obtained, allowing the unit furnishing the patrol to decide on its composition.

Training New Men "New men should not be attached to a reconnaissance patrol for the purpose of gaining experience. Their presence will endanger the safety of the patrol as well as the possibility of the successful accomplishment of its mission. Send new men out on practice patrols to gain experience. These practice patrols should be sent out a very limited distance, even as little as 100 yards to the front, the first time. This distance can be increased each night until they have acquired considerable experience. Upon one occasion one of our battalion commanders sent his training patrols out to the flanks and rear of his forward company positions in order to give them their first patrol battle inoculation.

Rifle Fire 'Taboo' "It was at first difficult to convince junior officers and men that night patrols should not fire the rifle. All of our reconnaissance patrols operated under a rigid rule that rifles would not be fired (5). Hand

No Matter How Tempting the Target Patrols Must Not Fire at Night.

grenades were carried to be used in an emergency, and were so used with effect. Many instances occurred in which bayonets were used. Daylight patrols found that it was unwise to fire unless they were cornered.

Motorized Patrols "In our experience by far the major part of the reconnaissance missions assigned the reconnaissance troop required dismounted action. When contact is slight or has been lost, motor patrols are in order; however, the Germans are extremely clever in concealment and a weak motorized patrol is quite apt to be captured as the Germans are likely to let them go by before opening fire" (6).

COMMENT: In order to show the soundness of doctrine as expounded in our Field Manuals and other training literature the above observations from actual combat experience have been keyed to the appropriate paragraphs of FM 21–75, Scouting, Patrolling, and Sniping as quoted below.

(1) Par. 6a(5): "Blend with background. Contrasting colors are quickly observed. Clothing that does not blend with the surroundings will disclose the scout's presence."

(2) Par. 85: "Mission. . . . One patrol cannot be expected to execute efficiently a number of involved missions. It is preferable to employ a

number of patrols, each with a single mission. . . ."

(3) Par. 84b: "The patrol leader should be selected well in advance of the time scheduled for the patrol to leave. When possible, he should have time during daylight to plan the operation of his patrol and to make any necessary reconnaissance."

(4) Par. 86b: "In general, a patrol should consist of the least number of men needed to accomplish the mission, with due regard to safety, the available time, and message requirements."

(5) Par. 134: "Engaging in Combat. Reconnaissance patrols engage in fire fights only when necessary to accomplish their mission or for protection. In general, they avoid combat and accomplish their missions by stealth."

(6) Par. 125a: "Avoiding Ambush. A patrol is always subject to being ambushed, whether moving or at a halt. It is alert to the possibility at all times, but particularly when moving through defiles, canalized between two obstacles, or passing through a dense growth, deep woods, or jungle."

Thorough knowledge, and application, of the principles enunciated in our field manuals and training literature will do much to insure successful operations.

Patrol Weakness *Lieutenant Colonel F. Clay Bridgewater, Observer with Fifth Army,* ITALY: "Patrolling was admittedly not good in the division I joined about 9 October 1943. Upon reaching the *Volturno River* 3 days passed before patrols crossed to the north shore and the G-2 obtained any information concerning the river and the location of enemy guns and troops. The following incidents and facts were noted:

"Some patrols advance without caution, betraying their positions by noises made by metal equipment or tinkling of metal cans and canteens. About 28 October an artillery battalion moving into position found the bodies of seven men wrapped in blankets in a small area. These men were identified as a seven-man patrol from one of the infantry regiments which was long overdue. Apparently they were sleeping without a guard and a German patrol found them.

Poor Map Reading "Patrolling to provide security was generally good but patrolling to maintain contact and determine enemy positions and movement was often slighted.

"Many patrol leaders lacked the ability to read a map and locate themselves. This resulted in incorrect information being brought back, failure to reach their objective, and an inability to call for fire support.

"Some patrols didn't know the situation and what to expect and what specific information was desired. They were not properly briefed prior to starting.

"In all too many cases patrols consumed excessive time in reaching their objective. Also many times vital information was unduly delayed in reaching commanders.

Objectives Not Attained "A great many patrols were reluctant to go very far and instead of going to an objective they would only go halfway and upon finding nothing, assume there was nothing further on, and return. In one specific case a patrol came under artillery fire for about 20 minutes, then, while moving to better cover, were fired upon again. They immediately returned to their CP without attempting to go on because they didn't *think* it was safe. New men (replacements) are not really good at patrolling and old experienced men from whom patrol leaders could be selected were very few in front line infantry companies."

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Patrols Can Get Results *Lieutenant Colonel Lewis A. Riggins, Observer with Fifth Army,* ITALY: "The patrol work of the Parachute Infantry was excellent and resulted in a weak-strength unit accomplishing an envelopment which successively cleared seven Italian towns with very limited casualties. This unit completely cowed the 305th

German Division by successful patrol action and milited attacks. Their method was as follows: (1) To use small patrols. (2) To send such patrols as far forward as possible in daylight (instead of having them leave battalion headquarters after dark) and to make a visul reconnaissance during daylight. (3) The patrol then ate and rested until about 2030 (to let the Germans get to sleep). (4) The patrol then proceeded on its mission. (5) Half of the patrol returned with information leaving half in observation for daylight hours. This half patrol returned the next night.

Germans Jittery "Accurate information was received by this method, which resulted in successful surprise attacks in towns and on German combat groups. The men of the 305th Division became so 'jittery' that captures were abnormal for the number of parachutists involved. As the executive of the parachute battalion remarked: 'We can get a company of that outfit anytime.'"

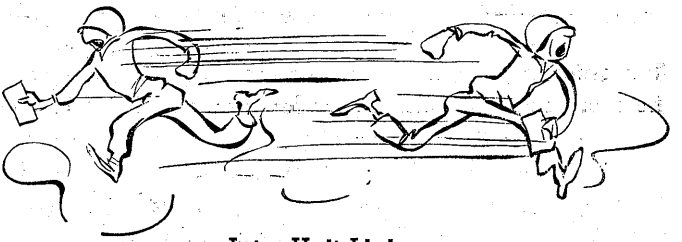
★

INFANTRY NOTES

Inter-unit Liaison *Major General Lucas,* ITALY: "Experience has shown that enemy offensive action is usually along the boundaries between units. This fact emphasizes the need for close liaison and constant contact between adjacent units from squads on up. Maximum benefit from coordinated action will be realized if commanders will insure that the following conditions are met:

Exchange of active liaison personnel between adjacent units.

Close contact between front line organizations and a



Inter-Unit Liaison.

mutual agreement to insure maximum combined protection along the boundary.

Prompt report to adjacent units of any unusual enemy action.

Early advice of plans for attack, counterattack or withdrawal together with a request for assistance desired from adjacent units.

"Commanders should know at all times what units will be directly affected by their action and realize that it is their responsibility to keep those concerned informed."

★

Assaulting Stone-House Strong Points *Lieutenant Colonel R. J. Williams, General Staff,* ANZIO: "Heavy casualties were suffered by units attacking across the flat farm lands in the ANZIO-NETTUNO area. These lands were dotted with small well built stone houses sufficiently close together to be mutually supporting with small arms fire.

"The Germans are quick to utilize these buildings and often place two machine guns in the upper floor in addition to riflemen and snipers. By so organizing them they present to the attacker a situation which might be termed 'elongated street fighting' and which requires street-fighting

tactics, modified to compensate for the increased distance.

The Solution "One of our divisions having been badly hurt in attacking such a position worked out a solution

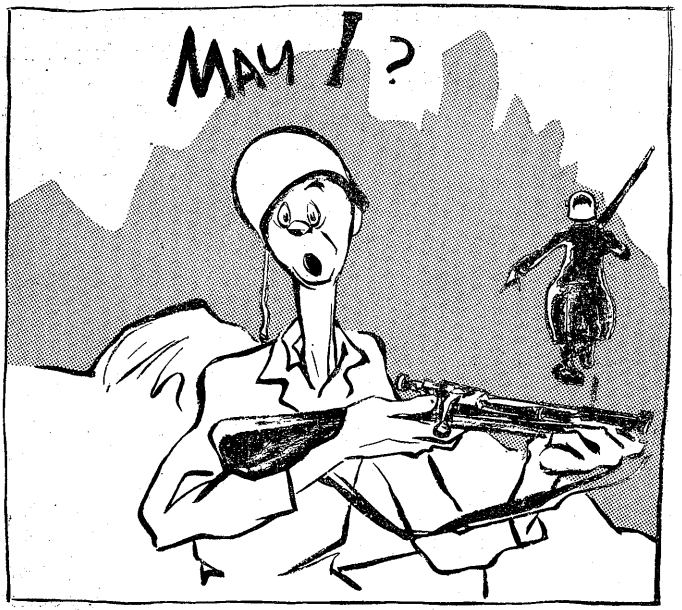
Jerry Hates Combat in Houses.

which was quite satisfactory. It entailed the formation of teams consisting of a platoon of tanks or tank-destroyers, a platoon of infantry, and some reinforcing mortars or artillery to lay smoke. The mortars and about half the tanks would block off all supporting houses by direct fire and smoke. The remaining tanks would fire at the single house to be attacked, paying particular attention to windows and foundation. While this was being done the infantry would advance in a 'pincer' movement on the house—this being done so they could fire on any troops attempting to leave. They would then close on the house and the tanks would cease firing. Usually at this point the occupants would surrender but occasionally it was necessary to send men in to 'flush' them out. The German, as a rule, does not like to fight it out within the confines of a small building.

Slow But Sure "The problem then resolves itself into one of slowly eliminating the position house by house. It is felt that units should be giving some thought to this problem, as such situations will present themselves more and more as we get farther into continental Europe. It must be remembered that such an assault is not a 'blitz' but a slow, well-ordered process."

★

Use Your Rifle *Colonel Harry B. Sherman, Commanding Officer —th Infantry,* ITALY: "We have a hard time getting riflemen to use their rifles; they depend on the artillery and other supporting weapons too much. In most cases it would be better if they fired even if there is no visible target. A group of riflemen may be stopped by a German machine gun which they can't locate, but if they will open



fire in the general direction of the machine gun the Germans will usually pull out. I believe that we have placed too much emphasis on fire orders and fire control by unit leaders. Men must be taught to open fire at once in the general direction of any target that is holding them up, without waiting for any squad leader or other individual to tell them to open fire."

COMMENT: The above observation refers to the general situation of riflemen advancing in the normal attack. There are obviously many special situations when fire must be withheld or controlled by a leader. In such cases special instructions should be given.

★

Zero the Rifle *Colonel H. E. Fuller, Infantry,* NORTH IRELAND: "In this unit, as a result of the test firing of all rifles 1903A–4 (sniper rifle) a sight setting table was prepared for each rifle. This table contains typewritten instructions as to how to set the zero of the rifle sight, both as to elevation and windage, followed by a table showing the clicks from zero for each range from 100 yards to 1,000 yards, and a windage table to take care of the drift of the bullet at the various ranges. These tables were then pasted on the left side of the stock of the rifle and covered with shellac to prevent deterioration. This table is necessary, since no two sights were found to be the same. Moreover, a man cannot, from memory, set his sight correctly for all ranges. The table is necessary also in the event the sniper becomes a casualty and a replacement is called upon to use his rifle."

★

Weapon Confidence *Colonel Kerr, Chief of Staff, 36th Division,* ITALY: "I saw one of our men with a bazooka walk out toward a tank which was being engaged by artillery. He aimed his bazooka and let go at about 75 yards. He hit the tank just below the turret, which sailed 40 feet through the air. Most of our bazookas have been used against machine-gun nests and concrete pillboxes. The bazooka is fine against them. The Germans call it the 'shoulder 75.' "

★

NOTES ON TRAINING

How I Would Train a Company Now *Captain Robert C. Gates, Infantry,* ITALY: "If I had to train a rifle company again, I would stress the following:

"*Basic discipline,* by which I mean smart saluting, alertness of bearing, cleanliness and neatness of person, clothing, and equipment—shoes shined, hair cut, etc. Get perfection in this early, as it is the basis of much later training.

