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# COAST ARTILLERY JOURNAL

FOUNDED IN 1892 AS THE JOURNAL OF THE UNITED STATES ARTILLERY

VOLUME LXXXV

MAY-JUNE, 1942

NUMBER 3

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PUBLICATION DATE: JUNE 1, 1942





# THE FLAG OF

Targetted in bomb-sights, Jap planes used the flag of Corregidor as an aiming point day after day for five long months of incessant explosions. High, low, and diving bombers dropped their daily rain of destruction around it. Day after day following the loss of Bataan, Japanese gun-pointers brought it into coincidence with the vertical wires of their telescopes.

From the dominating heights of Mount Mariveles to the north and from the wooded cliffs by Naic and Ternate to the south, enemy field guns crossed their fire upon its waving challenge.

Some six hundred feet above the sea, its mast and staff rose up yet higher to place the flag in clear view from every point of the compass. A proud flag! An icon of patriotism whose happy waving caught the eye of every passing person. Soldier or civilian, American or Filipino, sensed the meaning of its proud position and passed on by with firmer step and higher head.

During all the time MacArthur's men held onto the wooded heights of Bataan that flag was clearly visible to them across the waters of the north channel. That flag symbolized the safety of their rear. It marked the strength of the anchors of Bataan planted in the rocks of the island forts. During its months of day-by-day and night-by-night attack and defense in jungle warfare, the Army of Bataan was safe from attack from southern landing parties as long as the flag flew above Corregidor, their strong rear guard.

Their bodies racked with virulent malaria, their numbers decimated by irreplaceable casualties, these men fought on against overwhelming odds. Attacking Jap units time after time were replaced by fresh troops who had been given long months of jungle warfare training in preparation for this very day. All this and dysentery too, to rack their bodies and thin their lines, was not enough to lessen their morale nor quell the "Let's go!" spirit of their attack.

No supine defense pinned the Army of Bataan to trench and bamboo thicket; theirs an unequalled spirit of the offense which time after time set sections of the Jap line back on their heels. Bloody heads were never bowed, their spirit never quenched: a final Johnstown flood of Japs engulfed them where they stood—fighting to the end.

Corregidor and her satellite islands then received the full fury of Japan's daily rain of explosives from her planes above, from an ever-increasing number of field artillery batteries emplaced on the wooded slopes of Mount Mariveles to the north, and from concealed positions along the shore to the south.



# CORREGIDOR

The flag waved on for yet another month. The deluge of death and destruction that rained around it blasted The Rock's top clear of barracks, of quarters, of everything save the steel needle that attracted enemy missiles like an electrode in a magnetic field. And "Old Betsy" flew at the needle's point. Chance splinters of bursting shell cut its halyards. It fluttered down in unwilling descent to be caught in eager hands before it touched the ground. American and Filipino stood side by side to catch and serve the flag as they had stood side by side to serve defending guns. For them both there was but one flag as Filipinos fulfilled President Quezon's vow to "stick with the United States through thick and thin, regardless of the cost in blood and sweat and tears."

Since May of 1898 the flag had flown for forty-four years from the top of Corregidor. Visible to every ship that reached Manila, it gladdened the eyes of all arriving Americans surfeited with weary days of waters everywhere.

Native Filipinos under Aguinaldo fought against it bitterly in the early days of American occupation. From island to island and from mountain to jungle the Filipinos stubbornly resisted the advent of the American Army. Forty-four years after Dewey slipped by Corregidor in the dark of night, the next generation of Filipinos fought just as stubbornly side by side with American troops to protect the same tri-colored emblem. During that interval it had become for them a symbol of honor, justice and mercy whose strength was the guarantee of their own—in whose presence lived the promise of their ultimate independence.

The flag of Corregidor drew the figurative eyes of the world upon it. For long anxious months it was the focus of their attention, for whether Allied or Axis, friend or foe, all nations still paid tribute to an historic defense in the making.

Like the Army of Bataan, the defenders of Corregidor stood by their guns while human strength lasted. Short of food, short of water, short of ammunition, there was no thought to strike the flag as long as their defense could be maintained.

May 6, 1942 the battle ended.

Their epitaph:

"I have fought a good fight, I have finished my course, I have kept the faith."

F. A. P.

Our antiaircraft service is, in a technical sense, a new service. We have relatively few officers who have been able to keep up to date on all of the various types of equipment and practically none who have seen this equipment in action against modern aircraft. Consequently this means that we have been unable to round out many desired phases of training. It has always been accepted in our army that training is a function of command. Higher commanders think in terms of large units and naturally their thoughts are directed towards tactical employment, administration and supply.

This kind of training is not sufficient for antiaircraft units. Regardless of how well they may be able to maneuver, keep house in the field, and drill, the *primary objective of their training is to be able to illuminate or shoot down hostile aircraft.* With modern equipment

this means technical skill, specialized training and finally, team work in operation. Much of this technical training has been impossible to accomplish until recently primarily because of a lack of equipment and facilities.

#### NEW REGIMENTS

The organization of a new regiment means the grouping together of new officers, partially trained cadres and perhaps little or no equipment at first. Because of the shortage of experienced personnel, the bulk of the responsibility for basic instruction, administration and supply will fall initially on a few individuals. However, these functions must be carried out regardless of the personnel situation. Moreover, technical training and firing require equipment and facilities that must be used to their maximum advantage. This means that

# ANTIAIRCRA



considerable thought and added responsibilities should be exercised by highly trained commanders and their staffs.

Schools are established for giving officers refresher courses and to train enlisted specialists. But these do not make teams of the firing units. Commanders hesitate to let all of their best officers and men go away to school as they are badly needed with the regiment. These schools do little to help solve the immediate problem of unit training and firing.

Firing requires equipment and air missions. Most battery commanders want to shoot but they themselves can't obtain their own ammunition, air missions, or places to fire. Moreover they will often fight shy of target practices with the attendant intricate reports. But higher commanders have very little on which to

judge the firing efficiency of the units unless complete records and reports are rendered. These are required also if maximum value is to be obtained from the firing. Target practice reports, properly analyzed, not only point out errors in the fire unit, but add greatly to our store of knowledge pertaining to the problem of anti-aircraft gunnery. Comparisons must be made with the firing of other units to come to some value of required proficiency. Units cannot be judged in their entirety by mathematical formulas, but there is no better way of gauging their firing efficiency.

#### CONTINUOUS TRAINING

The best trained units will gradually lose their firing efficiency if target practices are not conducted frequently. This might be done in training areas, but not

# T TRAINING



By **LIEUTENANT COLONEL O. D. McNEELY**  
*Coast Artillery Corps*

after the unit takes battle positions. If such battle positions are active, fine—but how many of our coasts or foreign bases are active today? One unfortunate thing about antiaircraft is that it can't seek out the enemy and so keep in practice. Many static positions must be occupied although no hostile aircraft ever appear.

Operational duties are such that regiments cannot very well be pulled out and sent to a training camp for practice. If batteries are sent off separately, the administrative and supply problem becomes onerous and higher commanders will have insufficient time to supervise and check the results of the training.

These operational units are continually confronted with personnel changes and even with new matériel. How are they to whip new officers and men into a smooth working team and how are they going to learn the latest methods of fire control? They must be given the opportunity of a refresher course as a fire unit.

It is quite obvious that training, especially technical training as a unit, cannot be entirely a function of command. Operational command, at least, can spare little time for this continuous refresher training. How then should it be handled? A good solution is to study how other countries are solving this problem. This war has been going on for several years and a large number of antiaircraft guns and searchlights have been used. Someone knowing how important this training is must know how it can best be accomplished.

#### BRITISH EXPERIENCE

The British in their Air Defense of Great Britain have built up one of the greatest air defenses the world has ever seen. Maybe the antiaircraft did play only a minor rôle but they fired millions of rounds at thousands of hostile aircraft and brought down hundreds of them. Therefore their experiences should be worth something to us regarding training requirements.

The British went through experiences similar to those we have gone through—initial shortage of equipment, ammunition, training facilities and more important, lack of knowledge of just how much training was necessary to ensure accuracy of fire in opening engagements. They, like us, either thought one practice a year enough, or were forced to adopt such a minimum from enforced economy measures. The British Staff at the outbreak of the war immediately realized that all new antiaircraft batteries should fire several practices as part of their training before going into action. As a result of the rapid rate of expansion of the antiaircraft troops and the need for keeping action stations manned with all available equipment, this could not be accomplished. Replacement and training centers had to be stripped of all available antiaircraft equipment in the days of the first blitz raids over England. Twice during 1940 when invasion seemed imminent, all usable antiaircraft matériel was again withdrawn from training centers.

Last spring after they were allowed to catch their

breath from the prolonged aerial siege of the winter of 1940-41, they took stock of their enforced lack of training, due in large measure to the decentralization of their War Office control and regrouped all antiaircraft training under one command, which they called Antiaircraft Training Establishments. This organization is commanded by a major general who is responsible to the War Office through the Director of Antiaircraft and Seacoast Defense. But this organization has no operational functions and is not under the Antiaircraft Command. The Antiaircraft Command does, however, furnish cadres for forming new batteries. The remainder of the personnel of new batteries comes from the draft. Antiaircraft Training Establishments (A.A.T.E.) has directly under it the Officer Candidates Training Units (O.C.T.U.) and six Training Groups, while the School for Antiaircraft Artillery (S.A.A.A.) remains directly under War Office control.

The antiaircraft school and candidate training units are similar to ours and need not be covered in detail. It might be well to mention, however, that until but recently the British had to confine their training of individuals to only one type of antiaircraft weapon. An officer, candidate or enlisted man received specialized training in heavy guns, light guns, or searchlights. Now that the pressure on training has somewhat lessened, courses are extended to cover all types of equipment for each student. Specially selected officers are chosen for the advanced War Gunnery Course which covers all forms of antiaircraft defense. The principal reason for this course is to develop Gunnery instructors for staff duty, schools, training regiments and practice camps.

The organization of training groups, or geographical commands for training only, is the greatest variation from our system of training. These training groups consist of Training Regiments (similar to our replacement centers) and Practice Camps (similar to our training centers). It is in these training groups that antiaircraft batteries are organized, trained and conduct their firing. Operational batteries also are sent to these training groups for refresher training in firing.

#### TRAINING REGIMENTS

The training regiments are small organizations scattered throughout the country where existing housing and other facilities are available. The training regiment itself is a permanent set-up of officers and enlisted men sufficient to receive cadres and recruits and train two or three batteries at one time. The normal training period is two months. During the first month the cadre, received at the same time as the recruits, is given a refresher course in the technical details. At the same time the recruits are given their basic instruction by the permanent staff. Physical training is stressed for both groups. During the second month the cadre takes over the recruits and under the close supervision of the permanent instructors, welds the fire units into smooth working teams.

The permanent overhead of the training regiment consists of an administrative staff, basic instructional staff and gunnery instructors. This latter group consists of specially trained personnel, both officers and non-commissioned officers, who handle all technical antiaircraft instruction. The instructors in basic subjects are also specialists who have been trained in such subjects as infantry drill, physical training, rifle marksmanship, etc.

The remainder of the regimental overhead takes care of administration, supply and medical. It may consist of retired or over-age military personnel or even of civilians. Women from the Auxiliary Territorial Service (A.T.S.) do a large amount of the camp overhead work, such as clerical, canteen, medical, mess operation and as drivers of motor vehicles.

These training regiments are well equipped with paved drill fields, large gymnasiums, assembly halls, classrooms, and laboratories. The schedules are made sufficiently flexible so that instruction goes on regardless of weather. All instruction is concentrated to a maximum degree. The standard of proficiency is that each recruit must qualify as an expert in at least one position in the gun or fire control section of his particular equipment.

#### PRACTICE CAMPS

Practice camps are usually small reservations along the coast in inactive sectors and have air fields in connection with them. The organization of the camp is similar to a training regiment except that most of the instruction is technical and consists of A.A. drill, care, maintenance and firing.





The chief gunnery instructor is usually the most important person at this camp, for it is he who follows the training of the unit and decides when and how well it is qualified to go out as a trained fire unit. He is assisted by gunnery instructors for each phase of the work and each kind of equipment. He also has charge of the permanent records section that furnishes him with the mathematical record of the proficiency of the units firing. He arranges firing schedules in order to take maximum advantage of flying missions and weather conditions. He has complete control of the attached aero squadron.

The records sections at these practice camps are very complete with cameras, range finders, surveying instruments, etc. These sections are rapidly being manned by women from the A.T.S. They are very satisfactory for this type of work and the British feel that they would much rather have women than men for these duties.

The attached aero squadron for training missions has no operational duties in connection with the Air Defense of Great Britain. Its sole duty is to fly for tracking missions, tow targets for firing and operate the Queen Bee radio controlled target planes. These squadrons are well equipped with light planes for towing missions, special towing planes, crash boats and shop equipment for maintenance and repair. The personnel of the squadrons are over age military personnel and civilians. Many pilots and mechanics are refugees from the occupied countries of Europe who are well qualified and more than willing to help out in this way.

Both sleeve and flag targets are provided. Heavy gun fire at sleeve targets by normal fire control methods but short range firing as well as automatic weapon firing is done with flag targets flown either vertically or horizontally. Their single motored planes have no difficulty in towing large flag targets made of cloth.

The British are so positive of the necessity of *training antiaircraft by actual firing* that they allow a generous supply of equipment and ammunition to these practice camps. They are the first to get the latest equipment and plenty of it. Even with the extreme shortage of ammunition, the practice camp always gets its allowance. It is their policy that it is better to use the ammunition and guns in order to learn to hit, than to fire uselessly from battle positions before they have learned to make their fire effective.

Most of what has been said above applies more directly to gun practice camps. Searchlight practice camps are usually with the training regiments. Both must be in sectors where lights can be operated at night without interfering with operational units. Searchlight training regiments and practice camps must also have air missions and are usually placed near large training air fields where planes are available and there is no interference with operational flying.

#### TACTICAL INSTRUCTION

Tactical instruction has not been stressed in the British antiaircraft service because most of their training has in the past been pointed toward static defense.

However, they have tried to keep all personnel "mobile-minded" by giving small tactical problems at the schools. These are usually problems in the selection and occupation of position by batteries or platoons. In some cases the problem is practical and uses the actual equipment manned by students.

Courses for regimental commanders are given by S.A.A.A. in which tactical problems and use of weapons with the field forces are covered. However, these courses stress capabilities and limitations of weapons and handling. Recently great stress has been placed on the training of units for transfer from static to mobile situations.

The field artillery school conducts tactical courses for antiaircraft with the field armies. Here the courses are purely tactical. Map problems, terrain board and actual terrain exercises are conducted. A large amount of time is spent in studying the tactics of the combined arms, especially for prospective commanders of divisional antiaircraft automatic weapons regiments. Their map and terrain board problems include the entire tactics of the division including the use of the light antiaircraft regiment.

#### SUMMARY

The British have learned the training requirements of antiaircraft the hard way. The principal points are summarized as follows:

- (1) That operational commanders are not in a position both to organize and to train new units.
- (2) That this training can be better organized and conducted by a special training organization.

(3) That the science of antiaircraft gunnery is so highly technical and changing so rapidly that this training must be conducted by highly trained experts.

(4) That for the same reasons antiaircraft artillerymen, both officers and men, must be specialists in one general class of antiaircraft equipment, heavy or light guns or searchlights after receiving general instruction in all antiaircraft matériel.

(5) That all antiaircraft training must culminate with target practices. Cold figures are still the best means of rating the operational efficiency of a fire unit.

(6) That operational units should be given opportunity to fire target practice at least every year. If from inactive positions where the enemy does not provide them with targets, such units should be given target practice every three months. Antiaircraft units quickly become stale on inactive battle positions.

(7) That equipment and ammunition must be made available in quantity for both preliminary and refresher training.

(8) That antiaircraft units can best be organized and trained as batteries and then organized and consolidated into larger units.

(9) That gun units must have plenty of firing at towed sleeve targets.

(10) That searchlight units must have plenty of night practice with tracking missions.

(11) *That antiaircraft units should not be put on operational duty until they have had sufficient technical training and firing.*



Whoever reads history with a mind free from prejudice cannot fail to arrive at a conviction that of all military virtues, energy in the conduct of operations has always contributed the most to the glory and success of arms.—CLAUSEWITZ.

# NOT BY PAINT

By Colonel Homer Saint-Gaudens, Corps

The first thing to remember about camouflage is that it must be good or something awful may happen. The reason for camouflage is to protect objects from hostile observation and so from hostile weapons. "Camouflage" is a very foolish title; many of my friends wish to change it to "Protective Concealment," but there are a few of us who have become rather sentimental about the old word, remembering how it was evolved in Paris by a group of long-haired artists, who took great satisfaction in starting out to develop this idea in the Moulin de la Galette.

Since the beginning, I have never been sure as to whether camouflage was an art or a science. Certainly, it started out as an art with a paint bucket. Certainly now, a lot of persons would have us think of it as a science with a plumber's kit. Probably it is both.

Everyone I meet desires camouflage if it is not expensive, if it is easily erected, and if it is not inconvenient. The trouble is that it is all three. It costs a lot; it is hard to put up; it is thoroughly inconvenient to live under. But, believe me, we had better take it or leave it. No halfway measures will do any good. One might as well swallow an aspirin tablet for a case of typhoid.

What everyone asks for is paint. But it is not paint that counts; it is the way it is applied. What counts is trouble. How much trouble must be taken is problematical. We have to balance it off against other conditions.

Not so long ago I was sent to an Arsenal to do a bit of concealing. A number of storage warehouses there which contain toxic gases are located in the woods. I, as a camouflage officer, became enthusiastic about those woods. I was told, however, that the woods were a fire hazard. They would have to come down. Which would I vote for, camouflage or the removal of the fire hazard?

I replied that I thought that was not for me to decide, but I assured them that they could not have both. If it were left to me, I should eliminate the fire hazard, because the Arsenal, on a peninsula cut off at the base by a railroad main line and flanked on two sides by water, is just about the most hopeless spot from a concealment point of view that I have ever seen.

## CAMOUFLAGE SET-UP

Our camouflage set-up at present is very little different from what it was during World War I. We want soldiers first and specialists later. A bad soldier equals a bad specialist.

Our best officers are young erstwhile architects who have already learned to cope with the builders of new houses who insist on having the stairs and the clothes closet in the same place. Our best men are moving-picture property men. They not only have camouflage ideas, but they understand the application of those ideas. They are resourceful; they are disciplined; they have an eye for the looks of things; they can build you the answer.

So when a young man comes to my desk and tells me what a marvelous painter he is, I say, "That's okay, but let me have a look at your hands. How are your feet? Can you lug 60 pounds 20 miles and do it again the next day? Yes, I remember that set where Robert Taylor made love to Hedy Lamarr. You say you designed it and helped build it too? You are just the young man we are looking for."

In peacetime, the Camouflage Section of the Engineer Board at Fort Belvoir, Virginia, includes about ten officers and seventy civilians. They are concerned with technical experimental work, with thwarting the photograph interpreters, with messing about with the chemistry of paint, trying to get an artificial green that will match a natural green when looked at by a camera with a red filter. Their task is to develop the one practical suggestion that comes to them and to discourage the hun-

\*Revision of lecture given before Washington Post, Society of Military Engineers. Reprinted by permission of *The Military Engineer*.

# ALONE\*

## Engineers



died thousand impractical ones that float in with the mail.

Organizations inside and outside continental United States develop the physical aspect of the Board's researches. They conduct schools, they send out instructors, but they do not erect camouflage. That is the task of the particular unit that wishes to hide itself.

A group of us in the Office of the Chief of Engineers sort out endless suggestions, answer variegated questions, and tackle problems when no one else knows the answer.

### TWO KINDS OF CAMOUFLAGE

There are two kinds of camouflage, because (and it is not generally understood) camouflage is not always absolute hiding. There is front-line camouflage for total concealment against camera detection and artillery fire. There is rear-area camouflage of vital areas known to the enemy, which should be blurred from the visual observation of bombers.

*Front-Line Camouflage.*—Field camouflage is just about what it was in World War I. Keep up your discipline. Remember your shadows. Stretch your nets tightly. Wire in your paths. Do not widen your roads. Carry your roads past all vital objects. Be careful about your erection. Be sure you work from the inside out. Remember that the top and the bottom of a leaf are different colors. Do not forget that the thick end of a branch grows next to a tree. Do not cut the tops off trees or you will change what, from the air, looks like an umbrella into something that looks like a saucer. Tie into mottled ground. Remember that a wheat field is impossible to hide in. Think of texture. Corn two feet high when looked at horizontally seems to have about the same color as corn six feet high, but the two growths appear very different from the air. That is because of the amount of shadow in them.

An excellent example of what you get up against was

posed in a problem handed out at Fort Belvoir some time ago.

You are an officer in charge of a mixed lot of machine guns, trench mortars and 75mm guns. You have been told to install your battery around the front of a knoll in a reserve position that will command a wide field of fire when the enemy advances. You go out to look at the place, and you see that it has just been plowed horizontally around the front of the knoll. A large oak tree stands directly in the middle of the plowed area. There is no way in the world in which you can hide in the freshly plowed field. One footprint on it will show. Also, that oak tree is just about the best spot possible for enemy artillery to register on. So you yell for the camouflage officer. He takes one look and says, "Why, right down there to your left is a beautiful rock quarry, back end to the enemy. Along the top of the quarry is a row of bushes. You can put your stuff in the bushes and nobody will see you. Your men can't make tracks on the rocks even if they try. They can just drop in behind the quarry cut and play pinochle until wanted. The shorts will fall in the field in front of you and never hurt anybody. The longs will go over to the lower end of the quarry and never touch you."

You take a look from the quarry edge. Nothing doing. You can not cover the right flank of your target.

So now what?

If you have any sense you set your outfit to digging just where they were told to dig in the first place. If you are not going in there eventually, the digging will make an excellent dummy. If you do go in there you will need all the digging you can do and then some.

Meantime, you go to your superior officer and tell him that if you go in where he told you to you won't be of any use at all because the enemy will know you are there and promptly shoot you up and you will all be dead. If there is available another unit which can go into the good oak woods on the right and handle that right flank of the target, you can take care of all the rest from the rock quarry. If there is no one else to carry out that mission, you go where you are told. The mission prevails.

In other words, use your head. Most of us didn't do it the last time and don't do it now.

Speaking of rock quarries, I went one day, during World War I, to take a look at a battery up near Chery Chatreuve. That battery was in a quarry, a nice clean gray one, and the battery commander had spread his four green nets so they looked for all the world like four new uncanceled postage stamps in the midst of this pale gray terrain. I said, "What did you do that for? You are just advertising yourself. All you have to do is to put a few planks over your guns and nobody can find them."

"No," said the Battery Commander. He had been told to stretch his nets and he had stretched them; and



The camouflage problem. Hide the building.

they were fine nets because nothing had happened yet. And just at that minute something went "wheeeeeeee wompfh" and we all ran.

It is the same thing nowadays. Not long ago I went to see a fort in a region of sand dunes. All about on those little knolls were myrtle bushes, scrub pines, kudzu vines and a variegated assortment of cantonment buildings. Near the big gun positions was an antiaircraft battery. One of the guns of that battery had been set up in a hollow between the cantonment shed and some of the scrub pine. With the miscellaneous shadows that were being thrown in that area and the sharp contrast of dark foliage and white sand, there was not any possibility of seeing that place from a mile or two away. But the Commanding Officer had stretched a net over it. He had garnished that net so thickly that there was no texture to it at all. You couldn't see down into it from above or a ray of light from underneath. And then, instead of stretching the net above the emplacement, he had laid it over that sand-bag circle so that it draped down on the sides and sagged in the middle. It looked

for all the world like the underside of one of those pieces of burlap you stretch over a flour barrel that contains all your crockery when you are going to move, and you hope the crockery won't be broken. Well, your crockery always does get broken and his crockery was going to be broken too. I explained the situation to him but he paid no attention to me.

I remember the Butte de Mesiers,—Death Valley, it was called. It was a little ravine, perhaps a mile long running to the west off the main road parallel to the German front. In it we placed almost everything one can think of. There were 155 field guns and 155 howitzers. There was some reserve Infantry, a platoon of Engineers, a horse echelon and all kinds of kitchens. And that artillery was blazing away into the blue sky of sunny France.

Along the front edge of the ravine was an old cart road, more or less grown over by bushes. In front of the cart road was a wheat field. That cart road was an ideal spot for a battery of 75's, just as good as that Belvoir rock quarry I mentioned before.

Along came an artillery unit. Did they set their guns in the road which had no traffic? They did not. They moved them about fifty yards out in front of the bushes into that wheat field and then they rounded their camouflage down over the guns until the pieces looked for all the world like four derby hats, just as conspicuous as they could possibly make them. So the Germans got set and one fine day shot up the whole place. Whereat they asked us to hide them, and we said, "What's the use? They know you are here now. There's nothing for you to do but move."

We should imitate the Germans. I remember a little smalltime maneuver, that took place near Wansee, just outside of Berlin, in which the German soldiers vanished like mist in the morning. I remember sitting in the office of a German captain and seeing on the wall a large photograph of a very high shock of wheat.

I said to the captain, "Why isn't that a good place in which to tell green troops to put a machine gun?"

He gave me a grin and replied, "We have no green troops."

At times when we are not allowed to dig, when there is not any spoil to deal with, when there are no blast mark entanglements to put up, when we just stretch our nets in some hopelessly smooth field, we let the battery commander argue with the umpire outside the position while the telephone operator sits in the grass in front



The solution.

and scratches his back on the post while he cranks his little 'phone box. The position is not tied to anything. It is too thin. There has been no study of defilade. There has been no thought given to access of circulation and discipline has gone to the dogs.

Yet we preach and we preach and we preach: proper choice of position, 50 per cent; discipline, 25 per cent; good erection, 15 per cent; material, 10 per cent. But that all takes trouble. So the only thing that is asked for is paint. Certainly paint has its place, but care must be taken in using it.



The problem solved. The building is hidden from aerial observation.

*Rear-Area Camouflage.*—So much for the front lines. Rear-area camouflage has to do mostly with the blurring of large vital targets from the actual eyes of the bombers. All of the secrecy in which we have been indulging is perfectly all right, but we know that any active enemy knows a lot more about what we know than we realize.

There are two kinds of bombers, high-altitude area bombers and spot and dive bombers. Both must see their targets at a distance. The bomber is up 20,000 feet. He has to take oxygen. It is cold. He is traveling at 300 miles per hour. He is harassed by our own airplanes and our own antiaircraft fire, or so we hope. There is a haze over cities. There are clouds. His target seems to be the size of a postage stamp. He has to see it at ten miles, get set at five miles, and pull his lever at three miles.

Now this blurring proposition breaks down into three classes: blurring from an airplane directly overhead, blurring from an oblique view, and blurring from night bombing.

Generally we can not hide from direct overhead observation, but that is all right because if the bomber picks us up only when he is directly overhead his bomb will land at least three miles away from us.

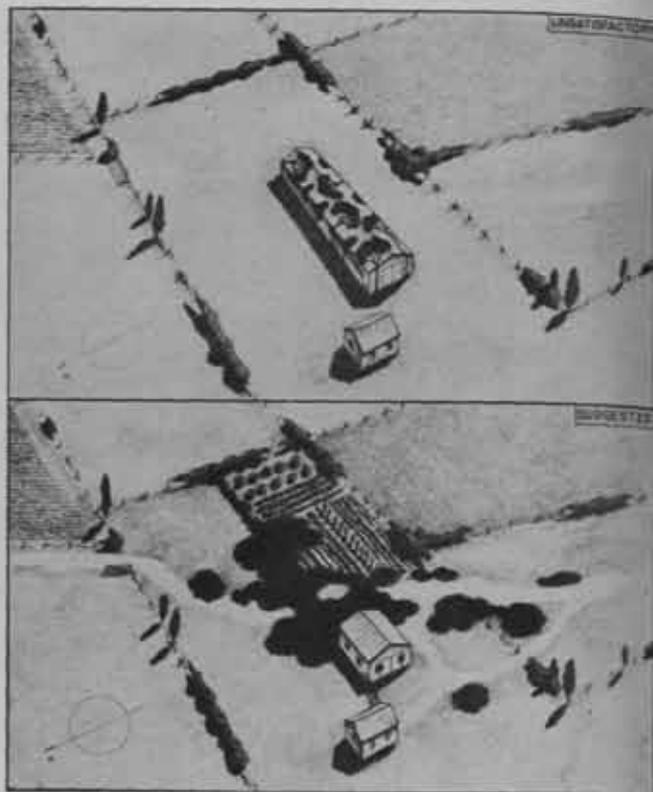
As a rule, however, we can hide from an oblique view so that there is a good chance of the bomber over-running us.

Also we can do a lot to reduce reflections from enemy magnesium flares which are dropped at night.

All this can be done provided the camouflage work starts when the position is first considered. Otherwise, it is just locking the door after the horse is stolen.

I remember a station I was asked to inspect. They wanted to put an air warning station flanked by some antiaircraft batteries along a ridge on an island. It would have been easy enough to start a road at one end of the ridge, follow the top of the ridge, and end the road about ten miles off at the far end of the ridge, and then plant positions along the road in the woods anywhere they pleased. Did they do that? They did not. They just started by the little town at the little harbor and wiggle-waggled the road up the side of the hill and then curved it around the top like a little pig's tail. So you see there are ways and times to camouflage and ways and times to abstain from camouflage.

*Artillery.*—I know of one battery that would be easy to conceal in a jungle if the battery commander could be



Use of Patterns in a Rural Area. *Top:* Unnatural patterns disclose the attempt to hide something important. *Bottom:* Heavy blotches are not wholly consistent with surrounding culture, but are needed to neutralize the regular structural shadow. To some extent the blotches resemble tree shadows. The imitation road helps to shorten the building.

persuaded to allow the baseball field, which he has cleared from before the muzzle of his right-hand gun, to revert to type. I know of two railroad guns close to some mangrove bushes in the midst of sheds close to the ocean that would be hard, but possible, to conceal, and well worthwhile if we would pay the price. Then I have gazed upon a series of batteries which are impossible to conceal because they are stuck out on promontories and islands.

However, more and more persons are grasping the essentials of camouflage practice. The Fortification Section of the Office of the Chief of Engineers has recently put in batteries on the Atlantic and Pacific coasts that are unquestionably the best there are. The ones on this side of our country I have walked around and flown over. One on the Pacific coast I have never seen, but I have seen an aerial photograph of it and I spotted the wrong place and I am supposed to be an expert at that sort of thing. So I rest content.

Also, a horticulturist and a nursery have been left with every recently built battery. By nursery I mean a tract of land where they are forcing the growth of natural foliage which they put before and behind, on both sides, and on top of all the positions. That is correct. "Woodman, spare that tree" should be the shibboleth of Coast Artillery camouflage. Spit and polish



Decoy plane.



Dispersal field for aircraft. Note flat-top and splinter-proof revetments. The trees are not removed.

and whitewash are out. Confusion, not orderliness, is desirable.

All this means expense and trouble. If the expense is too great, give it up. There is a tank farm that is extremely obvious and very dangerous. I was asked if it could be hidden. I said yes, for about two million dollars, whereat all we would get out of it would be a fifty per cent chance of escaping a hit, because the tanks themselves occupied half of an area which is bounded on two sides by water, on another side by a hill, and on the fourth side by old artillery quarters. If I were the power that controlled that tank farm I would just plain go somewhere else.