"*Combat firing* on a course which included a lot of surprise targets. Proper distribution of small arms fire over a suspected target area is very important.

"*Use of the rifle sling,* particularly in combat firing. Most men fail to use it even when in a defensive or other situation where its use is perfectly practicable. Practice until the use of the sling is so natural that a man must consciously decide not to use it when the situation is such that its use is inappropriate.

"*Sniper training* for the upper 20 percent qualified in marksmanship in each rifle platoon. Organize at least two 3-man sniper teams in each platoon. Allowing for casualties and sickness you could count on having about two 2-man teams in each platoon in combat. A sniper's rifle and a pair of binoculars per team is essential.

"*BAR training* to be given to every man in the squad until he has a thorough knowledge of the weapon. It is one of our more effective weapons but must be in the hands of a trained man to be really valuable. A BAR man in one of our companies got twenty Germans 'for sure' in one hour during one of their counterattacks; this was one-half the casualties his platoon inflicted.

"*Scouting and patrolling* need plenty of emphasis. My company landed in Sicily with about 7 noncommissioned officers and 25 privates really efficient in this. As a result they were worked to death. There numbers became reduced and the replacements that we received knew little about the subject. Therefore our patrolling grew progressively weaker as the campaign went on. This training should include passage of mine fields, compass work and

map reading, and patrolling against actual enemy groups.

"*Terrain appreciation,* to teach the men advantages and disadvantages of terrain features. Teach them to visualize how the ground on which you are located looks from the enemy's viewpoint, *i. e.,* what he can see and what he can't see; where you can take positions unobserved, etc.

"*Camouflage and camouflage discipline,* particularly the discipline. Pound into the men the necessity of not making trails, not moving around when the enemy can observe your position, and similar matters, until each man always thinks about it.

"*Organization of the squad chain of leadership* to the point where if only two men are left in the squad they will know automatically which one is the leader. Keep the squad organized this way regardless of casualties and consequent replacements.

"*The weapons platoon* should be worked into the company team to a point where the company commander habitually uses it to its utmost capacity. Too often the 81-mm mortars and the artillery are called on to accomplish work that could be handled by the weapons platoon.

"*Living in the field* under adverse circumstances should be taught. This means that the men should know how to cope with cold, rain, snow, mud, and ice, when they are on the front line for many days. The men should know how to put a shelter half over a fox hole or slit trench, leaving a small hole through which to observe and to fire. They should know that they must remove the shelter half and recamouflage the trench or hole whenever the weather clears. They should also be trained to remove their shoes and socks each day and massage their feet. Such training will really pay dividends.

"*Messengers* should receive specialized training in scouting and patrolling. Make them practice and practice until

Messenger Service.

they can repeat a simple verbal message exactly as it was given to them. Do not permit them the slightest deviation from the wording of the message. Also these men should receive intelligence training, as frequently they have opportunities to see and report things of value to the commander. All messengers in my regiment have been sent to an intelligence school and it has helped.

"In selecting *noncommissioned officers,* I am convinced that steadiness is the first asset, resourcefulness is the second, and intellect only third."

★

COMBAT MISCELLANY

Random Notes *General Lucas, Field Artillery,* ITALY: "A good many infantry battalion commanders do not understand the fire power at their disposal. They call for artillery fire when they could handle the situation with

their own mortars. We have wasted too much artillery ammunition on small targets and just on suspicion—ammunition which has to be brought up long distances by truck on bad roads.

Flanking Out Machine Guns "The battle indoctrination courses have given some troops the idea that they attack machine guns by crawling toward the machine guns on their bellies without a chance of hitting back. This is not so. They must go around and flank them out. In this connection, in training and in maneuvers, we should teach this flanking-out by having the men go over the toughest and hardest hills available, as we had to do in SICILY and ITALY.

Importance of Small-Arms Fire "In battle our men still do not use small-arms fire enough, nor do they distribute it properly. For instance, if fire is coming from a nearby small hill but you can't see the enemy, you should cover that hill with small-arms fire. Reports still indicate our men do not do this."

★

Combat Existence *Brigadier General William H. Wilbur, 36th Division,* ITALY: "First, the soldier must know how to live at night. A squad should sleep as a squad so that the squad leader can get hold of his men quickly. Also platoon chiefs must be able to get hold of squad leaders, and so on. A company commander of one of our infantry divisions who saw our battle training course said that if his men had had it he might have been able to save more of his company in a certain situation when they were jumped at night. As it was, it took nearly 2 hours to assemble his company.

Cooking, Digging, Marching "Similarly, men must know how to cook at night, how to organize a defensive position so as to be able to receive a counterattack in daylight—including such a simple thing as how to dig a foxhole at night.

"Physical conditioning, too, is all important. Here in the so-called rest period all infantrymen take a 4-mile march in 40 minutes each day. Precision and snap in all basic drill, including calisthenics, should be stressed."

★

How to Prevent Trench Foot *Major F. A. Simeone, Medical Corps,* ITALY: "Prevention is important because of the prolonged ineffectiveness of the casualties. The aim, in prevention, is to keep the feet and hands dry and warm with adequate circulation. These measures are recommended:

"Shoes and leggings should fit loosely.

"Wear heavy wool socks. These may require a larger-size shoe to avoid constriction.

"Change socks daily. An exchange service should be set up whereby wet socks may be exchanged for dry when troops are on duty in wet cold places for periods longer than 3 days.

"Wear overshoes when the ground is wet or muddy, particularly when the troops are on stationary duty.

"Avoid prolonged immobility. If walking about is impractical, at least exercise the toes and ankles within the shoes to stimulate circulation.

"Remove the shoes at least once a day, dry, and massage the feet. Lanolin or vaseline should be rubbed lightly on the skin, and dry (or at least wrung-out) socks put on.

"In bivouac areas, the feet should be inspected at least weekly, and infections of any type should be properly treated. The feet should be washed daily and foot powder applied."

★

Silence Is Security *Major Kermit Hansen, 34th Infantry Division,* ITALY: "Our men talk when captured. Perhaps not so much as the Germans but still too much. I have talked to three men of the Division who were captured during the landing at SALERNO and who escaped several weeks later and returned to our lines. They said they were led back some distance from the front and then halted. Suddenly someone said in perfect English, 'All A-Company men line up here, B-Company over there,' and so on. They were completely taken in and lined up as directed before they realized they were being tricked into giving away information.

"Later when one of the men refused to answer questions asked by a German officer the latter said, 'You damned fool, do you think you are keeping something from us? Your company commander's name is G——, your first sergeant's name is I—, and your squad leader's name is J——. Isn't that right?' The soldier said he couldn't keep from nodding his head in agreement since the officer had correctly named all three of them."

★

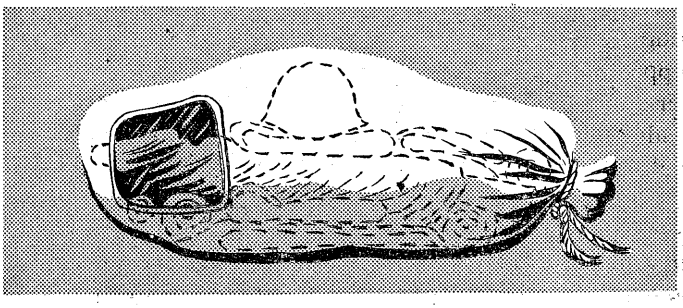
The Hard Way Is Safer *Colonel Harry B. Sherman, Commanding Officer, 7th Infantry,* ITALY: "Stress night cross-country movements and night attacks. Don't allow the units or individuals to use any road, path, trail, or other easy route of advance: in every case have them move by only the most difficult and inaccessible terrain in the vicinity. Roads, paths, trails, and even just open ground that offers easy going are almost invariably mined or booby-trapped. Make the men regard the most difficult ground as the natural route of advance and it will save many casualties.

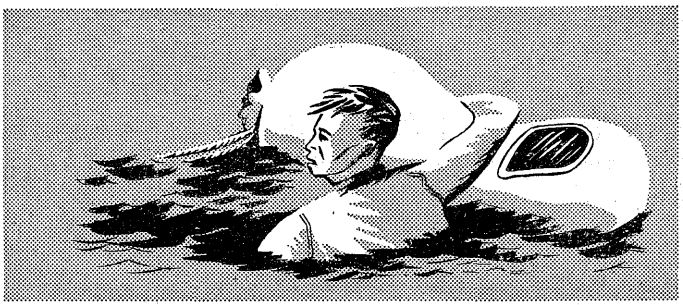
★

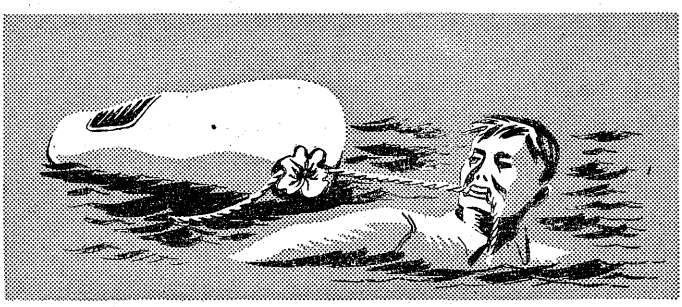
Souvenir Saboteurs *Major George B. Bennett, Ordnance Department:* "Soldier souvenir hunters are interfering with our efforts to develop complete intelligence data on enemy material. In many instances the name plates on captured materiel have been removed, apparently without giving thought to the fact that serial numbers and other data thereon constitute valuable intelligence bearing on enemy production and supply. A vast amount of information has been lost to us by the destruction or appropriation of materiel and documents in the field."

★

Gas-Cape Float *Second Lieutenant Raynard G. Rosen, Infantry, E. T. O.:* "The individual gas cape can be used to aid soldiers in crossing streams with their combat equipment. Unfold the cape and spread it on the ground. Place in it such articles of clothing as desired and the combat pack. Wrap the individual weapon in clothing such as the field jacket, shirt, etc., and place it lengthwise inside the cape on top of other articles. Be careful that no sharp metal parts are touching the end of the cape.





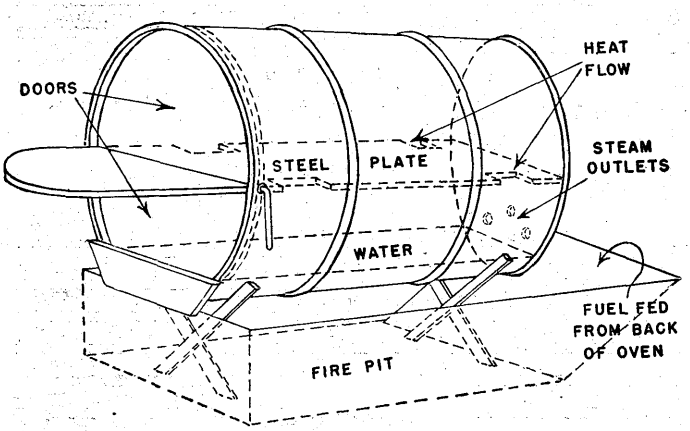


"Place on top of the weapon the gas mask, helmet, cartridge belt, and any other items of equipment. Shake the upper side of the cape opening up and down to get as much air as possible inside the cape, then quickly gather the open ends of the cape closing it like the top of a paper bag. Tie tightly with a shoe string or a shelter half rope.