However, if the expense is warranted, then take the trouble. Go in for dispersion. Use irregularity. It is too bad if the distances stretch out. Walk. Ride a bicycle. Buy some roller skates. England is doing just this. They tell me that the English write off as worthless any non-concealable seacoast defenses.

Germany is doing it. A photograph has been published which showed how Germany tried to rearrange the Hamburg Lagoon and apparently reroute their railroad tracks through a station as big as the Union Station in Washington. The English picked that up, but there is an indication that the Germans probably have many others which have not been picked up.

**Buildings.**—When it comes to buildings, we can unquestionably aid if a confused terrain is available, if our structures are spotted irregularly, and if the ridgepoles are not over twenty feet high. The Engineer Board has proved it with its experimental barracks at Fort Belvoir, Virginia. Some matt paint, some carpenters' shavings, and some variegated trellises have done the trick.

Especially, we can blur objects from the oblique. One Sunday afternoon not long ago I drove from Kingston, Jamaica, up to Newcastle, the rest area a little over 10 miles north and a little over 5,000 feet above the town. From that spot I could see the gray and rusty roofs of Jamaica's business area, but I could not see the residential section because of the trees that grew not over but between the houses.

**Airfields.**—Now let us consider airfields. We can diminish the visibility of airfields from an oblique view at ten miles if judgment is used at the outset in regard to the geographical surroundings of those airfields. If the main runway projects out on a spit of land (as it does on one island I know) there is nothing to be done about it. That position, by the way, is perfectly excusable, as it is on the only level spot on the island.

However, we can do a lot to conceal a field in a mottled landscape. There is one in New England which has proved it. I have flown to the field and at 14,000 feet, ten miles off, on a clear day with a slightly broken ceiling I did not see it.

As for regularity, I was flown 600 miles to see one spot which I discovered right away on account of the beautifully engineered roads. We never saw a company street in France, but our units lined up pretty well as they dived out of a lot of funny looking spots and dusted the manure off themselves.

So these airfields can be helped if they will distribute the hangars and buildings, reduce the warming aprons, back the protective pens against trees, and use landing mats of a type that grass can grow up through. In a word, we would like to suit the layout to the terrain and not the terrain to the layout.

# Officers by Mass Production

By Lieutenant John Edward Aber, Coast Artillery Corps

Sharp, staccato barks of "Whut! Twwhoop! Thrheep! Fourp!" split the crisp morning air of Camp Davis and fit themselves into the rhythmic ring of many heels striking the pavement in unison, as a platoon of khaki-clad young men is seen swinging by in perfect cadence. No ordinary soldiers, these; their neat, trim appearance, their arched chests and tucked-in chins, and their perfect marching point out, even more than the text-laden field bags slung from their shoulders, and the proudly borne red and gold guidon emblazoned "O.C.S.," that this is a platoon of officer candidates—the potential junior officers of our tremendously expanding army.

"But what about these officer candidates?" every one wants to know. Surely, they can march, and a fine job of it they do, too; but it takes more than marching ability to be a good commissioned officer. Can they lead men? Can they shoulder responsibility and be relied upon under all conditions? Do they have the intelligence and training to tackle the highly technical problems that will confront them as officers of Antiaircraft Artillery?

The answer is emphatically "Yes!" School officers, anxious to know how their neophyte lieutenants would fare under the acid test of service conditions, were most pleased by the consistently commendatory reports on graduate candidates that came rolling in from every corner of the continent after the first graduation. Doubts and prejudices as to the kind of officer that could be produced in only three months were completely dispelled. Many unit commanders, expecting raw, half-baked shavetails from the Officer Candidate School, were so pleased by the military, aggressive, and self-confident looking lieutenants who reported for duty that they wrote enthusiastic congratulations to the Commandant on the fine work being done. The most common plaudit is that graduates of the Officer Candidate School are able to step right into their jobs and make themselves useful immediately, without the period of bewildered orientation which many new officers go through before actually becoming assets to their organizations. The combination of inherent capability, previous education, enlisted service, and intensive military and technical training at an Officer Candidate School seems to be an excellent formula for producing good, well-rounded junior officers.

Conceived and formulated in the calm, unhurried, peace-time years by the best military minds, and included in the constantly renovated mobilization regulations, the plan for producing the thousands of trained men needed to fill out the junior officer ranks of a tremendously expanded army bears none of the marks of excited, last-minute, wartime preparation. When the world situation reached a state of affairs that told Uncle

Sam he had better start rolling up his sleeves for action, all that had to be done was to take the plan out of the files and put it into effect.

And so, after a short period of local planning and assembling of personnel, a new offspring, the Officer Candidate Camp, was born on July 1, 1941, to the Coast Artillery School, a wise parent ideally suited through a century of experience to the rearing of this fast-growing youngster. Few had any idea of the staggering scope of the accelerated expansion that the school would ultimately be called upon to perform. Original quotas called for groups of 200 candidates entering every three months for three month courses; but that was before Pearl Harbor. Plans had already been laid for an expansion to double size, with staggered, overlapping courses; but drawing up new local plans seemed only to invite their being thrown aside, as the proposed size of the school sky-rocketed from its original peak load of 200, to a staggering present requirement. The breath-taking scope of the program can be realized when it is recalled that the entire Coast Artillery Corps receives only about eighty officers a year from the United States Military Academy.

Even before the plan for separating antiaircraft and seacoast artillery officer candidate schools had crystallized, it was realized that facilities at Fort Monroe would fall hopelessly short of meeting the new expansion program. Accordingly, the Officer Candidate School was moved to Camp Davis, North Carolina, on February 24th. The subsequent separation of antiaircraft and seacoast artillery education resulted in the incorporation of the Officer Candidate School as a division of the Antiaircraft Artillery School which was established at Camp Davis. Commanding the Officer Candidate Division is Colonel Harold R. Jackson, who was designated as Commandant of the Officer Candidate School, upon its activation. The Seacoast Artillery Department of the Officer Candidate School was moved back to Fort Monroe to form the nucleus of a separate officer candidate school for seacoast artillery officers.

So phenomenal a growth has naturally been accomplished by a certain amount of growing pains; but so well were plans laid that the many concomitant changes and reorganizations have caused very little confusion. The new remodeled officer machine is already running smoothly and turning out officers at a remarkable rate per week, and will soon speed up about 100% additional. Really mass production!

Even had the exodus from Fort Monroe to Camp Davis not been dictated by the necessity for more barracks and classrooms, the move would have been a good one. Although situated thirty miles from Wilmington, the nearest city, a more ideal location for fulfilling the

mission of the school would be difficult to find. Only five miles away by paved road is the Sears Landing firing point, the answer to an artilleryman's prayer. Towers, classrooms, meteorological station, radio room, and other buildings and fixtures needed at a firing point are newly constructed, and habitually perfect firing weather is never wasted by even so much as a stray seagull obstructing the field of fire. Operating with the school is an antiaircraft regiment whose primary mission is the furnishing of troops. Towing missions will be executed by an air squadron located at a landing field adjacent to the school area. Not too distant is historic Fort Fisher where antimechanized instruction and firing are conducted. On the reservation itself is an excellent small arms range capable of accommodating 160 riflemen. An abundance of outdoor space precludes any limitations on drill, athletics, and ceremonies; barracks space, though not as ample, is capable of housing all school personnel without overcrowding. With very little trouble, standard type barracks have been converted into suitable classrooms and study halls, while large gatherings are accommodated by recreation buildings and theatres.

The question currently in the mind of many an ambitious selectee is what qualifications he must meet and what steps he must take to become an officer candidate. Requirements and procedure are explained fully in War Department Circular No. 48, 1942, which has been given wide publicity throughout the service; but in general, he must be between the ages of eighteen and forty-six, a good physical specimen, and a veteran of at least three months service. He must have an army general classification rating of at least H10, demonstrated qualities of leadership, sufficient educational background to insure his ability to pass the course, and enough initiative to put in a written application with necessary attached forms through channels to the commanding officer of the Replacement Center, Department, Army, Theatre of Operations, or Defense Command in which he is located. Collecting indorsements of "Approved" or "Disapproved" and comments as it ascends the chain of command, the application reaches the commander authorized to appoint examining boards. The board calls the prospective candidate in, looks over his papers, interrogates him, and grades him according to a rating scale, basing its judgment primarily on leadership qualifications, secondarily on educational or practical background. Whenever possible, organization commanders are present when members of their command are being interviewed, to assist the board in evaluating applicants.

Priority is given to men with higher education, especially that of a technical nature. However, a college education, though desirable, is not essential. Many candidates without high school diplomas have passed the course, where others with college degrees have failed, although, of course, this is not the general rule. Applicants receiving the highest rating are assigned to



Major General Frederic H. Smith presents Lieutenant Ver-dun R. Arries of Calumet, Michigan, with his commission and letter of appointment as a second lieutenant in the Antiaircraft Officer Candidate School graduation exercises at Camp Davis.

—Signal Corps photo

the existing vacancies, and soon receive orders directing them to report to the Commandant of the Artillery School. The applications of those who are accepted but not appointed are held pending allotment of additional vacancies. While all this is taking place, the wise applicant will be spending his free time brushing up on mathematics, the subject which heads the list of causes for failure to pass the course.

From the instant the incoming candidate salutes and reports in at his battery office until twelve weeks later, when he is handed his commission, every minute of his time is accounted for in a schedule that is all work and very little play. The average day includes seven hours of instruction, one hour of drill, athletics, or calisthenics, and two hours of supervised study. Eating, marching to and from classes, and policing of barracks and personal equipment take up most of the little remaining time. With the sounding of taps at 11 P.M., all candidates, regardless of rank or marital status, are required to be in bed. Occasional bed checks by the Officer in Charge discourage candidates from burning out their eyes as well as the midnight oil in after-taps studying, or from seeking gayer nocturnal environment.

"In the Officer Candidate School, there is but one standard—that of PERFECTION." That statement, one of the first to be heard by candidates, is not mere wishful thinking. In every member of the School, from the Commandant to K.P., there is indoctrinated the attitude that nothing less than perfection will do; only to newcomers does the short-lived idea of "just getting by" ever occur. Even a "good" job is not sufficient; if it is at all possible to do a job better, then that is the way it will be done.



*Top:* Classroom at Officer Candidate School, Camp Davis. *Bottom:* Firing 37 mm guns at the school.

The life of a candidate is necessarily a hard and exacting one, because twelve weeks is a very short time in which to cram a modicum of the knowledge and training a capable Antiaircraft Artillery Officer should have.

However, the strain under which candidates are placed also has its useful purpose. In meeting the rigid academic requirements, in constantly facing new situations, in adapting themselves to standards possibly surpassing

anything they have ever known before; candidates are naturally under a certain amount of pressure, which has the effect of stripping away their superficial de-meanors and enabling their battery officers to see their basic characteristics and true makeup. The routine is severe but it must be remembered that a man who cracks or weakens under a hard and fast military and academic routine, however trying, is not the type of man to be responsible for the lives and safety of a group of men under the much harder and more demoralizing stress of battle conditions.

Neatness, military bearing, and precision in all things are stressed even to the point of exaggeration. To straighten out a curved steel spring, it is necessary to bend it past the straight position, so that when pressure is released, it springs back straight and remains that way. Accordingly, great stress is placed upon posture throughout the course. High standards of neatness and precision in barracks are insisted upon. There is a place for everything, and rigid daily inspections insure that everything is in its place. Saturday afternoons find the

candidates lined up on the parade ground for a detailed inspection in ranks for which arms, clothing, and equipment must be meticulously neat and clean. It is not expected that these future officers necessarily will require their organizations to attain the standards of the Officer Candidate School; but having known the meaning of perfection, they will never tolerate unsatisfactory conditions. Reports have been received indicating the effectiveness of this phase of the candidate's training when applied in the field.

For purposes of administration and discipline, candidates are grouped into batteries of five sixty-eight man platoons. A cadre of enlisted men is assigned organically to each battery to carry out the usual battery functions of mess, supply, administration and police. So that every individual may be given the opportunity to exercise responsibility and leadership as often as practicable during the course, candidates are assigned to positions as acting officers and non-commissioned officers and changed semi-weekly. Except for these rotated responsibilities, there is absolute equality among candi-

NO.	SUBJECT	HRS.
1	Infantry Drill	20
2	Map Reading	10
3	Review of Mathematics	15
4	Organization of the Army	5
5	Organization of the AA Artillery	2
6	First Aid and Hygiene	3
7	Individual and Antimechanized Defense	4
8	Military Courtesy & Discipline - Customs of the Service	6
9	Identification of Aircraft	4
10	Motor Convoys	4
11	Court Martial Procedure	3
12	Searchlights and Communications	39
13	Height Finders	24
14	Small Arms	20
15	Gun and Director Materiel (AA)	39
16	Gun Gunnery AA	39
17	Directors AA	39
18	3 in. AA Firing	44
19	Orientation	44
20	Automatic Weapons Theory	44
21	Automatic Weapons Firing	44
22	Administration	24
23	Mess Management	24
24	Military Training	2
25	Inspection	33
26	Physical Training	15
27	Supervised Study	124
TOTAL SCHEDULED HOURS OF TRAINING		671

## SCHEDULE OF INSTRUCTION AA OCS CAMP DAVIS

### LEGEND

<i>Opening Address</i>	
<i>Unscheduled Time</i>	
<i>Physical Exam.</i>	
<i>Turn in Equipment</i>	
<i>Pay - Clearance &amp; Discharge</i>	
<i>Graduation</i>	

DAY	S	M	T	W	T	F	S	S	M	M	M	M	M	M	F	M	T	F	T	F
WEEK																				
HOUR																				
8:00																				
9:00																				
10:00																				
11:00																				
12:00																				
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10:00																				

SCHEDULE OF INSTRUCTION FOR EACH COURSE

dates. No distinction is made because of rank, age or experience; chevrons are removed immediately upon entrance, and thereafter candidates are known officially only as "candidate," and are addressed as "mister."

Candidates come into contact with two groups of officers—those who instruct in technical antiaircraft artillery subjects, and the battery officers, whose positions correspond to those of tactical officers at the United States Military Academy. Battery officers teach the basic, "what every officer should know" subjects, such as mess management, supply, and administration and are also responsible for the administration, military training, and discipline of the units to which they have been assigned. Their primary, most important function, however, is the moral and psychological development of their men into officer material. Constantly under the eagle-eyed supervision of their battery officers from the day they report until the day they graduate, candidates probably never realize how closely they are being observed or how much their officers know about them. Even into the mess hall, the molding of enlisted men into officers is extended, where the man at the entrance door may be, instead of the mess sergeant with his whistle, an officer with a pencil and pad making notes and taking corrective action where unsatisfactory appearance or conduct at mess is observed.

However, there is nothing suggestive of the Gestapo in this close, continuous observation. Criticism, correction, and advice are given on the spot as needed, and delinquencies are listed on a "skin sheet" which is posted daily on the bulletin board for observation and initialing. Consistently delinquent candidates are called in by their unit commanders, whose loaded buck-up talks are usually capable of bringing wayward sinners to repentance before more severe disciplinary action is necessary.

Efficiency reports are made out weekly on every candidate by platoon commanders, and those rating "U's" in any item are interviewed by their platoon, battery, battalion or regimental commander, depending upon how long they have received an unsatisfactory rating. Apparent misfits are given individual attention, criticism and advice in an effort to straighten them out. If, after ample opportunity to improve, a candidate still evidences a lack of military aptitude and leadership, it is the painful duty of his unit commander to recommend him for relief. No candidate is dismissed, however, until the Faculty Board, including the Commandant, has considered all angles of the case and has come to a decision.

Casualties average around fifteen per cent, most of which are due to academic deficiencies. In rating a candidate, academics and military aptitude are given equal weight so that a slight deficiency in one does not necessarily mean dismissal, if heavily outweighed by the other. More detailed information is shown in statistics quoted at the end of this article.

The curriculum of the Officer Candidate School is as shown on the accompanying Table of Subjects. It may be noted that a total of two and a half weeks is devoted to gun, automatic weapons, and small arms firing. Wherever possible theoretical instruction is augmented by practical application. It is believed that the course as now outlined gives the graduate a well balanced theoretical and practical background which will qualify him quite adequately as an officer in a battery of Antiaircraft Artillery.

After three hard months of academic and disciplinary rigors, the long anticipated day arrives when those who have successfully passed the course are assembled in the theatre for graduation exercises. The thrill of graduation felt by candidates is shared to almost as great an extent by all members of the Staff and Faculty through the arduous course to its completion. Seeing their charges proudly march up on the stage in their new smartly tailored uniforms and shiny gold bars to receive commissions as temporary second lieutenants in the Army of the United States, it is almost impossible to believe that they are the same men who had reported in only three months before. Any slight misgivings as to particular candidates which may have obtained heretofore have now disappeared. They not only look like good officers—they *are* good officers.

Orders assigning the newly commissioned officers to their new stations are received at the same time as the commissions. An effort is made to assign graduates to the stations of their choice, men with highest class standing receiving priority. In general, graduates are sent to posts, camps or stations in accordance with vacancies as reported by army or field force commanders. How long they will serve under active duty orders and what experiences they will encounter in their military service one can only guess; but, however long the struggle and whatever the trials that lie ahead, one reassuring thing of which we can be certain is that America's new legions will not want for skilled and competent leadership.

#### STATISTICS TO DATE

Educational Background of Candidates:		Reasons for Losses:	
	%		%
College:		Academic Deficiency . . .	56
4 Years . . . . .	45	Leadership . . . . .	10
3 Years . . . . .	11	Combination of aca-	
2 Years . . . . .	14	demie and leader-	
1 Year . . . . .	12	ship deficiency . . . . .	11
High School:		Physical . . . . .	8
4 Years . . . . .	15	Discipline . . . . .	5.5
3 Years . . . . .	1.2	At own request . . . . .	1.3
2 Years . . . . .	.8	Turned back to gradu-	
1 Year . . . . .	.5	ate with a later group	8.2
0 Years . . . . .	.5		
	100.0		100.0

# Gallery Small-Arms Range

By Lieutenant Colonel Paul B. Nelson, Coast Artillery Corps

**EDITOR'S NOTE:** *The small-arms range at Camp Haan has created much comment throughout the service because it is an excellent solution to a difficult problem. Colonel Nelson, who planned and built the range, was asked to write this article in response to numerous requests by our readers for information about the structure.*

The problem of conducting all initial small arms instruction and familiarization firing, in close proximity to other training activities, is in general common to all training centers. The search for firing areas which will satisfy the rigid requirements of safety regulations on the one hand and the desire for a firing area readily accessible to training troops on the other, without the loss of excessive time spent in traveling to and from the firing points, presents many conflicting problems and usually ends in a compromise or the selection of a site quite remote from the general training area. At the Antiaircraft Training Center, Camp Haan, California, a happy solution to this perplexing problem was developed and constructed under the supervision of the author. The solution lies in a specially designed covered gallery range of unique construction and of unusual versatility.

This gallery range consisting of four main bays, sub-

divided into sixteen galleries of four firing positions each, provides a firing capacity for sixty-four men firing simultaneously. The range is of monolithic reinforced concrete construction with successively staged concrete slab-roof sections overlapping the firing positions beneath, giving almost a one hundred per cent protection against wild shots leaving the range and endangering the populated areas to the immediate rear of the range proper, plus overhead protection from the elements.

The range is 400 feet in width, approximately 120 feet deep, and consists of three slabs of concrete supported by a combination of walls and pillars at a height varying from ten to fourteen feet above the floor grade level of the range proper. The backstop slab is supported by both pillars and interior buttresses and has a deep earthen fill on the backstop face to act as a bullet-stop and to prevent the shattering of the concrete face by bullet action.

Each bay is separated from the adjacent bay by a ten inch concrete wall, with a result that firing in any one of the four target bays is entirely independent of the adjacent bay. This permits a variety of types of firing instruction to be conducted simultaneously on the range at one time. In the center of each gallery a standard 1,000-inch machine gun rolling frame target assembly is set up, the tracks flush with the graded floor surface.



Top: Running under capacity. Bottom: Four men per gallery, four galleries per bay, four bays in the range.



*Top: Pistols, too, with this versatile range. Bottom: Good men + good instruction + a good range = good shooting.*

The car carrying the target bar and four or more target frames rolls up and down through the entire length of each gallery, being pulled by ropes from the rear of the firing positions. The advantages of this system are that a minimum of time is taken out for marking targets and the number of men milling around on the range at any one time is nil, with the result that within any

one bay of four galleries, the various stages of firing in adjacent galleries proceed uninterrupted by the status of firing to the right or to the left. All safety regulations are rigidly adhered to, but time saving is at a premium.

Sockets for pistol target frames and for "bobbers" are set up at the forward edge of the earth-embanked back-stop slab permitting the rapid change from rifle to pistol

firing. Firing positions for all small bore, pistol and all 1,000-inch firing are provided, but the instructional capacity of the range is not limited by the indicated firing points.

Ultimate versatility was the criterion followed in the original design of this range. This aim has been achieved and today the range rarely sees an idle moment. It is in constant use from dawn until dusk with multi-type firing being conducted simultaneously in all bays: for instance No. 1 bay may be used by sixteen men firing .22 cal. rifles while No. 2 bay is used for M1 rifle 1,000-inch instruction, No. 3 is reverberating with the sustained fire of caliber .30 machine guns, and in No. 4 pistol firing is proceeding without interruption.

All bays are identical in design and equipment, hence the transition from one type of firing or from one weapon to another is but a matter of a few minutes, the time taken to change targets which are normally stored in range storerooms at either edge of the range proper.

Units of the armored forces have used the range to zero their tank machine guns and for preliminary firing, air corps troops have used the gallery to learn how their weapons function on the ground, while antiaircraft artillery and various divisional and corps troops stationed in the vicinity have found the range a godsend in brushing up on their weapons, particularly in the transition from the old 1903 to the new M1 rifles. Anti-tank guns, "tommy" guns and the little .22 rifles have spewed lead and steel into the earthen backwalls for days on end. It makes no difference whether the troops are doughboys, tankers or artillerymen, they are all accommodated, and usually in short order. While the

normal capacity of the range is approximately 2,000 men per week, it has on several occasions accommodated as many as 900 men in a single day.

With telephone installations, electricity, running water, modern sewage disposal and sanitary features, the range is not only comodious and accessible, but is also convenient in its appointments.

This range is distinctly an all weather range, and is in use in fair weather or foul. The overhead ceiling structure protects the firing lines from the rain and from the scorching rays of the sun when Old Sol burns down through the clear desert skies above.

While lighting facilities to permit night firing were originally contemplated, they have not been installed to date, nor does it appear that they will be necessary.

Construction of this range was started on April 1, 1941, and completed December 6, the day before Pearl Harbor. Each bay was completed in turn before proceeding to the next bay in order that firing could be conducted in each completed bay at the earliest possible date. As a result, the first bay was opened to firing on June 1. Construction in progress immediately adjacent to the bay in which firing was being conducted was able to proceed without any interruption.

Full capacity was reached on the day prior to Pearl Harbor. Since that day no portion of the range has been idle. All branches of the service are welcome and all in the vicinity have found this gallery an immediate answer to the burning question "Where and when can I get some firing instruction for my men?"

The range works, it is necessary, it is good.



## It Takes Both

. . . The truth is that the conduct of successful war depends upon the proper combination of adequate offense and adequate defense. Both are essential. Germany has been able to conduct its offensive in Russia because it has been able to defend its home base against destructive British aerial bombardment. The difference between the "offensive" and the "defensive" is often purely technical. After the Japanese have seized Wake, Singapore, Sumatra, Amboina or any other point by the "offensive" they must retain it by the "defensive." We achieve no miracle by a mere change of vocabulary. HENRY HAZLITT, Review of *Defense Will Not Win the War* in *The New York Times Book Review*, March 15, 1942.

# DISEMBARKING

The present war gives us examples, along with a series of continental campaigns: Poland, France, Russia, etc., directed by Germany against the real or eventual allies of Great Britain, of landing operations with the conquest of maritime bases for object. These are firstly the German and English landings in Norway, where the English, taken by surprise by the Germans, later vainly tried to maintain themselves at Narvik, then the operations of varying importance: the air conquest of the Channel islands by German parachutists, the capture by air of Crete and the almost "peaceful" conquest of the islands of the Aegean sea, the English raid on the Lofoten islands, the English landing at Spitzberg in the summer of 1941. To finish up the European theater of war, the question of a German landing in the British Isles has been in order since the month of July, 1940 and is still at the beginning of 1942; because it is the only thing that could bring about the rapid downfall of England. In the Pacific several landings are taking place simultaneously today: In the Philippines, at Borneo, in the islands of Guam, Wake, etc. . . . In this new war, which has for its theater the greatest stretch of water which there is on the surface of the globe, dotted with isles and islets, operations of this type will no doubt multiply. All the examples which we have just cited are of very different characters and strategic importance, and each of these undertakings poses particular problems which should be studied down to the last detail. If each landing is in a special class, it is possible to show which new techniques are capable of assuring its success.

Since the war of 1914-1918, two new arms have come to modify considerably the aspect of land combat: They are the tank and the airplane. The superiority which they confer on he who possesses them over he who does not is such that a landing force which does not immediately use these machines in sufficient quantities has no reasonable chance of maintaining itself against a defending force which does possess and use them. On the other hand, an attacker who can put enough airplanes in operation gains by this even the control of the sea, formerly considered essential, and which in our day is less and less obtained by naval means alone.

It is because they did not understand this new development soon enough that the English, who had figured too closely the air material that they would need to protect their landing in Norway, lost a great number of ships before they were finally forced to re-embark.

The necessity of getting tanks ashore on the coast being attacked as quickly as possible has led to the appearance of several novelties in the naval domain, such as the amphibian tank, the "chaland" for carrying tanks,



# ERATIONS\* By Pierre Belleruche

Photos by Signal Corps, U. S. Army.

and perhaps we shall see special ships for carrying tanks.

These two conditions of the success of a landing: mastery in the air and rapid use of tanks, will be realized in a fashion different and more or less fresh, depending on the distance, because the radius of action of light landings and airplanes is limited, and if the expedition is distant, these should be brought to the landing point by ships.

Modern landing operations then present themselves in two different conditions:

1. The landing "rapproche" attempted from a not distant base in which aerial means play the essential rôle.

Crete offers the best example of a successful landing of this type, effected solely by aviation, and using the air arm on a grand scale: parachutists, troops landed by glider, mass landings of transport planes.

The conquest of England would constitute an action of the same type on a considerably larger scale.

2. The landing "d'outre-mer" which is attempted from a great distance where naval means keep their préeminence.

This case would be one of a landing from one continent to another. It might be illustrated by the eventuality of an American force crossing the Atlantic Ocean to land "somewhere" in Europe or in Africa. The operations which are now taking place in the Pacific belong to this type.

## THE CONQUEST OF ENGLAND, "RAPPROCHE" TYPE LANDING

In an issue appearing at the end of April, 1941, the Spanish military paper *Ejército* presented a curious pic-

ture of what might be a landing of German forces in England. Here is how—one month before the Crete campaign—this magazine represented an attack on the British Isles:

1. Preliminary shelling, in a systematic manner, of the vital centers of the Islands: ports, airdromes, industrial centers (the number of 20,000 bombers is given as a suggested figure);

2. Night aerial landings on four or five carefully chosen points, done by means of gliders, in such a manner as to constitute four or five little landing spots within the Islands; in other words the establishment of an interior front by aerial means in order to attack the coastline from the rear;

3. Passage of the Channel, from Calais or in the lower part of the North Sea by means of amphibian tanks and flotillas of tank-carrying barges, escorted by hundreds of torpedo boats, boats equipped with anti-aircraft guns, and boats to lay smoke screens;

4. Intervention of "stukas" and "Superstukas" to keep the British fleet out of the zone of operations;

5. Landing of reinforcement troops by means of naval transports in rather distant ports as well as in ports close to the base of operations.

Let us try to illustrate on the map the phases indicated in the above plan. We can begin by indicating the weak points, from a geographical point of view, of the British.

These weak points are obviously the shortest lines from one coast to the other of Great Britain. It is reasonable that the action of parachutists will seek in the

\*Reprinted from *La Science et la Vie* XX, February, 1942.



Tanks ashore!

first place to seize upon these vulnerable points. Among the possible lines the most interesting appear to be:

1. The line "Wash-Solent," whose eventual occupation would permit London to be cut off from the rest of the country to the north.

2. The line joining the mouth of the Humber to the Mersey (Hull and Liverpool) which would isolate the industrial region of the Midlands from all the northern part of Great Britain. Let us add to the list of weak points the neighboring islands: Isle of Man, Isle of Wight, etc.

3. Important point—the occupation of southern Ireland—neutral country, and therefore eminently vulnerable—would permit the isolation of Great Britain from the reinforcements and supplies from America.

After the geographical point of view, let us examine the problem from the tactical point of view.

The principle appears to be to paralyze the coastal defense by a double attack:

1. By air to take the coast defenses from behind;
2. By sea to take it simultaneously from the front.

The first phase (night operation) would consist in landing parachutists and troops by gliders at the rear of the line of coastal defense, to take it from the rear.

The second phase (at dawn) would be a debarkation from tank carrying barges, supported by a pounding by Stukas and covered on the sea side by smoke curtains laid by vedettes.

Lastly, the third phase (daily) to keep the two lines of attack thus constituted supplied with food, the attack by sea and the attack by air.

Such is the sketch of what might be the form of a landing in England—an ultra-modern landing, which would be maritime and aerial at the same time.

#### MASTERY OF THE AIR

Whatever the technical, geographical and tactical means the fundamental problem for the attacker is the acquisition of mastery of the air in the sky of the British Isles—that is to say, at bottom, the annihilation of the Royal Air Force. A first try was attempted during the great days of August and September, 1940. It ran up against the Spitfires and the Hurricanes. Would a second attempt in 1942 have more success? It is only when the Luftwaffe shall have succeeded in completely dominating air over Britain that insular Great Britain can be considered lost.

A naval force attempting a landing from other shores will undoubtedly comprise an important number of airplane carriers. But it will be necessary to take account of two factors:

1. The technical handicap of an airplane on board ship with respect to an airplane based on land: handicap of performance, resulting especially from the necessity of landing on board.
2. The impossibility of landing with troops on board from carriers.

For the first point, a typical example was given in

the attack on Dakar (September 24, 1940) when the British planes from carriers, Fairy Swordfish torpedo and reconnaissance planes, were targets for the A.A. of our cruisers. In Norway, the English pursuit of the Gloster Gladiator type were very inferior in performance to the Messerschmitt 109. Has the American navy succeeded in giving its carrier-based pursuit planes performances equal to those of land based pursuit? The exact performance of the Grumman Maitlet and of the new Vought-Sikorsky F 4 U-1 are not yet known.

For the second point, the carriers offer an immediate compensation: its possible richness in dive bombers (Brewster, Douglas, Vought, Curtiss).

In admitting even the qualitative equivalence between planes on carriers and land-based planes, there remains the problem of numerical superiority. And one is led to consider, from the attacker's point of view, the advantage of occupying airdromes situated near the landing point. In Norway the British made an unfortunate attempt at it. They succeeded in landing from carriers about twenty Gloster Gladiators on a frozen lake near Dombas; but the Stukas discovered and demolished them on the ice before they could take off. The previous occupation of the immediately neighboring islands to the landing point, should be considered in the case of a landing from overseas.