"The bag may now be carefully lifted from the ground and placed in the water. There will be ample buoyancy to float all the equipment the soldier normally carries in combat. It will also keep a man afloat if he places his arms over the bag leaving the rest of his body in the water. Or he may tow it while swimming by holding the end of the cord, which is used to tie the bag, in his teeth."

★

Improvised Oil-Drum Oven When Army bakers arrived in a South Pacific island and had no ovens, mixers, or other modern equipment, they improvised ovens from discarded



Improvised Oven.

oil drums. With tools and steel plates borrowed from the Navy and Air Corps, they converted dozens of drums with a baking capacity of eight loaves each.

These are the steps: (1) Cut out the front of the drum (see sketch); (2) Weld in a steel plate as a baking shelf; (3) Devise a door to close the front (hinged horizontally, it will tip more easily); (4) Provide slots for heat flow in the shelf, cut steam outlets in the back of the oven, and install crossed metal bars on which to rest the oven; (5) Place two or three inches of water in the lower compartment, next to the fire, to keep the metal from burning out; (6) Place the completed oven over a shallow fire trench.

★

FIELD ARTILLERY NOTES

Artillery Air OP *First Lieutenant A. W. Shultz, Air Officer, 3d Division Artillery,* ITALY: "I find that it is necessary here to fly most of the time at about 1,000 feet, sometimes 1,500, and sometimes even 2,000. We pick up flashes and adjust by using adjacent terrain features. Sometimes we pick up smoke and fire-area concentrations; occasionally we harass traffic on roads. Our usual targets are enemy gun batteries. Sometimes we have been able to pick up self-propelled guns. We have had good luck in finding German AA guns.

Two to Five Missions Per Day "The longest time in the air for an observer was 5 hours, during which time he fired four missions; the shortest was 40 minutes. The average mission takes about 1 hour and 15 minutes; it takes about that long to locate an enemy battery and adjust fire on it. Five missions in one day was the greatest number fired by one observer; the average is about two. We find that we

run in streaks as to the number of targets located. Some days we will be attacked while on flight and have to get downstairs in a hurry.

"Observation is better on a hazy day than on a bright day, as you can see artillery flashes better. Dawn and dusk are the best times to observe.

"I do not believe it is essential to teach observer pilots night landing but they definitely must be able to make dusk or twilight landings. We use flashlights faced with red cellophane, on the sides and at the end of the landing strip, about four or five in all."

★

Combat Notes *Lieutenant Colonel W. C. Westmoreland, Field Artillery,* ITALY: "The following methods and practices employed in my battalion (155 howitzer) have proved sound and beneficial.

Gunnery "The use of ladder fire is discouraged since it tends to give the enemy information as to the location of the battery. If observers are uncertain of the direction of the line of fire they ask for a change of range on the second round leaving the deflection alone. By noting the location of the point of impact of the first and second rounds they can determine the line of fire sufficiently close for observation purposes.

"When sweeping reverse slopes the delay fuze can be used in an effort to obtain ricochet fire. If the adjustment is made on the crest of the hill and the range increased slightly, a good percentage of ricochets can be obtained.

"When using smoke to screen an area the delay fuze has proven most effective. When smoke is being used to assist observers in locating rounds or for their orientation, the quick fuze is more satisfactory. The use of time

fuze for this latter purpose has proven very efficacious on many occasions.

Firing Battery "Gun sections are controlled by direct telephone communication between the executive and each piece. Lateral lines between the pieces are also laid. This provides gun control, even though the direct line is shot up.

COMMENT: It should be remembered that the unit considered is a 155-mm howitzer battalion. The need for intra-battery telephone communication will normally not be as great in the light artillery units. The equipment necessary for such a system is authorized as additional equipment by the higher command.

Slit-Trench Relay "As an additional precaution against loss of control, each section digs a slit trench halfway between the post of the executive and the piece. A cannoneer is placed in this trench to relay commands from the executive to the gun crew.

"It is standard practice to have the center battery record instrument direction by high burst after completion of registration. Time smoke is usually used for this purpose. Then each morning, or at other times when weather conditions have changed considerably, the recorded instrument direction is checked and if necessary the base deflections of all batteries changed.

Communication "Double lines are always laid from the battalion CP to each firing battery. One is the normal command line between switchboards, while the other is the fire-control line running direct from the battery executive's position to the fire-direction center. This line is laid by the battery agents using DR4s mounted as improvised reels on the agent's ¼-ton truck. These two lines to the battery

either line promptly if one line goes out.

"A device[1] controlled at the command post to throw any two or any combination of staff phones into series for party call purposes, proved helpful. It avoided transferring of telephones and moving from one phone to another in a widely dispersed installation.

"An assistant communications officer remains at the command post at all times to insure perfect coordination between tactical plans and communications agencies. He keep a tactical map on which he records all battalion and adjacent unit installations with the communication set-up concerning each. Accurate wire routes and radio nets are recorded on this map.

"In order to insure continuous communication with the battalion rear echelon, a SCR–284 radio is assigned to Service Battery.

Observation "Thorough and continuous observation over a very wide front in a mountainous area was provided by forming battery observation groups consisting of the battery commander, reconnaissance officer, and assistant executive. Each officer had his own vehicle with a SCR–610 or SCR–608 radio.[2] Each battery group was assigned as a zone of observation the zone of action of an infantry regiment. The battery commander obtained from the infantry commander of his zone the plan of operations, and organized his plan of observation. The battery commander stayed at the OP selected initially, with wire communication to his battery in addition to radio communication via the SCR–608 radio, to the fire-direction center.

[1] A multiple switch utilizing terminal strip connections.

[2] Very high frequency vehicular radios.

"The other two battery observers, each with SCR–610 radios were then placed by the battery commander at additional OPs (either to the front or flank) as they became available or advantageous. These observers were in direct radio communication with the FDC or by either radio-and-wire or all-radio relay through the battery commander. Gaps in observation were filled by battalion observers. This system provided very effective observation even with a 2400-mil sector of fire.

Command Post Operation "A field artillery battalion command post, being a tactical, fire-direction, and administrative headquarters has a tendency to become a 'mad house' at times. Just a few additions and changes will make things go smoothly, efficiently and quietly.

"An ammunition recorder who keeps a running record of ammunition, and prepares ammunition reports will relieve computers of this task.

"Have an S–2 clerk who can catalog maps, assist in maintaining situation map and keep the S–2 log.

"Show on the S–2's operation and situation map the sector and area of observation of each observer.

"Provide each staff phone with an operator who keeps a record of all conversations over his phone. These records check and complete the unit journal.

Antitank Platoon "Used mainly to patrol areas at night where enemy infiltration was possible, reconnoitering roads and position areas, checking for and clearing areas of mines, and opening gaps through mine fields.

Stripped Battalion "For all initial occupation of positions, it is desirable to bring forward a minimum of vehicles.

All service and supply vehicles are left with Service Battery in the battalion rear area.

Protective Measures "After an air attack, men should stay under cover for at least 2 minutes following cessation of antiaircraft fire. Otherwise there is a great possibility of injuries resulting from expended bullets or dropping shell fragments.

"We standardized on a slit trench which proved most effective. All trenches were individual and were dug widely dispersed. The standard trench was 2 feet wide, 3½ feet deep, and as long as the man was tall. The spoil was piled at the ends of the trench and camouflaged or sodded. Placing the spoil at the ends has the following advantages:

"It provides increased protection against enfilade bullets or splinters.

"The spoil is easier to camouflage or sod since it covers less area.

"The trench does not have the characteristic 'bathtub' appearance, making it more difficult to detect from the air.

"The trench provides more comfort for the man during periods of inactivity since the sides are free from spoil."

★

Artillery Decoy *Brigadier General T. E. Lewis, Field Artillery,* ITALY: "One enterprising young officer of a Field Artillery Group showed up at Corps Headquarters the other day looking for the corps engineer. It seems he wanted a sort of blank check to cover dynamite withdrawals, since normal supply channels didn't keep pace with the activities of his demolition squad.

"This squad selects an area that would be a logical artillery

position removed from other troops. Charges designed to resemble artillery fire often succeeded in bringing enemy fire upon the area selected while the members of the squad were crouched in foxholes. The double purpose—to waste Jerry ammunition and to reveal his mortar and artillery positions."

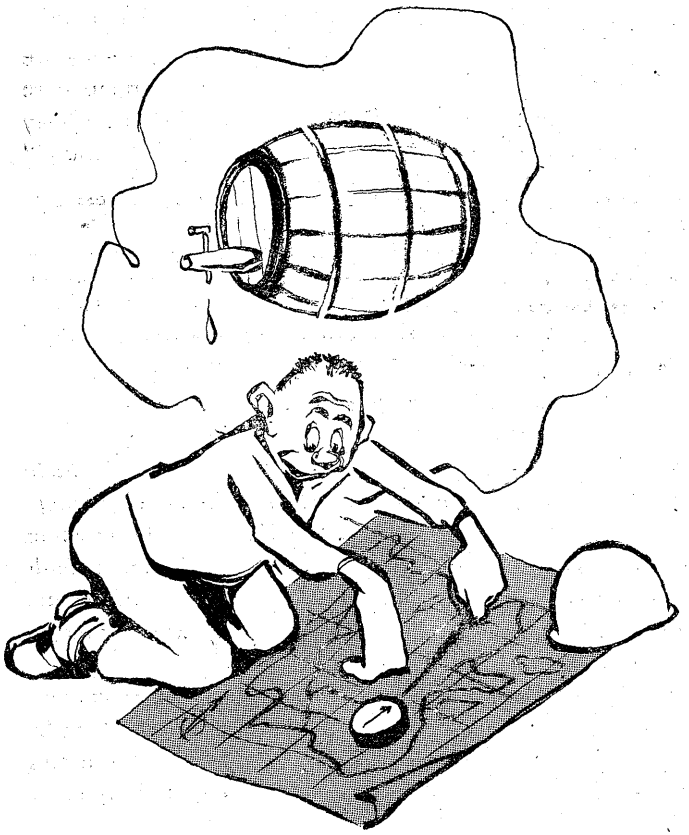
COMMENT: The use of dynamite charges in unoccupied areas to simulate artillery fire has produced some excellent results. In addition to wasting enemy ammunition and often aiding in discovering his artillery and mortar positions, it diverts his fire from real targets and gives him a false impression of our artillery strength. If the firing of the charges is timed so as to coincide with the discharge of artillery in the vicinity it will tend to confuse sound-locating equipment.

★

Sound and Flash *Lieutenant Colonel J. W. Wells, Field Artillery Observation Battalion,* ITALY: "We advocate long-base flash spotting. Our present flash base is 4,000 meters. The long base gets sky flashes at night and defeats defilade in a way no other method can. We read on the center of the glow and accept the location only when three or more rays give a common intersection.

"It is important that sound and flash observers connect the shell with the gun, if possible. When impact data on the shell is included in such reports it aids in eliminating the fake noisemakers that the Germans use quite frequently.

Ingenuity at 16,000 Meters "Flash observers should know how to adjust artillery fire using forward observer methods. This will often permit a single observer to adjust fire when communication failures prevent the use of normal procedure. While installing a flash station, a sergeant of this battalion located an enemy target. He adjusted a battery, with excellent results, using forward observation methods although the observer-target range was 16,000 meters.



"Find That Keg" "In moving into position, we have never been able to move the battalion as a unit; we always bring it up in small increments. Therefore it is important that everyone who might have occasion to guide these small elements be well versed in map reading, in following a

route at night, and in following a compass at night. During one training period we had 'keg of beer parties'. A keg of beer would be set out in a spot which was relatively difficult of access. The men would be given only a compass azimuth. Those who got there first, got the beer."