One sees that in this case the problem of mastery of the air is much more difficult to achieve than in the case of a landing from a not far distant base and of which Crete is the most spectacular example.

#### LANDING OF OVERSEAS TYPE

The question seems to have been studied for a long time by the American Navy, since it possesses a specialized corps, the Fleet Marine Force, comprising its fusiliers, its gunners, its tanks and its aviation.

The Fleet Marine Force is attached to the Battle Force (Fleet) inasmuch as the success of a landing overseas lies chiefly with the superiority of naval power. Indeed naval supremacy is the first requisite to be realized.

For, naval superiority today requires not only mastery of the surface but also control underwater (neutralization of enemy submarines) as well as control of the air overhead (mastery of the air locally). It is essential to secure this triple superiority in order to insure the safety of the transportation of land forces, not only across the ocean, but especially in the coastal zone in which the landing is to take place.

Security against submarines will be effected by the use of escort ships and destroyers. The most difficult and the most important feature to insure will be control of the air in front of the coastal region where the enemy air force will be based.

#### ESCORT WITH ANTI-AIRCRAFT VESSELS

In order to supplement a likely lack of pursuit planes, the fleet that is accompanying the landing forces will be



Parachutists land on an airfield.



Air Infantry makes its landing.



Top: More Air Infantry. Bottom: Antitank guns by air express for airborne troops.

obliged to concentrate a considerable number of A.A. ships. An antiaircraft defense of sufficient power is absolutely necessary of course around the debarkation points. The landing forces, instead of having absolute supremacy would, as in the case of Crete, find themselves in a state of marked inferiority, unless they were in possession of an almost unlimited number of aircraft carriers or else in a position to seize a sufficient number of air bases on land in the immediate vicinity, and to land air force equipment and personnel there.

In any case, it would be absolutely necessary to have on hand a considerable number of A.A. vessels if a disastrous landing such as occurred in the Norway adventure is to be avoided. If, in April 1940, the British did ask for A.A. cruisers, it was a timid request too weak to be of any avail, and without the possibility of a decisive result. In Norway the presence of one or two *Curlew* type cruisers of 4,500 tons, and some A.A. escort vessels of the 1,200 ton *Egret* type were reported to have been on hand. One of the latter, the *Bittern*, was moreover sunk by Stukas in the Namsos fjord, and the *Curlew* itself was sunk off Narvik May 27, 1940.

Therefore if the principle involved was excellent, the realization of same was insufficient. It is by dozens that such A.A. craft should go into action in any similar future landing operation.

The American Navy does not as yet possess any A.A. craft properly speaking, but all its modern destroyers are armed with antiaircraft 127mm guns, capable of firing against planes as well as ships. Among those known to exist, the *Farragut* carries five of these guns. The *Mahan*, the *Craven* and the *Benham* carry four, the *Benson* six, and the *Porter* eight as do all the ships of their classes respectively. Under construction are the *Bristol* class of 1,700 tons, which will carry five A.A. 127mm guns and the *Fletcher* class of 2,100 tons will carry eight.

As for the A.A. Cruisers being built by the U.S., the first ones are nearing completion, the *Atlanta* class of 6,000 tons are carrying twelve 127mm A.A. guns, the same caliber as those in use on the destroyers.

A landing becomes possible once the local control of the sky is certain through the use of planes and a powerful antiaircraft defense; smoke screens and protective

artillery fire will insure the success of the attack. It will then be a question of exploiting the favorable situation thus created.

The No. 1 weapon of modern warfare being the tank, the problem of modern landings must comprise the problem of the rapid landing of tanks designed for attacking.

#### TANK CARRYING BARGES AND SHIPS

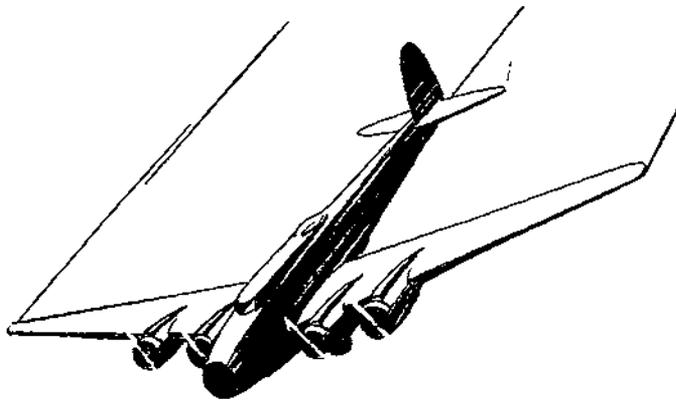
The first mention of the idea of tank carrying barges was during the summer of 1940, at the time when the possibility of a landing in England was under discussion everywhere. The simplest form of this idea is the self-propelled barge, equipped to take on board two tanks of from three to eight tons, and fitted out in the bow with a sort of incline plane or gangplank that folds up like a draw bridge, to enable the tanks on board to reach the shore, once the barge has been beached. The types of these tank carrying barges will necessarily vary according to whether they are destined for sea duty or off-shore and harbor work.

In the case of overseas landings, it is difficult to consider the possibility of utilizing tank carrying barges properly speaking, but it would more likely be a question of tank bearing lighters unloaded from ships that

would also be carrying the tanks as well. It is easy to imagine for example that off-board a cargo boat carrying tanks, each tank could be loaded on some sort of raft, permitting the lowering into the water of the combined tank and raft by means of ships' tackle and its subsequent landing on a beach. The use of amphibian tanks would be even easier. Another answer to the problem would be based on the idea of an entire ship utilized as a tank carrier, a sort of ferry boat, fitted with a large gang way or landing stage, and capable of drawing far in-shore and grounding at a beach in order to land its tanks directly on shore.

After the tanks, barges or armored rafts and pontoons could land the infantry troops and their accompanying mortars. These armored barges would be accompanied by fast motor boats, some equipped for throwing up smoke screens, others armed with heavy A.A. guns.

To sum up, it would be thanks to the combination of: aircraft carriers, antiaircraft vessels, tank carrying ships, armored rafts, smoke screen producing motor boats, that it would be possible to accomplish in modern form an undertaking of overseas landings. The ship remains the capital unit, but the great difficulty still remains of the question of supremacy of the air above the landing points.



# The American Red Cross

By Lora Kelly

Literally and figuratively the Coast Artillery Corps stands by its guns. Not all of its ammunition comes in shell cases, however. The courageous spirit back of the technical knowledge which even the lowest grade of the Corps must possess, is part of that intangible military factor called morale.

No soldier is an effective fighter if he is worried. No soldier can do his best if he knows that his wife or child is ill, his parents are suffering hardships, or he himself is involved in difficulties which have nothing to do with his army life. It is in these personal crises that the American Red Cross becomes one of the important bulwarks behind the lines, a morale fortification that has never yet failed the men behind the guns.

The coming of war with the Axis countries found the Red Cross ready. During the first World War the organization expanded to then unprecedented size and its workers pioneered in many new lines of effort. After the signing of the Armistice the Red Cross continued to serve the regular military and naval establishments. Minimum staffs were maintained at important stations and the lessons learned in wartime were turned to practical account as part of the regular procedure. In the score of years between the wars the foundation for the present program was firmly laid. Long before Pearl Harbor, the American Red Cross was quietly perfecting its plans "in case of emergency."

When that emergency finally arrived the Red Cross was prepared and the first line of selectees reached their camps to find the Red Cross already working hand in hand with the military authorities in behalf of service men and their dependents.

Army men of long service have always understood

the significance of the Red Cross banner. They know that in peace or in war the American Red Cross is ready at a moment's notice to render aid to a service man. They avail themselves of it, not as a charity, not as a favor, but as the integral right of every man in Uncle Sam's uniform. They regard it as an essential part of military routine, operating in their behalf without discrimination as to race, creed or color.

However, some of the newcomers into the ranks of the recently expanded army may have yet to learn that this friendly service is theirs for the asking. Until they have occasion to use the Red Cross they may not realize that through its 3,400 Chapters and 6,000 branches the American Red Cross maintains a Home Service working in close cooperation with the Military and Naval Welfare Service on duty with the troops. As the established medium of communication between the American people and their Army and Navy the Red Cross occupies a unique position in the wartime picture, recognized and respected by officers and enlisted personnel alike.

More than 318,000 members of the armed forces turned to the Red Cross for assistance in personal and family problems during the seven months ending January 31, 1942. This was an increase of 638 per cent over the same period of the previous year, with the numbers still increasing each succeeding month. Money loaned to service men, without interest, for emergency purposes totaled more than \$600,000 during that period.

To keep pace with this rapid expansion of its services to the armed forces the Red Cross has increased its staff of workers at Army posts and Navy stations in the United States alone to more than 1,400, including



Fort Monroe or Iceland, the Red Cross is on the job.

—American Red Cross photo

field directors, case workers, medical social workers, recreation workers, clerical and secretarial help. In 56 Army camps Red Cross headquarters buildings have been erected to provide offices and living quarters for personnel, with plans under way for 43 more. In centers where there are station hospitals, the recreation and welfare program for patients is administered by the Red Cross in 70 buildings erected by the army.

In addition to these workers within the continental limits of the United States, there is a constantly growing force of trained Red Cross personnel quietly slipping away from the home shores along with the troops. The same secrecy which surrounds the movements of fighting units on land or sea, cloaks their departures and not until they have safely arrived at their new posts of duty is their destination known even to National Headquarters.

More than 200 of these workers chosen especially for their outstanding qualities of leadership have finished a special course of supplementary Red Cross instruction at Headquarters and have set out on their journeys through perilous seas, some of them bound for distant ports half way round the globe. Red Cross men and women share the same hazards of climate and actual warfare as the troops they serve.

With the fall of the Bataan peninsula after the brave stand of MacArthur's men, the Philippine Red Cross Chapter which gave such a magnificent account of itself following the outbreak of war, has gone into the silences. Because of the difficulty of communication only fragmentary information has been received, but it is sufficient to indicate that the Red Cross is still functioning in its traditional manner.

Task units assigned to new foreign outposts, known only to National Headquarters by an office number, follow the same general pattern of service as their fellow-workers in Army posts and Naval shore establishments at home, with variations only according to the requirements of their stations. Medical social service and recreation programs under the supervision of an assistant field director are carried out in the station hospitals, while the field directors and other assistants serve the able-bodied troops.

In Army and Navy centers where armed forces are concentrated in the domestic areas, Red Cross recre-

ation activities are confined to officially approved programs in the station hospitals. In the foreign and insular service, however, the War Department has requested the American Red Cross to supplement services furnished by the Army in providing entertainment and various sports facilities for all duty troops. Thousands of dollars worth of equipment for boxing bouts, basketball, football, baseball, handball, golf, skating and skiing, as well as games, musical instruments, table tennis, puzzles and cards for indoor use have been shipped to faraway ports. Even before the troops land they have been supplied with deck recreation supplies and personal kit bags for use on shipboard. In some of these outlying stations in Australia and the British Isles recreation clubs for the able-bodied are being set up with Red Cross staffs of recreation and athletic leaders to supervise the program. These clubs are being established in leave areas so that a service man will not be confronted with an entertainment blank and "no place to go" when he rates a week-end pass. Nor will he be dependent upon local lodging accommodations in a foreign land, for he will also be provided with a comfortable place to sleep and food that will be a change from the regular army chow.

Throughout the entire land from coast to coast and border to border a vast army of volunteers is thronging to Red Cross production work-rooms.

These faithful women—many of them mothers, wives, daughters, sisters and sweethearts of men in the service—are assembling mountainous piles of surgical dressings, stacks of garments for emergency use; working in the canteens; conserving their tires and gas for Red Cross motor corps service; helping in civilian hospitals as nurses's aides; giving hours of their time to patients in Army and Navy hospitals as "Gray Ladies," manning information desks in Red Cross offices; helping with correspondence or files and giving a hand wherever needed.

All meet here on a common level. The Colonel's Lady and Judy O'Grady both regard the Red Cross volunteer's veil as a sacred symbol of service dedicated in mutual devotion to their own menfolk, as well as to their country for which no sacrifice is too great to endure.

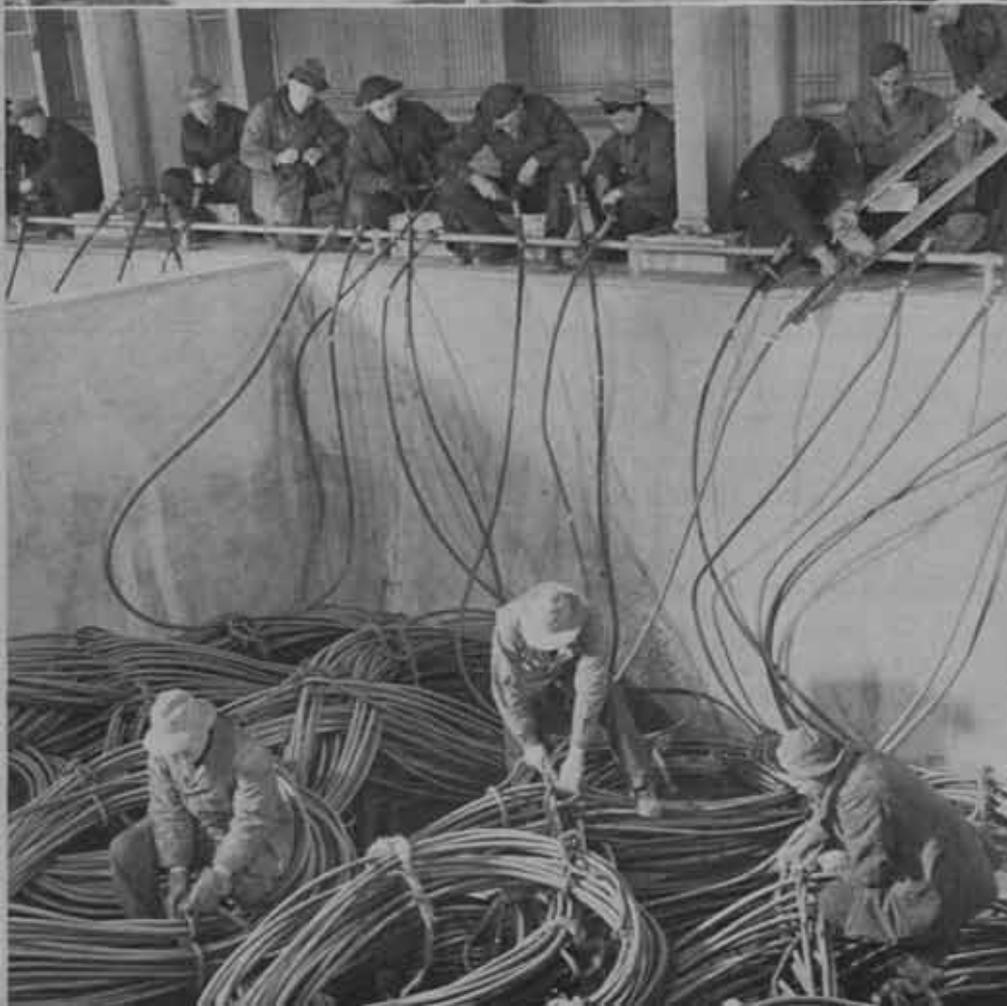


The Red Cross has never failed us.—GENERAL DOUGLAS MACARTHUR.

# Seagoing

A Coast Artillery sailor paints a mine. Salt-water and necessary handling mean days of maintenance work. Anchors in the background.

The harmless-looking powder in the scoop is poison to Axis ships



← Control cables looped in neat figures eights for easy handling but try wrestling with these after a hearty meal

# Soldiers



↑ Periodic inspection of mines takes hours of heavy work; smooth-working crews handle half a ton of mine with ease.

→ Bringing the mine in for inspection—the anchor hangs on the other davit. It's a cold bath if the soldier's foot slips.



Inboard at last. A capable-looking detail has the mine under control, and the planter is already on its way to the next one.

# TARGET STUKA

By Captain Harold Spaans, Coast Artillery Corps

"FLASH FLASH FLASH. XY. MANY BOMBERS SEEN  
POQUOSON SOUTH WEST HIGH."

"FLASH FLASH FLASH. XY. MANY BOMBERS SEEN  
POQUOSON . . . ."

Roaring motors drown out the last part of the message.

"TARGET—THAT BOMBER DIVING—EN-  
GAGE . . . . ."

You watch the director pick up the target, then suddenly stop.

"DIRECTOR OUT OF ACTION."

Your section now must rely on some emergency method of controlling fire. Do you know what the lead should be—or more to the point, do your men know the required leads? Do they know how those leads are changing as the Stuka dives? Those are mighty pertinent questions. The answers will determine whether the objective you are defending will be destroyed or whether there will be a downed Stuka strewn around the landscape. With all the new guns which will be issued with directors, there must be some system of sighting to be used when the director is out of action. Any such sighting system will be based on sight control in which lateral and vertical leads must be set. The method now used with Central Tracer Control will be applicable for any such method of sight control.

In training your battery you had the adjusters study lead curves for all types of courses. Lead charts made up for low level targets were studied for weeks and months. But one of the most potent weapons against ground installations, dive bombers, is still your bug-a-boo. Now during these weeks and months what instructions did you give the adjusters regarding leads for dive bombers? Do they understand that the problem of setting in leads is simplified when a target *dives* at an objective near a properly located Automatic Weapon gun section? Do they realize that by diving *at an objective* the Stuka becomes an easier target for your guns? If not—it's time they knew. It's time to look for something that will teach your adjusters the "facts" about dive bombers.

The dive bomber must of necessity fly in a straight line toward his objective. Human endurance and strength of the plane set some limitations on this type of attack. The speed of the dive bomber in the dive does not vary as much as would be expected. Information received from abroad indicates that it is not the "screaming power dive at full throttle" which many newspaper articles might lead one to believe. In the writer's opinion, the actual speed of the dive will not

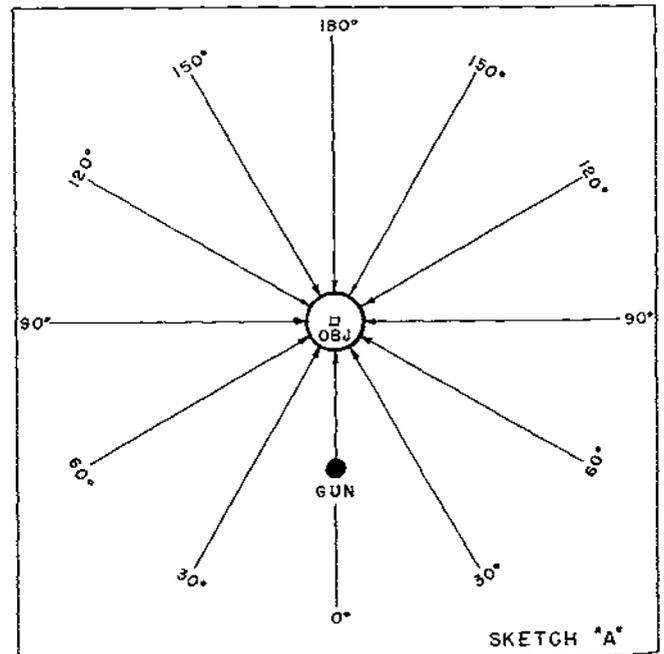
ordinarily be greater than 300 m.p.h., nor be less than 250 m.p.h. This variation in speed will change the ground speed ( $S_g$ ) only about ten yards per second and will therefore not seriously affect the calculated leads.

There is a tendency to stabilize the angle of dive, as well. An average figure for that might be  $70^\circ$ . Reports from overseas indicate that usually the angle of dive varies between  $60^\circ$  and  $80^\circ$ . Leads calculated for either one of these two angles will not cause much change in leads calculated for an angle of dive of  $70^\circ$ . Knowing that actual speed and angle of dive can be estimated fairly well, your problem has been simplified. Those adjusters must know something about leads for dive bombers. Though you may not know exactly in what direction the dive bomber may come from, you do know what he is headed for. You *do know* how far it is from your gun position to the objective you are defending. This again simplifies the problem.

In any diving course there are five variables which must be known before the leads may be calculated:

1. Ground speed . . . . .  $S_g$
2. Angle of Dive . . . . .  $\gamma$
3. Altitude of Midpoint . . . . .  $H_m$
4. Horizontal Range to Midpoint . .  $R_m$
5. The direction from which the attack is coming—or the horizontal angle between the gun, the objective and the target's course.

HORIZONTAL PROJECTION  
FOR LATERAL OR VERTICAL LEAD CHARTS  
DIVING TARGETS



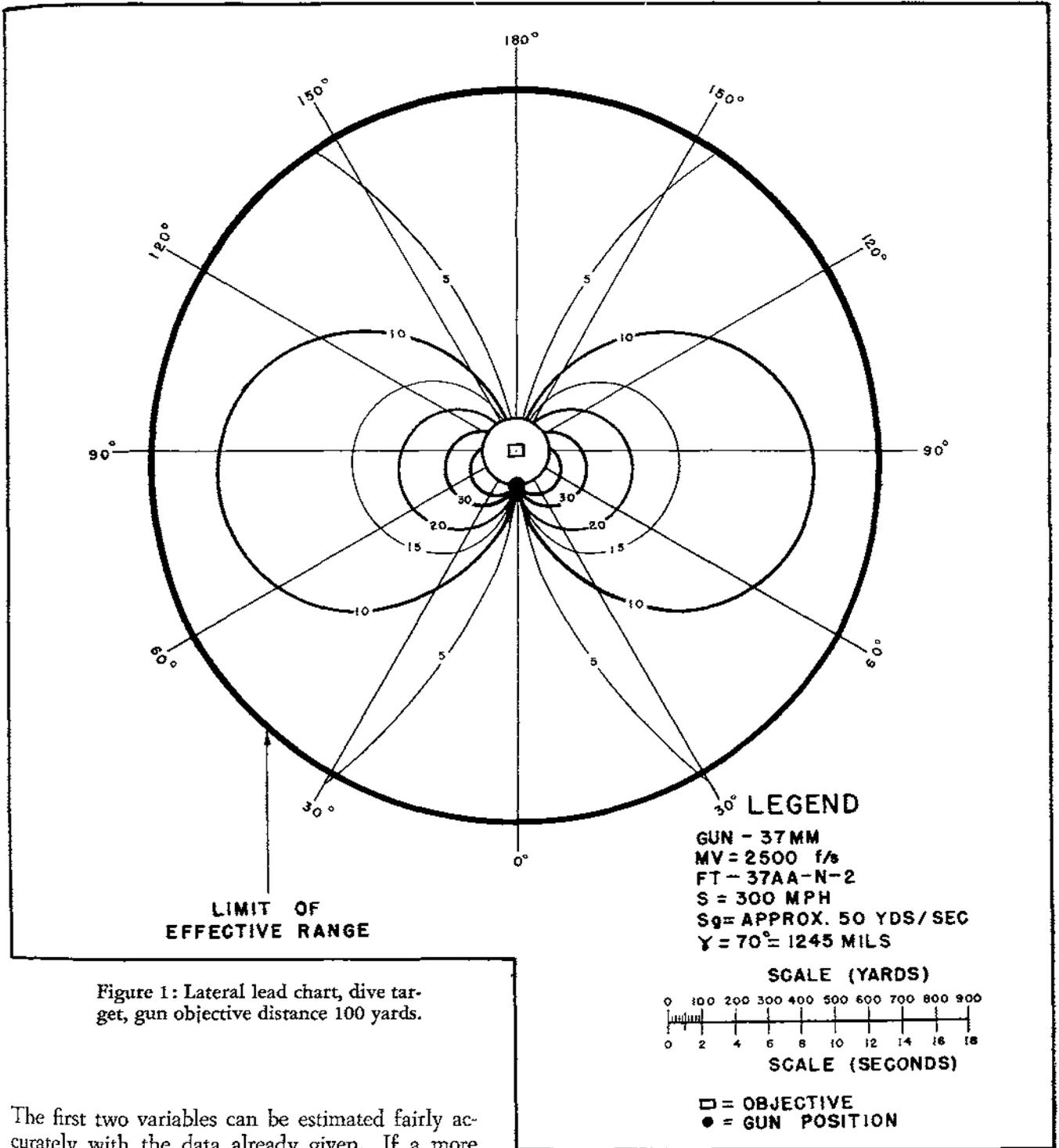


Figure 1: Lateral lead chart, dive target, gun objective distance 100 yards.

The first two variables can be estimated fairly accurately with the data already given. If a more accurate estimation should be desired, intelligence reports on tactics of enemy dive bombers should be consulted before calculating any leads. Knowing the distance between the gun and the objective, the horizontal angle between the target's course-objective-gun (let's call it angle T-O-G) determines the other two variables  $R_m$  and  $H_m$ . There is now but one variable—the horizontal angle T-O-G. Therefore if you had some quick convenient method of showing the variations in lead, both lateral and vertical, due to a change in the direction of the plane's approach toward the objective, your adjusters could readily estimate what leads are required.

The problem then, is to find some method of presenting to adjusters the initial leads and variations in those leads due to changing the target's course (with respect to the Gun Objective Line). This method must be simple, pictorial if possible, capable of being used for any location of the gun. The oriented Lead Chart for Dive Targets is a possible solution. (See figures 1 and 2—Lead Charts for Gun-Objective Distance = 100 yards.) These lead charts are made up as curves connecting points of equal lead on rays radiating from the objective. They are in a sense the same type of curves

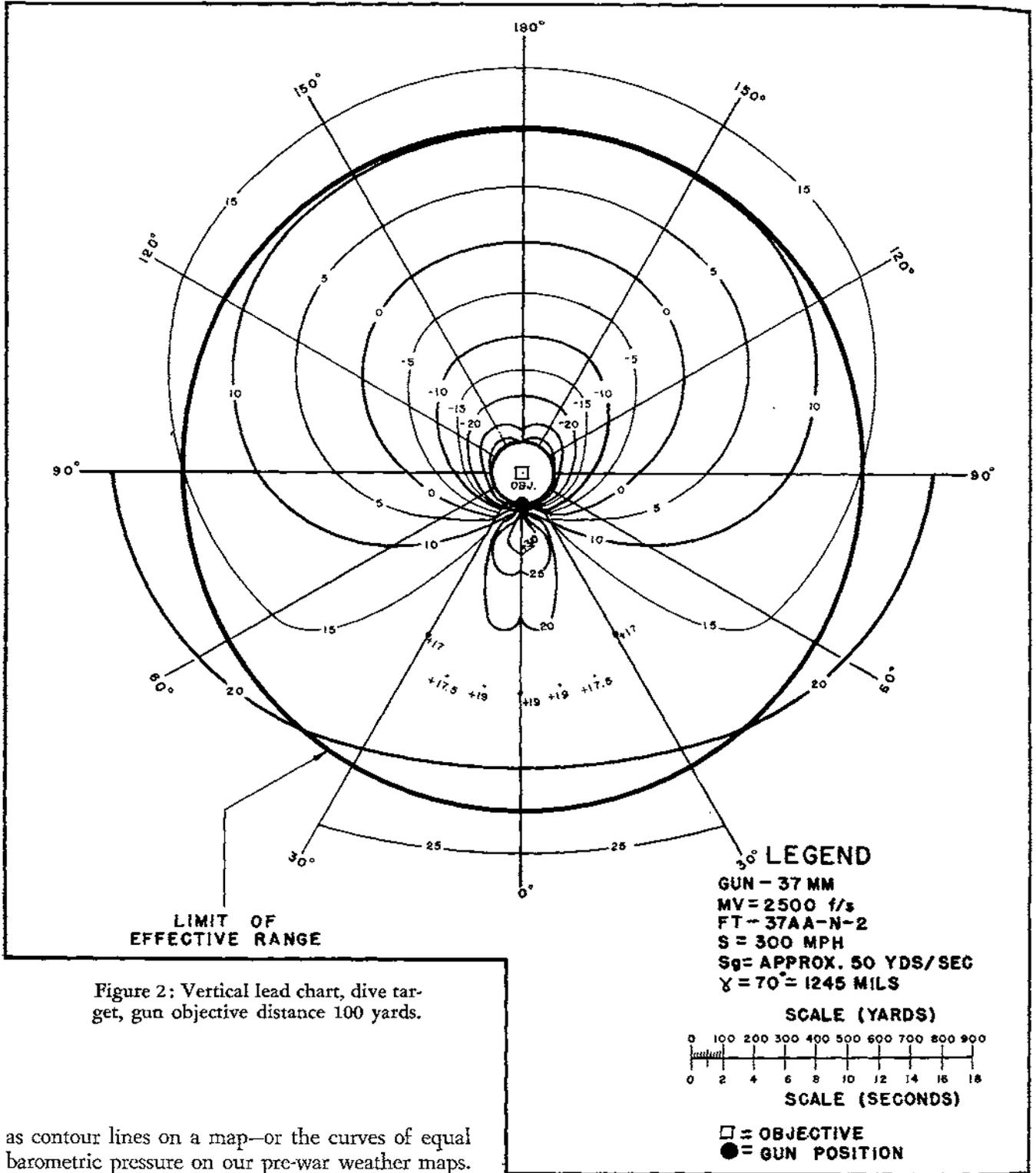


Figure 2: Vertical lead chart, dive target, gun objective distance 100 yards.

as contour lines on a map—or the curves of equal barometric pressure on our pre-war weather maps. These charts then consist of iso-lead curves. Two charts, one lateral and one vertical make up a set, calculated and plotted for one value Gun-Objective Distance.

Since Automatic Weapon batteries are usually on the move, more than one set of charts is necessary. The minimum number suggested is four: Gun-Objective Distance 100 yards, 300 yards, 500 yards, and 1,000 yards. Any additional charts made up for Gun-Objective Distances not listed would augment the value of these lead charts.