★

NOTES FROM OTHER ARMS

Tank Operations *Remarks by a Senior American Officer,* SICILY: "On the morning of 12 July, at least a company of German tanks with numerous Mark VIs (Tigers) attached, attacked down the NISCEMI ROAD. There was an observation post for our artillery just south of this road from which fire was placed on the tanks with *great accuracy* by an *infantry battalion commander* who was the only observer present. At the time he brought the fire down on the tanks they were within 300 yards of his position.

"While this was going on, a company of our Sherman tanks encountered enemy tanks and infantry moving west on the GELA-RAGUSA ROAD and a sharp fight ensued. The Germans lost two Mark VIs, while we lost four Mark IVs (Shermans). The German tanks attacked ahead of the infantry, and without using smoke or reconnaissance. They were stopped by fire from our tanks and artillery.

"In both attacks the Germans followed the roads and were less successful than on the preceding day when they had been deployed and operated cross-country.

"On the MISCEMI ROAD I saw four German Mark IV tanks and a number of Mark VIs and Mark IIIs which had been knocked out. Three of the Mark VIs had been stopped initially *by a hit on a track.* Another Mark VI had been ditched under conditions that indicated very poor driving

and then put out of action by artillery shell fire while immobilized.

Penalty of Carelessness "The American tanks lost deserved their fate because they deliberately violated long-standing instructions. They had apparently moved down the valley until they reached a road and then successively moved out on the road to get a view. As soon as they got on the road they came under fire from German 88s at 1500 yards range.

"Had these tanks halted under cover on either side of the road and reconnoitered on foot, they would certainly have discovered the German guns which were and still are in plain view."

★

Using the 4.2-in. Chemical Mortar *Fifth Army,* ITALY: "The following general rules for the use of heavy mortars are suggested:

"Range in the mortars on all likely avenues of enemy approach as soon as a position is occupied.

"Preceding an attack, push heavy mortars and stocks of ammunition as far forward as possible. During the attack use mortars freely to prevent enemy from moving bodies of troops by covered routes, to blast field works, and to place smoke screens where and when needed.

"In a stabilized situation use mortars to keep the enemy stirred up and to wear him down. Study the ground and the enemy movements so as to interfere with his routine as much as possible.

"Heavy mortars should be located in defilade from enemy artillery fire and should have good observation of the enemy position in order to produce effective results. Such positions should be near roads or trails to facilitate ammunition supply.

"Use mortars for destruction of targets by precision fire when such targets cannot be engaged by the artillery. Mortar and artillery forward observers work together for most effective results, each taking the proper type of target under fire.

"Whenever our infantry take an objective by assault, place the heavy mortars in position quickly so that the enemy counterattacks may be broken up by intense mortar fire when directed by the infantry commander.

Examples "A number of enemy snipers were in an isolated stone farmhouse. Fifty rounds of observed HE fire knocked the house apart and 40 rounds of white phosphorus (WP) poured into the debris eliminated the snipers.

"A force of approximately one German infantry battalion was observed forming in a sheltered valley for an attack on Rangers holding a mountain pass. The mortars had registered on this area as a likely avenue of approach. At the critical moment the Ranger commander called for mortar fire and 550 rounds of high explosive fired at the most rapid possible rate by one company broke the formation and left the ground covered with dead and wounded.

"A smoke screen about 500 feet high and 3 miles long was placed on the north side of the VOLTURNO RIVER to cover bridge-building operations. This screen was maintained for 11 hours of daylight during one day, and continued during the night by using smoke pots. On the second day it was again maintained by mortar fire for 6 hours; 3,800 WP filled mortar shells were fired. The rate of fire, after the screen was established, was one shell each 15 seconds.

"On a German night attack near SAN PIETRO, WP shells were fired beyond the main body of the attackers. The light of the burning phosphorus threw the enemy soldiers into bold relief and our machine gunners were enabled to execute

deadly fire and break up the attack. This operation used about 400 rounds of WP ammunition.

"Two enemy tanks were hidden in an area defiladed from artillery fire. At the suggestion of the artillery observer, mortar fire was placed on the area. When the tanks attempted to move to a new position, our artillery destroyed them."

★

4.2-in. Chemical Mortars in Action *Comments from Infantry Division,* ITALY: A report to the chief chemical officer by an observer in Italy emphasized the enthusiastic comments of commanders upon the excellent work done by this weapon in close support of the infantry. Some practical ideas as to technique contained in the report were:

"It has proven very difficult to find suitable ground for emplacing the mortars. Due to the rains and the alternate freezing and thawing, the soil was not firm enough to support the base plate. The use of sandbags and/or alternate layers of logs and gravel aided in stabilizing the base. Even with this assistance it was usually necessary to dig the mortar out and reemplace it after firing from 25 to 50 rounds.

"Original emplacements required from 2 to 3 hours to prepare instead of the 3 to 5 minutes normally considered necessary.

Choosing Locations "Avoid the most logical locations for emplacing mortars. 'Jerry' knows about them too and will search them with fire when you cut loose.

"Defilade, cover, and concealment are the most important attributes of a position, and the longer the position is to be used the more important they become.

NOTE.—Of course the position selected must permit the accomplishment of the assigned mission.

"Harassing fires at night by this weapon are not recommended. The flash gives away the position unless it possesses exceptional defilade. If necessary to fire at night, check the mortars closely, and fire on previously registered targets.

"Fire the mortars coincident with the artillery. This covers up the muzzle blast and aids in concealing your position.

"Prepare positions prior to occupation, utilizing the smallest possible number of men. This cuts down movement around the position, lessens confusion during actual occupation, and exposes fewer men to observation, enemy fire, and mines.

"All movement should be made at night if possible, preferably just prior to dawn rather than just after dark."

★

COMMUNICATIONS

Don't Adjust Enemy Artillery "Obtaining radio security is still a headache. Troops still neglect the few elementary rules for obtaining it. The other day a reconnaissance troop was making a reconnaissance in force. As they approached a town, enemy artillery fire began to fall to the south of it. The troop commander reported his location, by voice radio, in the clear, as being just north of the town. He immediately began to receive artillery fire. The troop went through the town quite rapidly and upon approaching the southern exit, the commander sent a message to that effect in the clear. Immediately the artillery fire shifted to that part of town. The troop is now using a voice brevity code."

★

Common Violations of Radio Security *Brigadier General Richard B. Moran, Chief Signal Officer, Fifth Army,* ITALY: "Use of proper names, Christian names, nicknames, etc. to refer to an officer or enlisted man defeats the object of daily changing code signs and helps to identify groups. The authorized code or codex must be used.

"Use of unauthorized code names or codewords may cause confusion. Units may not allot them without permission.

"Long transmissions give the enemy plenty of time to tune in and increases his chances of gleaning information. Keep

'off the air' if possible. Keep transmissions short.

"An encoded map reference must not be accompanied by a description of the place referred to.

"Administrative reports must not be sent in the clear. The

enemy can often obtain valuable information from them.

"Codex is more secure than the reference-point code and its use should be encouraged."

★

Unusual Consideration *Major D. S. V. Hinman, Executive, Tank Destroyer Battalion,* ITALY: "We use two poles with hooks on the end to lift field wire so that our M–10s can run under it and not injure it. Before we tried this expedient, almost every time we ran over a wire line we broke it. Of course it is just too bad if the line doesn't have sufficient slack in it to permit this. We carry two of these poles on each of our M–10s."

★

Dig In *Lieutenant Colonel D. J. Calidonna, Signal Officer, 34h Infantry Division,* ITALY: "We invariably dig in our switchboards and occasionally our radio installations. Protection from the weather is obtained by placing the top of a 1-ton trailer—bows and all—over the hole.

Disclosed by Your Code *Official Report, Signal Operations,* SICILY: "The continued use by an organization of a code of their own making will easily identify that unit wherever and whenever it moves. Members of a unit captured by the enemy disclose the unit designation. As long as the unit uses its special-type code its identification is certain."

★

A Reel Convenience *Major Pickett, Signal Officer, 1st Infantry Division,* ITALY: "When we lay wire over here we leave the empty reel at the end of each mile looping the wire around the reel a couple of times. This not only clears the truck but also provides a reel when the wire is picked up by ourselves or some other unit."

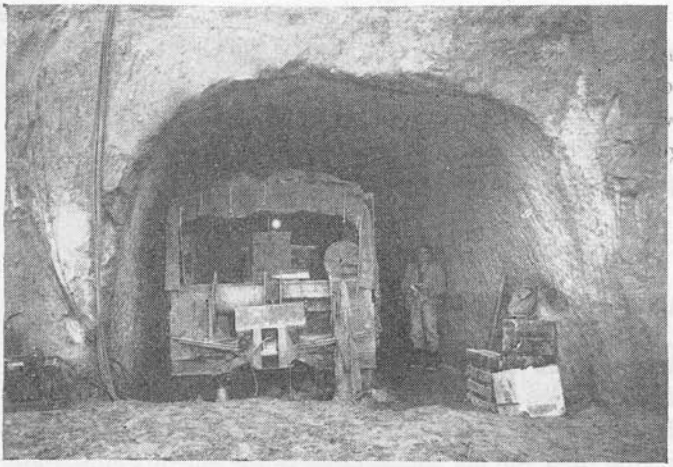
★

MOTORS AND TRAFFIC

Motors Need Maintenance *Brigadier General Vincent Meyer, Commanding 18th Field Artillery Brigade,* ITALY: "It was my experience that as soon as we moved out of the Staging Area and got within range of the enemy's guns, motor maintenance, for some strange reason, came to a summary end. It is partly due to the vile weather and to the heavy, slimy mud.

"First-echelon maintenance was so utterly wanting that drivers were not even checking the water level in the radiators. The motor mechanics were honestly trying to do proper second-echelon maintenance but they were exposed to the weather with no overhead cover from the rain, and were slipping and sliding around in mud that was inches deep. It finally got them down; they just couldn't cope with it.

Corrective Measures "When I realized the gravity of the situation, I placed an energetic leader in charge. He immediately scouted around and got a place with overhead cover and hardstanding, using available buildings and a couple of caves. We required that the drivers clean off mud and drain old oil across the street from the shop. This helped to keep the shop clean and in order.



"As to first-echelon maintenance my motor officer had to bear down in no uncertain terms, but in two or three days the drivers were back to doing the things they had been trained to do for so many months prior to entry into combat. In addition, I required *every* officer, prior to starting on any trip with a motor vehicle, to check at least one item on the car in which he was traveling; for example, tires, battery, water level, oil gage, etc.

"I am still leaving the second-echelon shop in its good location even though it is 5 miles back from our present CP. I consider that a good 'site' for working is a more important consideration than proximity to the battalion area."

★

Be Winch Conscious *Colonel Walter A. Goodrich, Coast Artillery Corps, Observer,* UNITED KINGDOM: "I have found a considerable number of motor-vehicle drivers who know

little or nothing about the use of the truck winch. Also many gun crew members, including a major portion of the section chiefs, are not familiar with this device. Since the winch can perform so many varied and useful duties in getting in and out of position, lifting heavy loads, etc., it would seem extremely important for battery officers to stress its possibilities."

★

Keep Your Distance *Lieutenant Robert L. Whitlock, M. P. Company, 45th Division,* ITALY: "Traffic, our big problem over here, has to be worked 24 hours a day. Jerry, you know, has a nasty habit of dropping out of the clouds when he sees two or more vehicles jammed up. Some of our drivers were slow in learning to keep proper distance. It made it hard on their families.

"In order to cope with all situations we have 2 officers and 30 enlisted men of the company attached to each of our 3 regimental combat teams. They control traffic and handle prisoners of war in their respective areas. Our base platoon, made up of the remaining officers and men, handle all traffic from the regimental boundary to the division rear boundary.

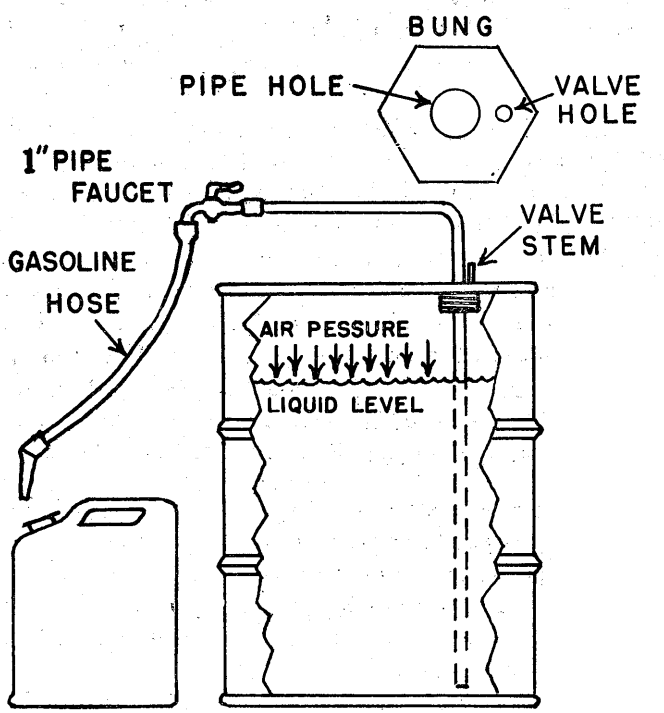
"This is where our real traffic problem is. We also have MPs attached to our engineers to control traffic at bridge construction sites. These men are usually right up at the front. Then too, we must have a detachment to furnish the MP requirements of the division command post.

★

Gasoline Gadget *Lieutenant Donald E. Frazier, Chemical Warfare Service:* "The rapid transfer of gasoline or similar liquids from 55-gallon drums to 5-gallon containers is often

a difficult and back-breaking process involving considerable wastage. In my outfit we have devised a dispenser, utilizing salvaged materials, which has proven very satisfactory.

"The dispenser is made by drilling a hole in the standard end bung of a 55-gallon drum large enough to permit insertion of a length of pipe 1 inch in diameter. This is bent as shown in the diagram and welded in place. Note that enough pipe is used to extend almost to the bottom of the drum. Connect a faucet to the outside end of the pipe. Drill a second hole in the bung as shown and weld into it an



Improvised Drum Dispenser.

ordinary valve stem from an automobile tire. This is used to introduce air pressure.

"If desired a length of gasoline hose can be fastened to the faucet so as to avoid having to hold the can off the ground while filling it.

"In operation, air pressure forces the liquid out. An air compressor is usually available. If not the pressure can be easily built up with a hand pump.

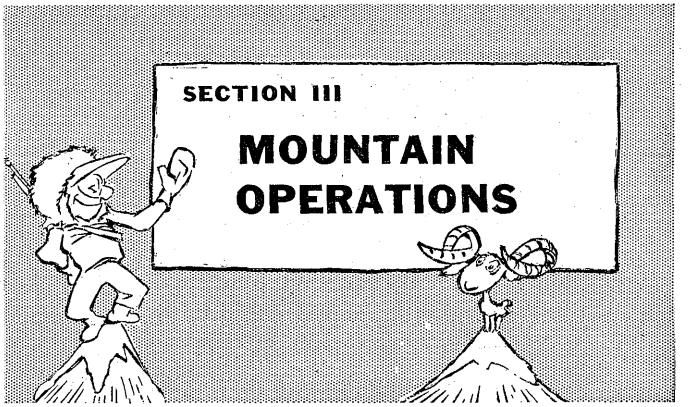
"A further refinement is to mount the drum on a hand truck and roll the whole assembly down the line of cans."

★

Permanent Culverts From Oil Drums and Concrete *Captain A. E. Haverle, Engineer, Alaskan Department,* says it it simple to fashion permanent culverts from empty oil drums and concrete. After determining the amount of culvert opening required to carry off the anticipated flow, sufficient steel drums, with top and bottom knocked out and welded end to end, are placed in position and the whole encased in concrete.

Adjacent lines of drums should be placed at least 6 inches apart, and no unit of culvert should include more than three lines of drums. From 8 to 12 inches of concrete should be placed under and over the drums, the lines of drums serving as inside forms for a concrete culvert. The space between adjacent lines should also be filled with concrete to carry the roadway load, thus preventing collapse of the drums. On wide spans, a small amount of reinforcing steel is advised.

★



INFANTRY NOTES

Villages in Mountains *From Fifth Army Training Notes,* ITALY: "An outstanding feature of the mountainous terrain in ITALY is the invariable location of villages on dominating terrain or on ground which is vital to the attacker in order that he may secure his line of communication. These villages consist of closely packed buildings with narrow, winding streets. The buildings are thick-walled and are immune to shell fire except a direct hit; even these cause little damage. There are also a considerable number of scattered houses located on dominating features usually of the same strong stone construction.

"The Germans make full use of these buildings as strong points and machine-gun installations. They endeavor to build up a system of mutually supporting positions which, because of their location, are extremely difficult to maneuver against. On many occasions the defenders have allowed the advance scouts to penetrate these villages or scattered strong points, then destroyed the following troops.

Attacking a Village "Daylight attacks against these hilltop villages are almost out of the question as casualties are invariably high. Extensive use of a limited night attack has proven to be the best method of handling this situation. The attack is made on as dark a night as possible. Silence is necessary and is relatively easy to obtain since the ground over which the approach is made is mostly cultivated. The process of infiltration must be systematic and every building gained should be immediately turned into a strong point for the attacker.

"It is advisable, where possible, to have the forward attacking elements allotted a high proportion of submachine guns. Each man should carry at least two to four hand grenades. They are invaluable in clearing buildings.

"The Enemy's Mortars are habitually emplaced behind villages on the reverse slopes, dug down to a depth of 10 feet. These are almost impossible to knock out by artillery fire even if we can actually locate them. One unit has reported that they have successfully engaged targets of this type by pooling all its 81-mm mortars and firing them as a battery under unit control.

"Of course, if it is at all possible, it is better to avoid these villages entirely, flank them, and cut the enemy's line of communication.

"The absolute necessity of keeping a reserve for counterattacks on the reverse slope is stressed. If there are any houses on the forward slopes they should be occupied or the enemy will use them to assist his counterattacks."

★

Infantry Heavy Weapons In The Mountains *Heavy Weapons Company Commander, 3d Division,* ITALY: "Our heavy weapons companies have carried just about half of their weapons in Italy. In that way they could keep up both the guns and the mortars together with enough ammunition to make them useful. Every machine gun squad in the heavy weapons company has a light machine gun as well as a heavy. They carry the light machine gun up these mountains and later substitute the heavy gun if it is practicable to bring it up.

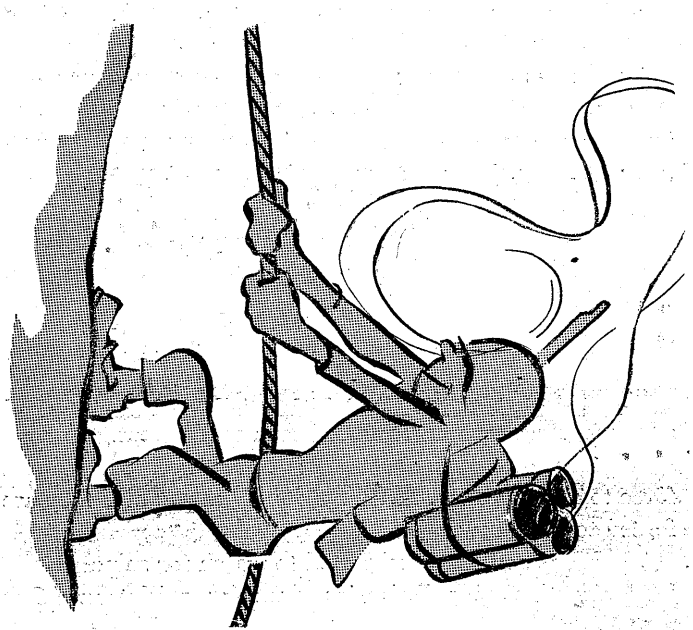
"In this type of terrain we use only two 81-mm mortars. With them we can fire all the ammunition we can get up. It is much better to have two mortars firing when you need them than to have six mortars without ammunition."

★

Rifle and Stove *Major Kermit Hansen, 34th Infantry Division,* ITALY: "In this division we have been able to give a fairly liberal allowance of the small Coleman stoves to the front-line infantry by taking them away from truck drivers, etc. Most units have one stove per squad. I am convinced that men will hang on to their rifles to the last, and to their stoves till next to the last. They utilize the German metal gas-mask container to carry the stove in. Being able to heat 'C' rations is a great morale and efficiency factor in cold, rainy weather, particularly up in the mountain tops where our men are now. Also a secondary but vital use of these stoves is to dry out wet socks; it is the only possible way that it can be done."

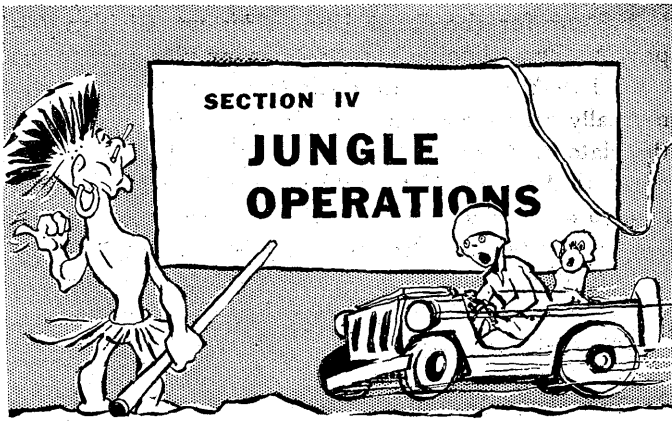
★

Hot Food for the Front Line *Assistant Division G–4,* ITALY: "Front line units get into many places where you cannot get even a mule up to them. We heat 'C'-ration cans in boiling water, then put them in 155-mm shell containers, and strap three containers on a packboard. The reports we get back indicate that the food stays hot for 4 hours—which is long enough to get it to the front line troops by dismounted pack methods. We have also sent up, by



packboard, hot water in 5-gallon water cans, with each can wrapped in two blankets. Reports also show that the water on the front line is hot enough for the men to make cocoa or coffee."

★



ESSENTIALS OF JUNGLE WARFARE

Jungle SOP *Operations Report, Infantry,* BOUGAINVILLE: One infantry regiment has developed an outline SOP as a result of its jungle experiences against the Nips. Extracts are given:

"*SOP Attack Procedure, Combat Patrol*

"1. Have a covered route of withdrawal picked out in advance in case enemy pressure becomes too great.

"2. Keep one squad back as a reserve, and to provide a force to cover the forward elements of the patrol if they are forced to withdraw.

"3. Men should be designated to watch for snipers.

"*Organization of a Defensive Area for a Platoon (One Night)*

"1. Post outposts to cover platoon as it organizes the position. Place loaded automatic weapons nearby in case enemy attack comes during organization of position.

"2. Select position difficult to attack—preferably on high ground.

"3. Cover trails and other likely avenues of enemy approach with well dug-in automatic weapons pits.

"4. Dig three-man emplacements placed so that they are mutually supporting and cover the area completely around the platoon.

"5. If the platoon has sufficient communication equipment, a sound-powered telephone net connecting the platoon command post with each squad should be provided.

"6. Booby trap the area completely around the perimeter.

"7. Clear light brush or fire lanes outside the perimeter for 20 to 40 yards.

"8. Arrange for supporting artillery or mortar fires.