Such charts are extremely valuable in training ad-

justers to "get on" the target rapidly. Once the position of your gun, relative to the defended objective is known, the proper charts can be chosen and oriented. Plot on the charts to scale, prominent landmarks, and easily distinguished buildings. Your adjusters can then very readily learn the proper leads to be set on the sight as the target appears to be over one of these objects now located on the chart. The rate of change of lead can also be studied—and the exact limits of the field of effective fire may be determined. Meanwhile a study of

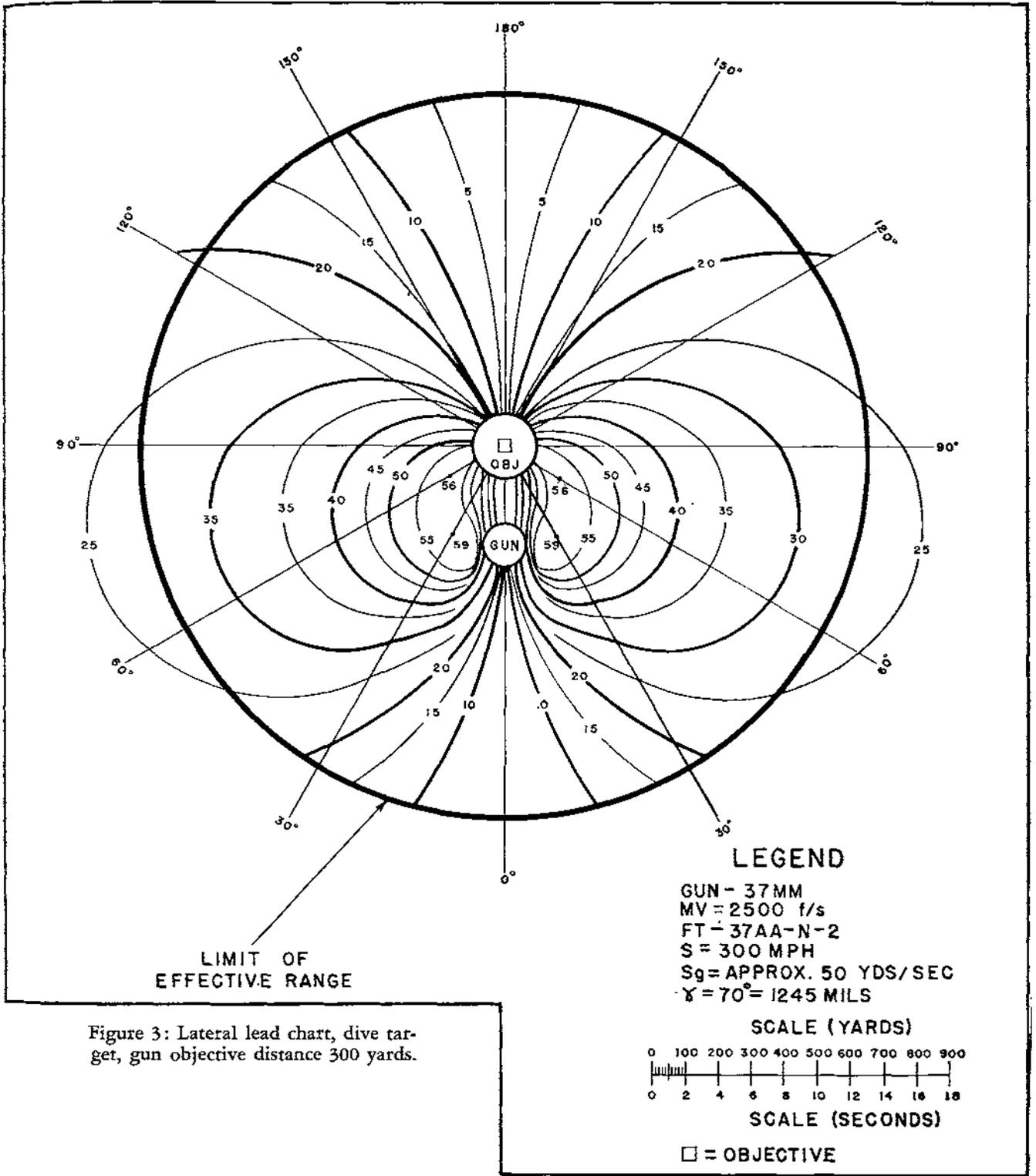


Figure 3: Lateral lead chart, dive target, gun objective distance 300 yards.

these charts will teach the officers in any Automatic Weapons battery something of the technique of locating their guns.

An explanation of the method of constructing these charts may be of value.

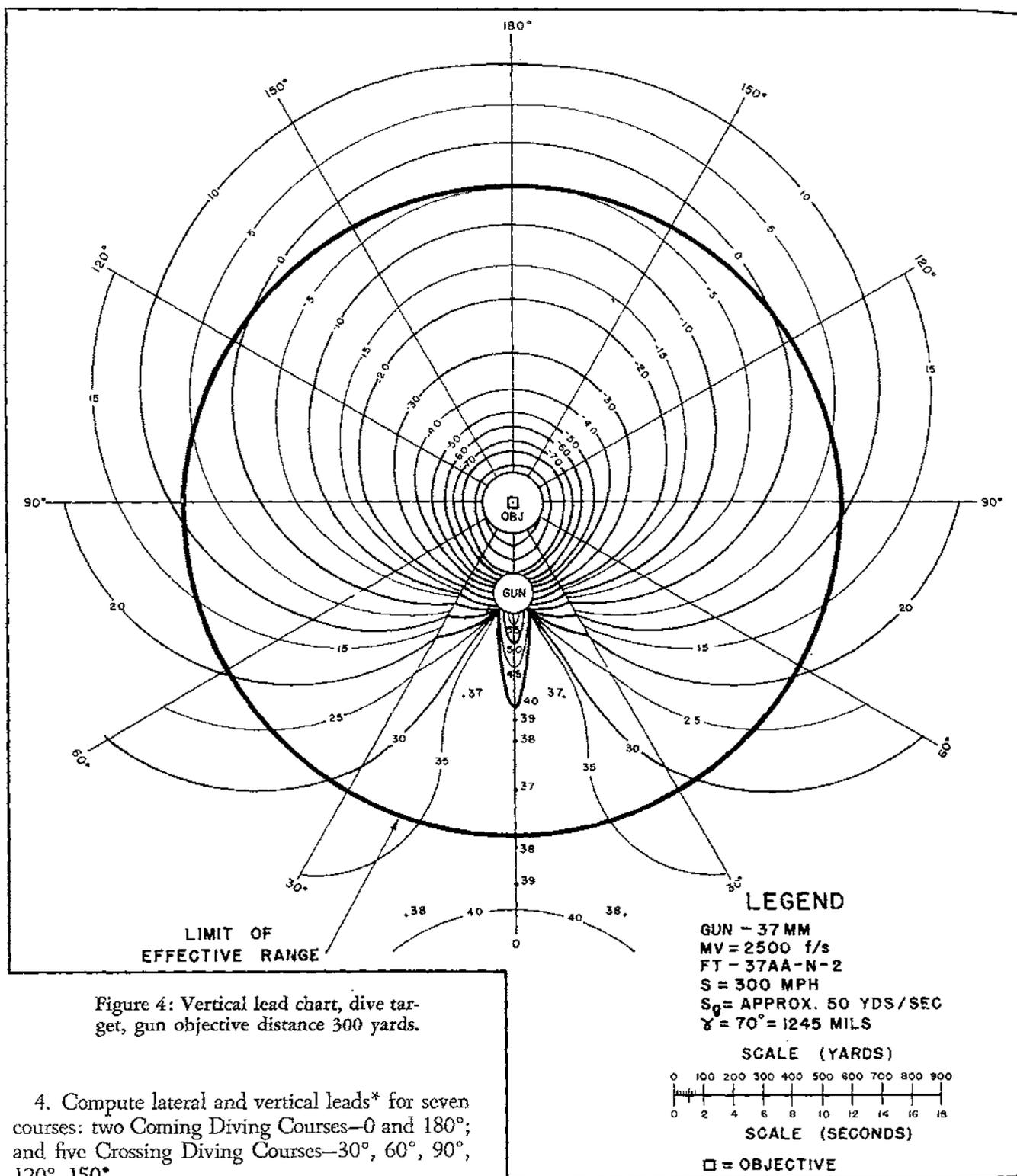
1. Select a distance Gun-Objective (some distance that will be selected in the field).

2. Estimate the most probable angle of dive and the air speed of the enemy dive bombers. Convert this air speed into ground speed— $S_g$ .

3. Calculate  $R_m$  and  $H_m$  for angle  $T-O-G$  of  $0^\circ, 30^\circ, 60^\circ, 90^\circ, 120^\circ, 150^\circ, 180^\circ$ .

The course coming directly over the gun, aiming at the objective behind the gun should be considered as  $0^\circ$  See Sketch A.

Angles should increase both clockwise and counter-clockwise from this  $0^\circ$  ray to  $180^\circ$ . When the target's course projected on the ground lies in prolongation of the Gun-Objective Line, angle  $T-O-G$  is  $180^\circ$ .



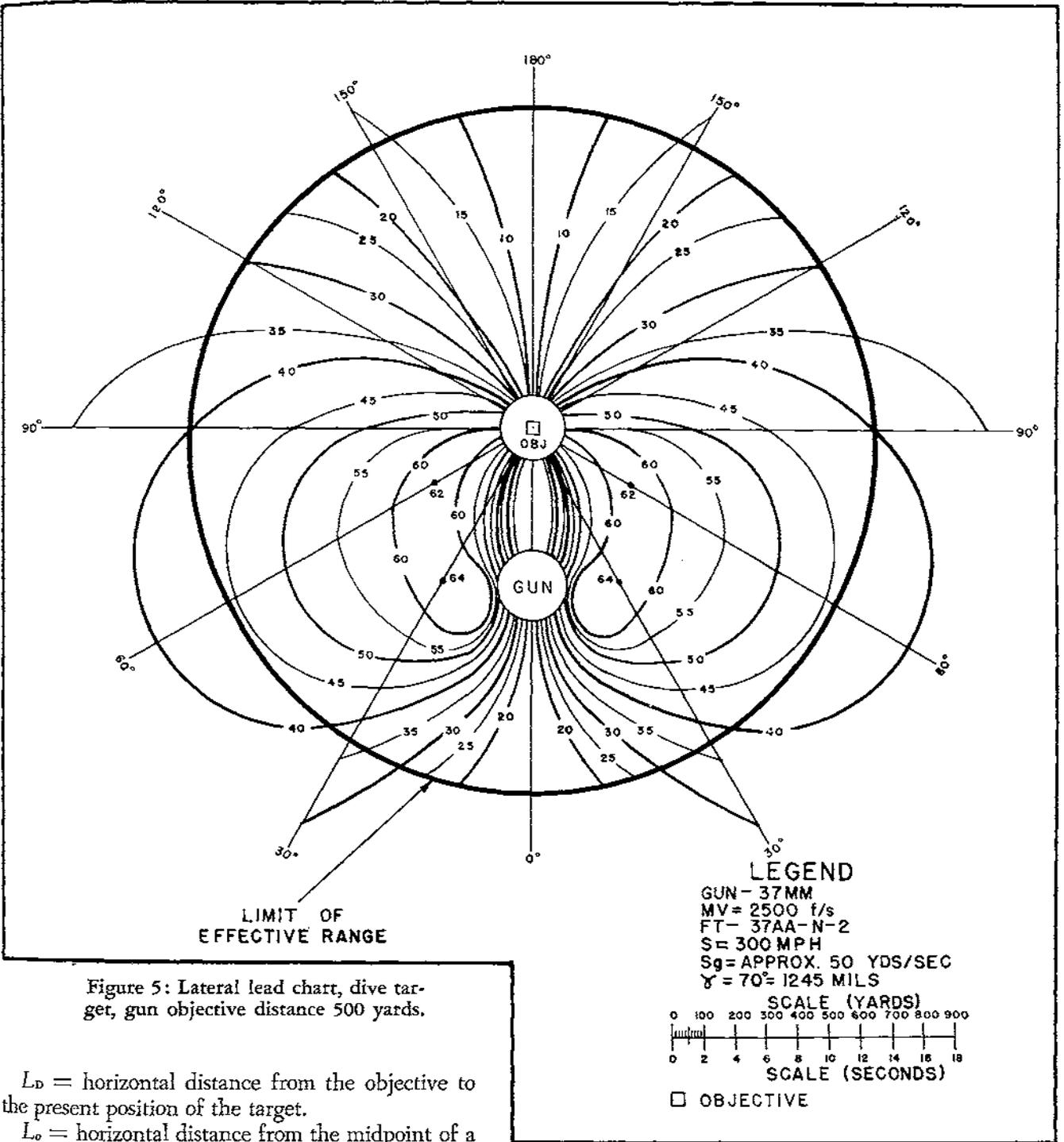


Figure 5: Lateral lead chart, dive target, gun objective distance 500 yards.

$L_D$  = horizontal distance from the objective to the present position of the target.

$L_o$  = horizontal distance from the midpoint of a target's course to the present position of the target.

$L_m$  = horizontal distance from objective to the midpoint of the target's course

For  $-0^\circ$  Ray  $R_D = R_o + \text{Gun} - \text{Objective Dist.}$

$180^\circ$  Ray  $R_D = R_o - \text{Gun} - \text{Objective Dist.}$

$R_o$  = horizontal distance from objective to present position of target - Coming Course.

6. Draw lateral and vertical lead curves against  $L_D$  or  $R_D$ .

7. Determine values of  $L_D$  or  $R_D$  for all points on these curves where the lead, either lateral or vertical, is a multiple of five mils.

8. Lay out two charts, one for lateral leads, one for

vertical leads, using some convenient scale. (See Sketch A.)

9. Using the same scale, plot on each ray the distance  $L_D$  obtained in 7 above for all five mil increments of lead. Indicate the value of lead at each point for future reference.

10. Connect points of equal lead with a smooth curve. Identify each curve.

11. Calculate for each course the limit of effective fire. This value will naturally vary with different weapons. The accompanying charts, were made for 37mm guns. By entering the  $D - L$  curves discussed in 4 above

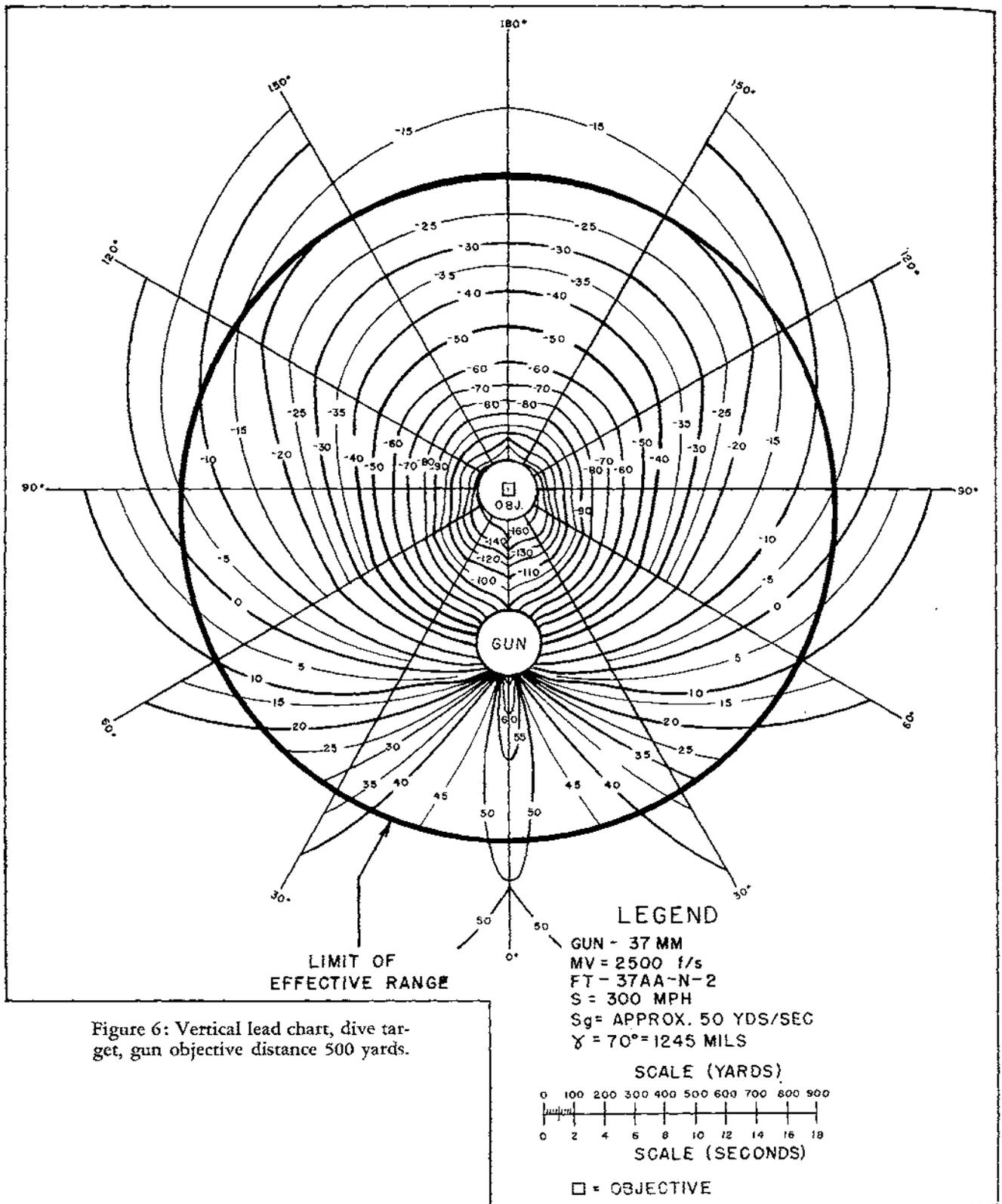


Figure 6: Vertical lead chart, dive target, gun objective distance 500 yards.

with the desired maximum slant range, a value for  $L_p$  is obtained. Since the charts are plotted on *present* position data,—the value of  $L_o$  is then calculated.