"9. Place sharp pointed sticks in the ground 10 to 25 feet in front of the weapons pits. They should be inclined in the direction of possible enemy approach. The sticks must be sunk in the ground to sufficient depth so that they are firmly anchored. They should protrude to varying heights but must not be so high as to interfere with the firing of weapons.

"10. If patrol has a mortar attached set it up to fire on most likely enemy approach to the perimeter.

"11. Use grenades freely when the enemy is seen or heard approaching the position.

"12. Hold the weapons fire until a definite target is observed. Premature firing of weapons will disclose positions.

"13. All men should remain in their emplacements and not move around the area."

★

"Musts" for the Jungle Soldier *First Marine Corps,* BOUGAINVILLE: "If he is to survive it must be second nature for every jungle soldier to:

Keep his mouth shut on the trail.

Recognize common jungle sounds.

Keep his eyes off the ground when on the trail and maintain a constant watch toward the head of the column and to a selected flank.

Get off the trail at halts, conceal himself, and observe to the flanks.

Dig in at protracted halts.

Know the Nambu (a light machine gun) by its sound, because it is the framework of the Jap jungle organization and is an infallible guide to flanks and strongpoints.

Black his face and hands and remove any shine from equipment.

Conserve his own ammunition and pick up an abandoned bandolier when he sees one.

Memorize and invariably use the unit's selected code words for leaders, various maneuvers, ammunition, corpsman, etc.

Be able to select a night position so that the jungle works to his advantage and to the disadvantage of the infiltrating Japs.

Appreciate the fact that the Japs do not have cat's eyes; that they are afraid of the dark, and that at night a moving Jap is an easy victim for a silent Marine who believes in his bayonet.

Care for his equipment religiously. Weapons deteriorate with unbelievable rapidity in the jungle and must be cleaned at every opportunity."

★

Military Mapping and Sketching in Combat Areas *Task Force Commander,* SOUTHWEST PACIFIC AREA: "One of the most helpful things I have learned about jungle fighting is how to make a map. I had each of the platoon leaders make a rough sketch of the terrain to the immediate front of

their platoons. These sketches were consolidated by company, and then the battalion consolidated the companies' work. I do not believe it practicable to have maps consolidated by units larger than the battalion.

"We found these consolidated sketches to be of more value than airplane photos, which usually just disclosed a mass of trees, or the map issued, which gave little detailed information. These consolidated sketches gave me valuable and necessary information for employment of tanks and other troop units against the enemy."

★

81-mm in the Jungle *Lieutenant Frank Kay, Infantry,* BOUGAINVILLE: "Heavy-weapons companies don't, as a rule, see much action in the jungle. Their role is usually a defensive one. The 81-mm mortar has proven to be an

excellent supporting weapon, better than the 60-mm. Adjustment of mortar fire is quite difficult due to the extremely limited visibility. We use considerable smoke to facilitate adjustment.

"Often the first few rounds are lost, but we sense by sound and work back towards our own troops. Heavy HE is used almost exclusively. The sound of the explosion of this shell is barely heard at 300–400 yards, as sound travels very poorly in the jungle. I have been under the fire of these mortars where the mortar-target range was 300 yards and the target was only 25–30 yards in front of us.

"On the march, when expecting enemy contact, the mortars are kept at a designated distance from the point. At a halt they immediately go into firing position. Should fire be needed they use the known distance from gun to point as a limiting range. For initial direction, the approximate azimuth of the column is used."

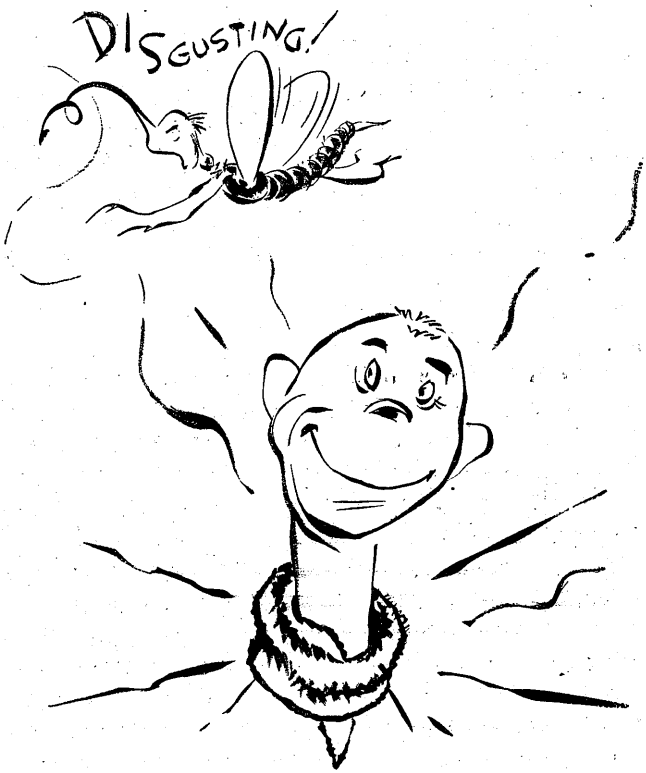
★

Neutralizing Ann *Operations Report, XIV Corps,* NEW GEORGIA: "Malaria has proved to be a more effective casualty-producing agent than Jap bullets. Many units relaxed malaria-control discipline upon entering combat. A major reason for this was a false sense of security, since few mosquitoes were observed.

"Factors tending to increase malaria incidence were: (1) Locating bivouac areas too near natural breeding places such as swamps and sluggish streams; (2) Creating artificial breeding places, *i. e.,* rain barrels, discarded helmets, tin cans, bottles, broken coconuts, water-filled bomb craters and foxholes, and sagging tarpaulins; (3) Failure of individual malaria discipline in neglecting malaria-suppressive treatment, rolling up shirt sleeves or removing clothing, thus exposing

the skin to mosquito raiders, and neglecting the use of protective netting after nightfall.

"The use of unscreened pit latrines and straddle trenches in malarial regions results in 100 percent exposure of personnel to malarial mosquitoes. Some units have used the standard bed net over a 4-foot-long straddle trench. The sides of the net are weighted with strips of wood so that they will fall to the ground after being lifted. The bed net can



Antimosquito Muffler.

also be used in a similar manner over a standard box seat on a pit latrine."

COMMENTS: In both North Africa and the South Pacific, liquid-soap dispensers have been used to dispense issue insect repellant to soldiers attending outdoor movies or similar gatherings. Men in combat have found that a rag saturated with insect repellant and tied around the neck discourages undue attentions from Miss Anopheles.

A recent report from the Southwest Pacific has shown the efficiency of an atabrine suppressive schedule of 0.5-gram dosage, Monday and Friday. It has been successful in preventing initial and recurrent attacks in a unit working under adverse conditions in a highly malarious area.

★

PATROLLING

Jungle Craft *Lieutenant B. Maier, Infantry,* BOUGAINVILLE: "I think back now on how I used to 'cuss' when scouting and patrolling came up on the schedule. I had the idea that, with all the lectures and field work we had, it would all come as second nature when we got into combat. But let me tell you something. I have many veterans of GUADALCANAL in my platoon who have had lots of combat

No Place for Amateurs.

experience in patrolling, and they still have plenty to learn.

"Let me give you an example of a 4-day patrol we had in Jap territory. In those 4 days we moved about 1,000 yards a day. Starting at 7 in the morning, an hour's stop for lunch, and ending at 5. Figure out for yourself how far we averaged per hour. It's pretty tough to move like a cat through the jungle hour after hour. One man causing a little too much noise can cause the annihilation of a patrol; I sincerely mean it, because it has happened.

Jap Ambushes "I guess you have been told not to travel on trails because the Japs have ambushes. It's perfectly true. We travel cross country through the thickest jungle and still manage to be quiet. The scouts with a patrol should have extremely sharp knives for slicing vines, understand now, *no hacking.* I said slicing. Patrol leaders should have rendezvous points designated where the men can meet in case they're split up by opposing patrols. Too many men are lost because of neglecting this simple point. Equip each man with some sort of compass and be sure every member of the group knows the azimuth back to the front lines."

COMMENT: This is the first combat experience report that emphasizes the idea of keeping off trails and moving cross country. All previous reports have indicated that it is almost a uniform practice on the part of both Japanese and Allied forces to limit patrols to existing trails. The factors of time, space, terrain, and enemy activity will largely decide the patrol technique to be used.

★

Organization of a Jungle Patrol *As Reported by Lieutenant S. C. Murray, Infantry,* NEW GUINEA, *and Colonel Horace O. Cushman, Observer*: "An intelligence patrol, organized from the Intelligence and Reconnaissance platoon

of an infantry regiment on a 4-day mission consisted of a lieutenant and 20 enlisted men armed with 5 'tommy guns' and 16 carbines. The 'tommy gun' was carried for its quick and heavy fire power. The carbine was used in preference to the M1 rifle since it is lighter and easier to carry through the heavy jungle growth.

"Each man carried a M1917 haversack containing a poncho, one ration, head net, extra pair of socks, and halazone and atabrine tablets. Their uniform was HB twill, two-piece, with the HB twill caps, shoes, and leggins. They carried the normal ammunition load, augmented by several grenades apiece.

Native Bearers "An additional 32 rations were carried by 5 unarmed native bearers (who also carried a supply of rice and 'bully beef' for themselves). These were 'C' rations, and were figured on a four-cans-per-man-per-day basis instead of six. The ration was supplemented with native fruits and vegetables.

"The HB twill cap was worn because the helmet is too noisy for jungle work and decreases the ability to hear.

"An SCR–610 radio is normally carried by patrols of this type. Native carriers are used to transport it and three radio operators are attached to the patrol. It is necessary to employ the SCR–610 [1] as the SCR–511 [2] will not operate over the required distances in the mountainous jungle country.

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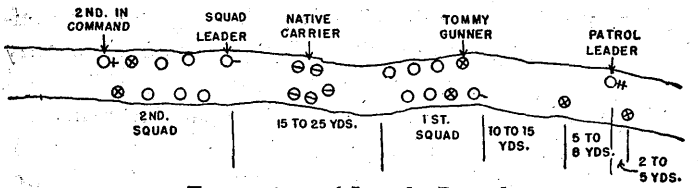
[1] The SCR–610 is a frequency-modulated, battery-operated, portable set weighing approximately 65 pounds. Range 5 miles.

[2] The SCR–511 is an amplitude-modulated, battery-operated, portable set weighing approximately 20 pounds. Range 5 miles.

Operational Technique "The formation usually employed is as shown in diagram below:



Formation of Jungle Patrol.

"If the area is particularly dense two 'tommy' gunners are used in front, one on each side of the track if possible. The distances between the men in squads varies from 5 to 8 yards. Visual contact must be maintained. Sometimes the native carriers are placed in rear of the second squad with one 'tommy' gunner and the second in command behind them.

If Attacked Enroute "When fired upon, each man immediately takes cover and then works off the track to the right and left a distance of 5 to 10 yards, thus setting up a small perimeter defense. The men receive prior instructions in the direction in which they will move in the event of an attack. The platoon sergeant moves up from the rear and directs the defense. The platoon leader, perhaps with two men, makes a reconnaissance to determine if the resistance can be driven off or bypassed. He remembers at all times that his mission is *reconnaissance* not combat.

Night Bivouac "The exact location is selected prior to dark although often not occupied until nightfall. Preferred locations are astride a ridge or on a small hill. Groups of three dig slit trenches on the perimeter. Each man must know the exact location of the groups on his flanks. One

man in each group of three is on the alert at all times. Movement after dark is kept to the minimum and is in every case prearranged. No lights or fires are permitted after nightfall.

Teamwork "Men must not try to fight the Japs individually. A soldier fighting on his own is a most uneconomical investment, and unless he is lucky he will accomplish very little. It is a rare occasion when a Japanese machine gun is not covered by other weapons, including a sniper or two. No one man can move in on such a combination. Fighting must be done by mutually supporting groups, and, in order to make this system effective training must be continuous and every effort made to keep the composition of the groups unchanged.

Essential Standards "The successful and efficient Intelligence and Reconnaissance platoon should have the following standards:

Selected personnel, mentally and physically better than average. Each member should be the equal of the average squad leader.

One hundred percent trained replacements.

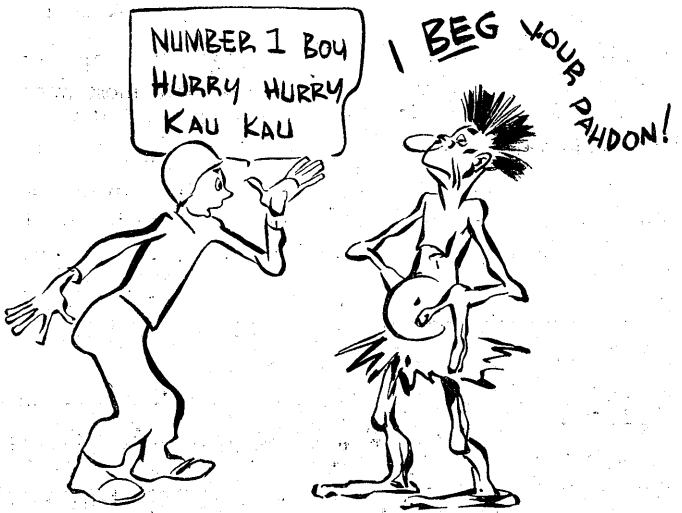
Rigorous physical hardening. Lots of hill and mountain climbing.

Experience in the jungle. During training, they should stay out for eight or ten days at a time. Use native guides and learn to read signs from them. Have them show the men the edible fruits and vegetables.

Strict water discipline, both as to the amount consumed and its purification with halazone tablets.

Ability to move rapidly and silently. Use arm and hand signals to indicate the situation and the desired action. No talking or whispering.

Constant maintenance of visual contact front and rear, left and right.



Knowledge of the pidgin dialect of the natives."

★

Jungle Patrol Pointers *First Marine Amphibious Corps,* BOUGAINVILLE: "Information is the framework upon which tactical plans are built, and, especially in the jungle, patrols are a most effective information-gathering agency. The Japs are vigorous jungle patrollers, and our patrols must be sufficiently effective not only to counteract Jap activities but to provide us with information as well.

Jap Reaction "One effective patrol expedient was devised, based on an invariable Jap characteristic—no matter what the circumstances, the Jap when struck, will react immedi-

ately and aggressively. As applied to patrols this characteristic is manifested in swift counterpatrolling by the Japs along the withdrawal routes of our patrols.

"To counter this it will be found effective to send out patrols in pairs—one to conduct the aggressive mission and one to follow a mile or so behind to erect an ambush on the trail. The first patrol, after completing its mission, withdraws through the ambushing force, which has had ample time and good security for setting up its ambush. Almost invariably a Jap patrol will soon appear.

Basic Principles "Points to be remembered in preparation and conduct of jungle patrols:

"*Travel light.*—no papers.

"*Include a high percentage of automatic weapons* and concentrate a large proportion of them well forward. The point should be heavily armed.

"*Approach streams gingerly.* The Japs like streams best for their ambushes. Make sure that the point has grenades in hand when it starts across. Don't pause for any reason until *both* banks have been well scouted in both directions.

"*Select successive reorganization points* as the patrol progresses down the trail, to provide for swift reorganization should a heavy Jap attack cause dispersion.

"*Maneuver swiftly on first contact.* Jap ambush weapons are not normally sited to cover wide fields of fire and usually bear mainly on the trail. Likewise the Japs react poorly to an attacker who makes and acts on his decisions quickly."

★

Dummy Installations *Observers Report,* ARAWE: ". . . the Jap usually confines his night air activities to small nuisance raids and the effect of those can be largely nullified by the

judicious use of realistic dummies in obvious locations. During one night raid observed by a member of the Board at ARAWE, the lone Jap bomber dropped two flares and saw what seemed to be a road leading toward a densely wooded area (which was really a swamp) and a dummy LCV anchored in a most natural position in the harbor. He expended half of his bombs on the swamp and the remainder on the dummy craft."

★

Jungle Ambush *First Marine Amphibious Corps,* BOUGAINVILLE: A few suggestions for increasing the effectivenesses of ambushes:

"Take time to find an innocent-appearing site—perhaps not ideally strong tactically, but one the character of which will not alert the Japs on approach. They know a likely ambush site when they see one and are accordingly cautious.

"Emplace automatic weapons primarily to cover the trail, with secondary fields of fire on normal lines of deployment and withdrawal.

"Use high explosives (TNT, Bangalore torpedoes) freely. Conceal them in the undergrowth adjacent to the trail and fire them electrically with the ten-cap hand exploder. High explosives so controlled and placed well under the trail will serve to pin in the Jap patrol and prevent its escape.

Good Use for Old Blades "Study the approach from the enemy side and pick out those trees which appear the most likely to be selected for use by Jap snipers. Work a few double-edged razor blades into the bark to discourage climbing.

"Be sure you have more than one reconnoitered route of withdrawal.

Razor Blades Discourage Tree Snipers.

"Obliterate footprints made by the patrol in erecting the ambush. This is hard to do, but the technique can be picked up from natives."

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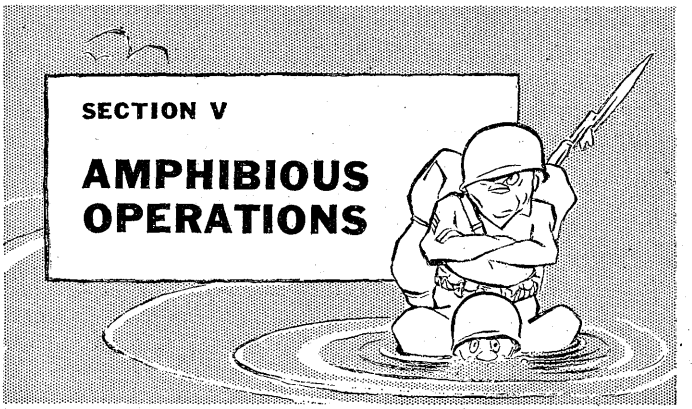

ISLAND LANDINGS

The landing on MAKIN ISLAND was accomplished by battalion landing teams and the action throughout was largely by battalion. The comments of *Major General Ralph C. Smith, Commanding 27th Infantry Division* on certain aspects of this operation are interesting.

Infantry "Control is hard to maintain in squads, platoons, and companies when operating in woods. Connecting groups are soon lost from sight and sound. It is necessary that particular attention be directed by all commanders from the squad leader on up to maintain control of their own forces and contact with adjacent units. Every individual must know the location of his immediate superior or his CP at all times.

"Due to the difficulty of flank patrols to keep up with the advance, and the further difficulty of maintaining communication with these patrols, flank protection is often lacking. Here again all commanders must be certain that

their flanks are covered at all times. This may require periodic relief of flank patrols.

"Promiscuous firing by 'trigger happy' individuals is a serious danger to our own troops. It is a great temptation for men in battle for the first time to fire and ask questions later. Prior training and strict discipline for offenders can eliminate this to a large extent.

COMMENT: The problem of controlling the individual firing of riflemen is a difficult one. The situation described above usually occurs among troops unused to combat. In this case the enforcement of rigid fire discipline to the extent that all firing be strictly controlled by unit leaders may be necessary to prevent casualties among our own troops. Combat-experienced personnel, with proper direction, will develop intelligent initiative in individually opening fire on areas or targets which are holding up their advance.

Fighting Spirit "It was notable that until such time as the infantry got 'fighting mad' there was a carefree attitude among the troops. In training this 'mad' spirit can be developed to a certain degree.

"The use of cover, and advancing by creeping and crawling must be stressed. It is necessary also to emphasize the importance of the live soldier as compared to the dead hero.

"Combine the action of tanks and infantry so as to take full advantage of the tank's shock and fire power.

Tanks "Individual tanks are often required to work with an infantry squad in this type of operation: the infantry locating the resistance to be destroyed and transmitting the information to the tank commander.

"Thorough terrain reconnaissance is essential to avoid the employment of tanks under unfavorable conditions. If the situation permits, the tanks should be employed in groups of platoons or larger, closely supported by infantry.

Field Artillery "Some artillery reconnaissance parties should arrive on the beaches with the assault echelons, permitting the early arrival of gun batteries which can occupy the previously reconnoitered and prepared positions. The early employment of Field Artillery in accordance with conventional doctrine will materially assist the progress of the action.

"Because of cargo space restrictions one battery of 75-mm pack howitzers was substituted for 105-mm howitzers, the battery personnel having been previously trained in their use. These light howitzers, which were easily transported in LCVs, were landed hours before the heavier 105-mms, and proved invaluable.

"The substitution of the 75-mm howitzer for the 105-mm does introduce complications of ammunition supply and fire direction procedure. However, their limited space requirements and extreme mobility, even to the point of portability if necessary, warrant consideration of their use when planning operations of this type.

Engineers "An engineer company employed as the basic element of the shore party makes available sufficient experienced personnel to organize the beach and execute necessary engineer functions. Their effort should be directed toward accomplishing necessary engineer operations. Nonengineer beach activities should be performed by attached troops. This engineer company should be augmented by an infantry antitank platoon and rifle platoon for protection against hostile activities.

"The improvement of the beaches by the removal of coral pinnacles, blasting openings in reefs, erecting pontoon bridges, etc., is of such great importance that a meticulous study of every beach to be used is necessary. Any estimate of the amount of work required should assume that the diffi-

culties will be greater than anticipated. Only decisive, energetic engineer action on the beach will insure the rapid flow of supplies and equipment ashore."

★

Debarkation Tips *U. S. Navy, Action Report,* MARSHALL ISLANDS: "A lack of uniformity in the training of troops in debarking was noted. It is recommended that in amphibious training the following axiomatic rules of safety be emphasized:

"Prior to debarkation each boat-team commander should inspect all members of his team in respect to wearing equipment. Note especially the following items:

Helmet strap to be unfastened.

Rifle to be secured across the back, over the left shoulder so it will not swing and get tangled in nets or slip off shoulder.

Rifle belt and *pack strap* to be unfastened so that equipment can be jettisoned in case man falls into the water.

Gloves not to be used. Men going over the side should *not* wear gloves.

Amphibious Soldiers.

"In debarking, put left foot over debarkation rail first and grasp rail with both hands. Do not attempt to grasp deck beading.

"Descend ladder without hurry, straddle chain with feet, and hold, hand under hand, to the same chain that is being straddled.

"Men not engaged in holding the bottom of the net keep clear of net bottom.

"Men holding the net keep their bodies between their rifles and the net.

"Nets must be kept well clear of the inboard side of the boat so that toes will not be caught between rungs of net ladder and the side of the boat.

"All loose gear to be lowered into boats in coal bags and not on individual lines.

"In leaving boats on the beach, clear ramps by moving along the sides rather than down the center of ramp. In the latter case a surge of the boat up on to the beach may cause the ramp to clip the soldier from behind."

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REDUCING BUNKERS

Technique *Report of First Marine Amphibious Corps,* SOUTHWEST PACIFIC AREA: "Many methods of reducing Jap bunkers have been tried with varying success. The following technique has proven successful on many occasions:

"Locate the bunker and determine whether it has one or more embrasures.

"Locate its supporting emplacements and machine guns. This will require patient and careful reconnaissance. Take these supporting installations under fire.

The Approach "Work an antitank grenadier or a rocketeer (bazooka) under cover to within 50 yards of the bunker, or even closer where possible. The success of this man's approach is dependent mainly on the quality of the covering fire he receives, and this in turn is dependent upon the thoroughness with which weapons supporting the bunker have been searched out.

"Have the grenadier followed at 15 to 20 yards by a demolition team of two men, each armed with the following:

One 12-lb block TNT charge, double-primed, with a 5- or 6-second fuze.

Two smoke grenades HC–M8.

One incendiary grenade.

Two hand grenades.

"Upon reaching this firing position the grenadier fires several grenades into the bunker embrasure. At 50 yards the average man can get three out of four rounds into the bunker opening. Since they have a low order of fragmentation, the AT grenades (and rockets) cannot be depended upon to kill or wound many of the occupants. Their effect rather is to daze the Japs by concussion which, particularly in the confined space, is great.

Use of Smoke and Incendiaries "Immediately the grenadier registers his first hit, the demolition team begins to work rapidly forward, using smoke where the wind indicates, this to supplement the supporting fires, in covering their approach. Upon coming in range, one or more incendiary grenades are tossed in front of the bunker embrasure. The intense light resulting therefrom effectively obscures outward vision of the occupants.

"The charges are then quickly placed, care being taken to select critical points (corners, log joints, etc.) where the tamping factor can be made greatest.

"As soon as the charge goes, the remainder of the squad moves quickly forward to mop up with grenades and bayonets and to occupy the position as a base for operations against supporting emplacements.

Basic Requirements "The following points should be particularly noted in connection with the foregoing:

"Take plenty of time preparing the assault, searching out supporting weapons and distributing covering fires; but once the reduction operation is begun, move with the greatest possible speed.

"Where the bunker is made of coral or concrete, it is desirable to fire several grenades or rockets into a selected point on the emplacement as a breaching charge, to facilitate placement of the final explosive.

"Rehearse the procedure continually against sample bunkers until the men, through mutual confidence, have lost all apprehension of danger from close supporting fires and explosion of nearby charges.

"This procedure is effective against log, coral, or gasoline drum bunkers up to 4 feet in thickness, and against reinforced concrete up to 18 inches in thickness."

COMMENT: The use of medium tanks in direct fire support of bunker-reducing operations is strongly recommended by all experienced personnel. However, many occasions arise where terrain or other considerations preclude the use of tanks.

★

ANTIAIRCRAFT

AA on the Beaches *Antiaircraft Officer, Fifth Army,* ITALY: "During the initial landing at SALERNO, at 0700 on D day, one 40-mm Bofors fired five rounds of armor-piercing

ammunition at two enemy tanks and put them out of action; the crews being captured by infantry units. On D day and D+1, antiaircraft units landing south of the SELE RIVER had on occasion to shoot their own way into suitable antiaircraft positions. They fired at and destroyed two tanks, four machine-gun nests, neutralized one mortar position, and fired AT ammunition at long range to drive out a German 88-mm gun. This was all 40-mm firing. 40-mm firing was also used against snipers and buildings near the beaches, and was found to be very effective."

★

Aircraft Recognition *Source, AA Notes No. 66, E. T. O.:* Aircraft recognition officers at SALERNO made only one error while identifying approximately 130 planes a day. A group of 12 planes swept in over the boat area at about 5,000 feet elevation. They were identified as Spitfires. However only two were Spitfires; the rest were Italian Macchi 202s. The Spitfires were escorting the Italian planes to a newly established field. The recognition officers had made the mistake of establishing the identity of a whole group of planes after identifying only one of them.

★

NAVAL CRAFT

LCI In Assault *Report of Operations, LCI (L)*[1], SOLOMON ISLANDS: "Though normally LCIs are used to carry the support echelons of an attacking amphibious force and do not come in until the beach has been cleared, they were used in the attack on the TREASURY ISLANDS (a group of small

[1] Landing Craft, Infantry (Light).

islands just south of BOUGAINVILLE ISLAND in the SOLOMONS) to carry assault troops ashore, since it was known that only light opposition would be encountered.

The Action "The landing was preceded by naval gunfire delivered by destroyers against the enemy-held beaches, which succeeded in driving back or neutralizing all scattered resistance. As the LCIs came in toward the beach they came under light small-arms and machine-gun fire, most of which was silenced by naval gunfire. Troops and supplies were disembarked from one LCI in a little more than 20 minutes. A few minutes before unloading was completed, mortar fire began to fall in the vicinity and was drawing close as the LCIs retracted from the beach and withdrew to the rendezvous point.

"Unloading was delayed because much of the gear to be put ashore was heavy and cumbersome, requiring as many as four men to get some items down the ramps of the LCI and onto the beach. Had Japanese mortar fire been better handled there is little doubt that considerable damage and casualties would have been caused aboard the LCI."

Recommendations "Wherever LCIs make an original beachhead, or beach simultaneously with assault troops, it is important that the unloading be expedited as much as possible so that by taking advantage of surprise the LCI can unload and retract before the enemy has time to adjust mortar or artillery fire on the landing.

"To this end it should be planned to break down all heavy loads into one-man loads, even if it involves disassembling certain equipment. Where this is not possible, consideration should be given to the possibility of bringing such equipment into the beach later, after troops have established a beachhead.

"In such a landing it is also advisable to make provision for mortar-fire support so set up as to provide support from mortars aboard the craft until mortars can be set up ashore. Such fire could be expected to break up or delay enemy attempts to register fire on LCIs while they are beached."

★

ENGINEERS

Amphibious Engineers As Infantry *Lieutenant Colonel C. E. Brokaw, Ordnance, Observer With Fifth Army,* ITALY: "In addition to their excellent work on the beaches, two battalions of an engineer regiment replaced two battalions of an infantry regiment, which had been moved, and fought in the line."

★

—— **In Action** *Report of Brigadier General McClain,* NASSAU BAY, NEW GUINEA: "At NASSAU BAY, just south of SALAMAUA, the infantry admitted that the Engineer Special Brigade had saved their lives in two ways: first, because the Engineers were the only agency that could get supplies through to them; and, second, because of the firm stand of the boat engineers on the south flank in the initial fight.

"The fight on the south flank was quite an action. Some 20 of our boats had been rendered useless by the 10-foot surf. The crews of these boats were assigned to protect the south flank, where no Japs were expected. There were about 40 or 50 of them. At 1000 in the morning they were suddenly attacked by what was estimated to be 300 Japs. They inflicted a loss of 30 to 40 on the Japs, but were so outnumbered that hand-to-hand fighting resulted. Fortunately, this particular group of engineers had had a very

thorough course in hand-to-hand fighting. Although one of our men was killed by a bayonet thrust, so many Japs were bayoneted and killed in this melee that they broke and fled. The infantry at the time was engaged with another force on the north flank and had these boat engineers not helped as they did, things would have been very bad."

★

EQUIPMENT

DUKWs at Salerno *Report of a Quartermaster Truck Battalion (DUKW)*, ITALY: "The DUKWs [1] again proved of immense value at SALERNO, supplies and equipment being handled over the beaches at a far greater rate than had been expected. The following points regarding their use should be borne in mind when planning for their use:

"1. DUKWs must not be used for long trips inland.

"2. Relief drivers and crews must be provided.

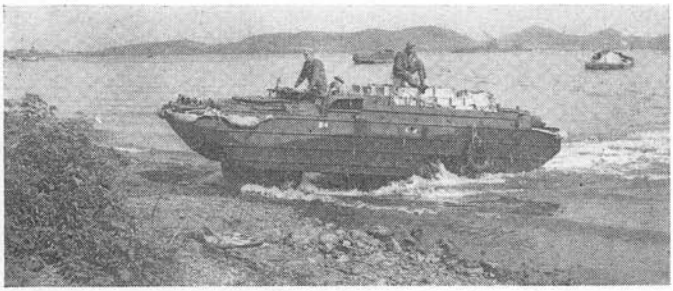
'3. Definite steps must be taken to prevent overloading. Overloading at SALERNO resulted in some being lost by sinking. One method of avoiding this would be to develop standard loads, particularly for ammunition. The load should not exceed 3 tons.

"4. Ships to be unloaded should be moved inshore as close as possible, and should take position approximately opposite the beach landing point in order to reduce the turn-around. Unnecessary water travel means unnecessary delay in the discharge of cargo and increases the problem of maintenance.

"5. A rigging crew from the DUKW unit should go aboard the vessel prior to unloading and rig the ship with necessary lines and hooks.

"6. A great saving in time and labor can be effected if

[1] Amphibious 2½-ton trucks.



At Home On Land Or Sea.

cargo nets are equipped with base plates shaped to fit the cargo space of the DUKW. Where cargo nets are not carried ashore by the DUKW, pallet loads can be used to expedite the discharge of cargo.

"7. If possible each DUKW should carry only one type of cargo to avoid wasting time unloading at beach dumps."

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NOTES FROM THE SOUTH PACIFIC

Transportation *Informal Report, XIV Corps,* SOLOMON ISLANDS: "The ¾-ton weapon carrier has proved to be the most satisfactory vehicle for use in the initial stages of an amphibious operation before the roadways are ready. It has more power and maneuverability than the ¼-ton, and carries three times the tonnage. Instead of trailing 37-mm guns, it has proved better to preload them in the weapon carriers and unload them at their emplacements. The ¾-ton trucks return to the craft after unloading the gun and then shuttle stores to the dumps. Jeeps trailing 37-mm guns often bogged down.

DUKWs "DUKWs take up so much cargo space that they are not recommended for *initial* landings. They are very useful, however, in unloading vessels of subsequent echelons which are not able to beach. Their use on LCTs and LSTs which are to be beached is not recommended. DUKWs have definite value when properly used and maintained. Unloading chutes, cargo nets, etc., must be included in their equipment.

Special Use Another advantageous use of DUKWs is moving supplies from one beach to another as troops advance along the coast after the initial landing. Much rehandling of supplies will be avoided. When thus used, the forward beach should be made ready by shore engineers and mats taken up by landing boat. DUKWs should not enter on a strange beach until a prepared landing is available. Still another use for DUKWs is to lie alongside a beached LCT and take cargo over the sides while it is also being unloaded via the ramp, thus decreasing the time for the LCT to remain on the far shore."

★

Hand Firing the 60-mm Mortar *Colonel Marion Carson, Observer,* SOUTHWEST PACIFIC THEATER: "In order to reduce weight the 60-mm mortar has been fired using only the tube. A yellow line parallel to the bore and extending from the breech to the muzzle was painted on the barrel for use in sighting.

"A paper quadrant with a plumb top was used for setting elevation. The breech rested upon the ground and the tube was held near the middle by one man. Very accurate results have been obtained.

Useful on Landing Operations "This method of firing the mortar should be very useful on most landing operations when the weight moved ashore must be kept to the minimum. It would appear to be applicable to all types of rapidly advancing operations where conditions require that combat elements be relieved of all possible weight. The method is only recommended as a substitute where conditions preclude normal operations."

COMMENT: The new light-weight 60-mm mortar with a small base plate and no bipod will, when available, fill the expressed necessity for an extremely portable mortar-type weapon.

★

Remedy for Contamination by Sea Water *ID-ASF-SPINT R208:* "The use of methyl alcohol and commercial ether has been found to be much faster and more thorough than baking to clean electrical parts after contamination by sea water.

"If, for example, a set of electrical metal-screened leads from distributor to plugs, having suffered damage by sea water and shorting badly at the terminal ends, is first washed in fresh water, and afterward immersed in ordinary methyl alcohol, then allowed to dry, and finally dipped in commercial ether, then all salt water and deposits should have been removed.

"Baking is likely to damage insulation. Furthermore, the salt deposit still remains, with the result that when the air is damp, fresh absorption of water by the salt occurs, and the electrical breakdown is repeated.

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