The limit of effective fire for all rays is then plotted on the chart.

12. Since no aviator will ride his dive bomber into the ground (unless your adjusters know their leads),

a circle of approximately 100 yards radius should be drawn about the objective. It is unnecessary to continue the curves inside this circle. The stick of bombs will have been dropped if the plane reaches this line.

13. Unless you have a gun with no dead area above it, another circle should be described about the gun position. The radius of this circle is determined by the

maximum elevation of your gun and the altitude of the target directly overhead.

14. It is suggested that any point where the lead curve changes direction, but does not reach an even five mil increment of lead, be indicated by a dot and the value of the lead at that point.

See figures 3 or 4, on 30° Ray.

If that Stuka is still there—you are now ready to instruct those adjusters! To instruct them properly you should have in your possession a sufficient number of charts to "bracket" all possible locations of your guns. If you are in a rear area defense, or defending a fixed installation in the zone of the interior, no doubt you will have the time to calculate and plot a set of charts for your position. In a moving situation, however, it is possible to interpolate between the two charts which "bracket" your position. For example, if your gun position is 200 yards away from the objective, interpolate between the charts based on 100 and 300 yards Gun-Objective Distance. See Charts 1 and 3 or 2 and 4.

Determine how much more rapidly the leads change for 200 yards than they do for 100 yards Distance Gun-Objective. Salt away for future reference the increase (or decrease) in initial leads on the limit of effective fire line.

Four sets of these lead charts might be sufficient to use in a rapidly moving position—based on Gun-Objective Distance of 100 yards, 300 yards, 500 yards, and 1,000 yards. It may be found advisable to include two more sets for 200 and 750 yards in order to cover all conditions. (Note: A set consists of a lateral and vertical lead chart constructed for one Gun-Objective Distance.)

But your adjuster still wants to know how much lead to set for that Stuka—now that we have them how can you use these charts?

1. Orient the proper chart, with respect to the Gun-Objective line.

2. Locate to scale any aiming point, prominent terrain feature, large building etc. which may be seen from the gun position. Mark all of these points in order that they may be quickly located on the chart.

3. Make a scale in seconds, (24 seconds long = 1,200 yards.) Now you are ready to train those adjusters.

Drill all men who have any connection with the sighting of the guns on the proper chart until all know instinctively the correct leads, for all the landmarks spotted on the chart. It is advisable, at first, to make each man on the lateral side of the gun responsible *only* for lateral leads, and men on the vertical side only for vertical leads. However, both lateral and vertical leads should be studied as the key men become more expert. Lay the time scale which you made on the chart between the aiming point you are discussing and the objective, with "Time Zero" at the Aiming Point. Determine the number of seconds during which the target

will be under fire, measuring from the Aiming Point to the circle of 100 yards radius *around* the objective. Impress this time on your adjusters—and gun crew—*Seconds, not minutes!*

Let the adjusters determine the rate of change of lead from the number of five mil increments—cut in two seconds all along the course. Be sure the adjusters are cognizant of the direction of lead change.

With the adjusters manning their sight controls—call off the lead every two seconds. As these leads are announced, have the adjusters set those leads into the sight mechanism *smoothly*. Thus the adjuster begins to "feel" the rate of change in lead.

This procedure should be followed for all aiming points on the chart until all key men in the gun crew can instinctively set in leads for any diving course aiming at the objective you are defending.

During the training period your adjusters (and key men) will become so steeped in these leads and lead changes that the setting of leads will be instinctive. An advantage of the charts is that they may be used throughout the campaign for reference. In fact the value of the charts is in their simplicity and universal use (so long as the proper chart is obtained). Once a position is occupied, the proper chart, oriented and marked with all aiming points, can be posted where the adjuster can refer to it (if the situation is stable enough).

There are other lessons to be gained from these charts, however. Both you and the officers in your battery can learn much from them.

Merely by comparing charts 1, 3, and 5, where would you rather have the battery located with respect to your defended area? At 100 yards, of course. And charts 2, 4, and 6 tell the same story. Why? Because the leads change less rapidly when the gun is located near the objective. Thus your adjusters have a much easier task in setting in the required leads for a diving target when the gun is close to the objective. Why then aren't all Automatic Weapons sited approximately 100 yards from the objective, you ask? Because there never will be enough guns to cover completely all areas. Since there are other types of targets for Automatic Weapons as well as dive bombers you must compromise. Hedge hopping planes can best be attacked well away from the objective. Thus you must so select your gun positions that the objective is defended against all types of air attack.

So you must have some guns 500 to 1,000 yards from the objective. What additional lessons can you learn from the charts? You say on Charts 5 and 6 that between the 30° rays the leads change very rapidly. Correct. That is the "blind spot" of the sighting system. Moral? Try to locate the outer guns so that each gun has its "blind spot" covered by another gun.

Your adjusters are now ready to set in leads—you have properly located the battery. Your next commands —"TARGET—SIGHT CONTROL—FIRE."

# The Antiaircraft Command

In the *COAST ARTILLERY JOURNAL* for March-April, 1942, there appeared an article entitled, *We're Still the Coast Artillery Corps*, which touched upon the recent reorganization of the Coast Artillery Corps and activation of the new Antiaircraft Command. The following article gives a picture of the composition and functions of the Antiaircraft Command.

\* \* \* \*

Effective March 9, 1942 the Antiaircraft Command came into being as an agency with command functions, under the Headquarters Army Ground Forces, which had been created at the same time.

The primary mission of the Antiaircraft Command is to instruct and train officers and enlisted men for duty with Antiaircraft and Barrage Balloon Units, and to organize, equip, and train such units for combat service. In the furtherance of this mission, the Commanding General, Antiaircraft Command, exercises command over certain installations and activities, and over all Antiaircraft Artillery and Barrage Balloon Units in the Continental United States, except those assigned to Defense Commands or otherwise specifically exempted from his control. The activation of new Antiaircraft Artillery and Barrage Balloon Units is initiated at the direction of the Commanding General, Army Ground Forces. The activated units then undergo a period of intensive training in preparation for active combat service. Through the medium of inspections, the Commanding General, Antiaircraft Command, determines when a unit is trained and equipped for release to Task Forces or Defense Commands.

In addition to the primary mission set forth above, the Commanding General, Antiaircraft Command, has several other important functions and responsibilities. He is responsible to the Commanding General, Army

Ground Forces, for the formulation and submission of tactical and training doctrines pertaining to Antiaircraft Artillery and Barrage Balloons. He makes recommendations to the Commanding General, Army Ground Forces, concerning the development and standardization of matériel and equipment for both Antiaircraft Artillery and Barrage Balloon activities. He also makes recommendations concerning any changes in Tables of Organization and Tables of Basic Allowances.

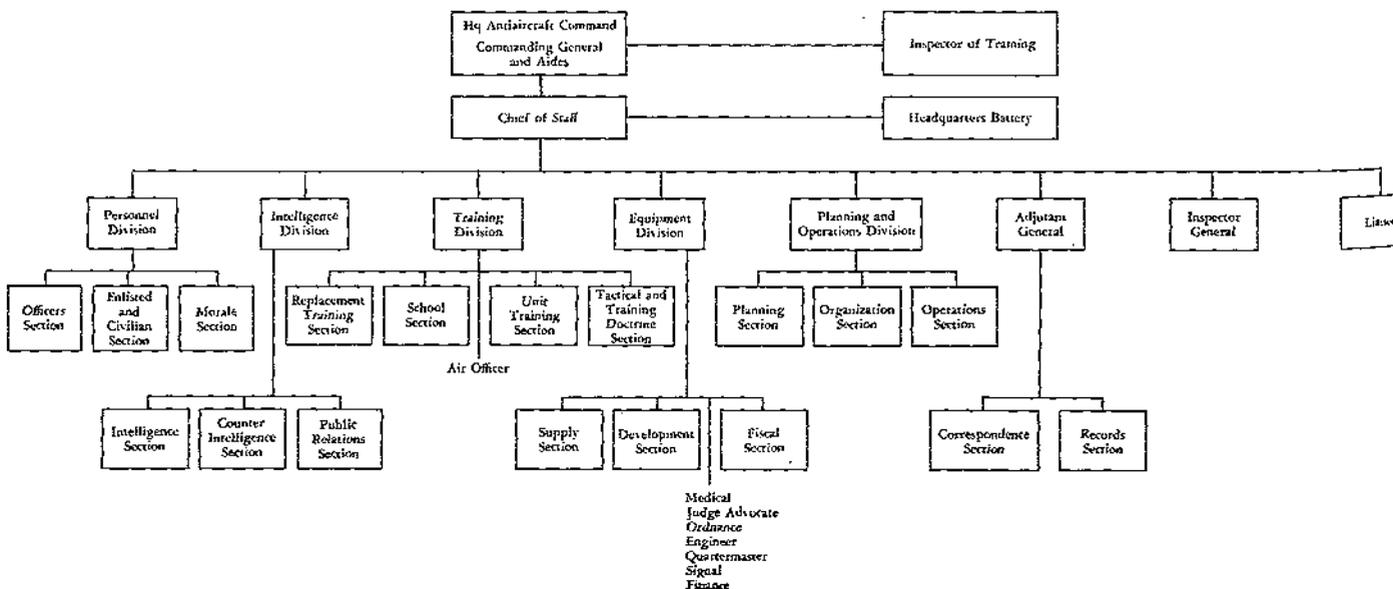
In the present state of expansion of antiaircraft and barrage balloon units and activities, it can be seen that the task allotted the Commanding General of the Antiaircraft Command is both large and important. The initial organization of the staff to assist him is shown on Chart No. 1. In connection with this chart, it should be noted that the Equipment Division is assisted in its functions by officers of other arms and services who are assigned to the Antiaircraft Command, and that officers of the Adjutant General's Department are provided for purposes of administration.

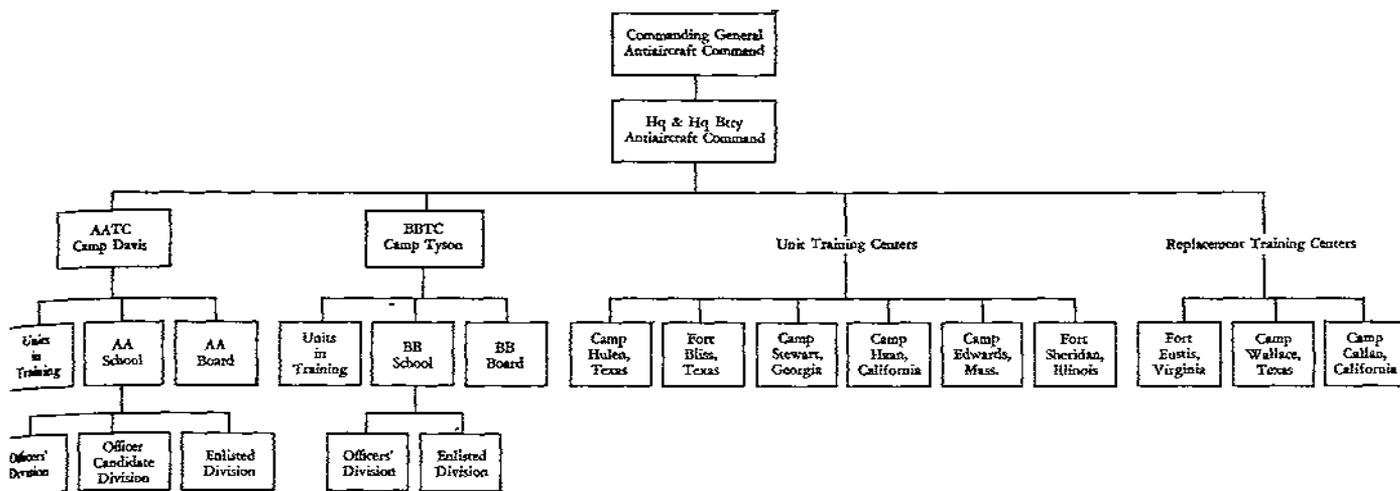
It is most fitting that Major General Joseph A. Green, former Chief of Coast Artillery, who had been very active in that capacity in the furtherance of antiaircraft and barrage balloon matters, should be selected to head the Antiaircraft Command. Inspector of Training is Brigadier General Dale D. Hinman, United States Army, well known to most Coast Artillerymen. Colonel H. N. Herrick, former Executive Officer in the Office of the Chief of Coast Artillery under General Green, is Chief of Staff. Chiefs of the various divisions are as follows:

*Personnel Division*—Colonel William D. Evans, C.A.C.

*Intelligence Division*—Lieutenant Colonel Joe D. Moss, C.A.C.

HEADQUARTERS ANTI-AIRCRAFT COMMAND—INITIAL ORGANIZATION





rch 9, 1942

*Training Division*—Colonel Charles E. Atkinson, C.A.C.

*Equipment Division*—Colonel Samuel L. McCroskey, C.A.C.

*Planning and Operations Division*—Lieutenant Colonel Joseph E. Harriman, C.A.C.

*Adjutant General's Section*—Colonel Owen J. Watts, A.G.D.

*Inspector General*—Colonel William R. Henry, I.G.D.

Seven Anti-aircraft Artillery Training Centers, three Anti-aircraft Replacement Training Centers, and the

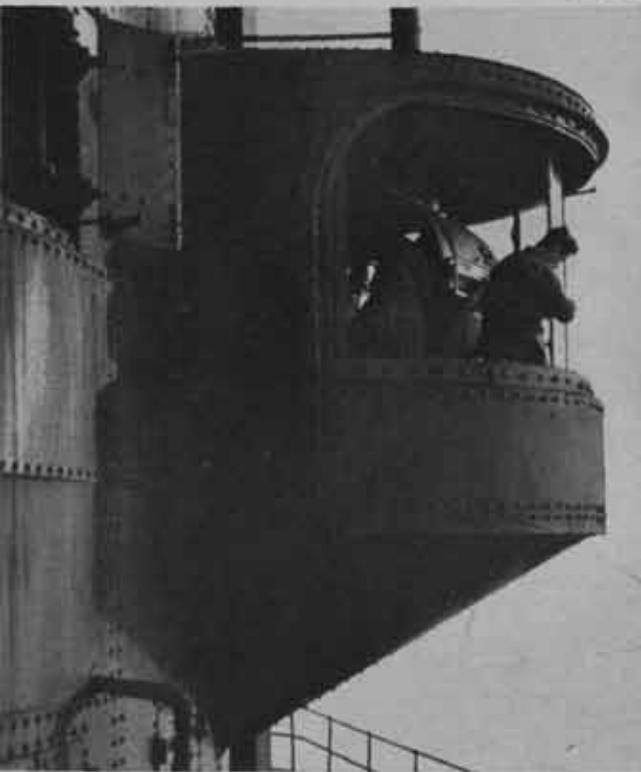
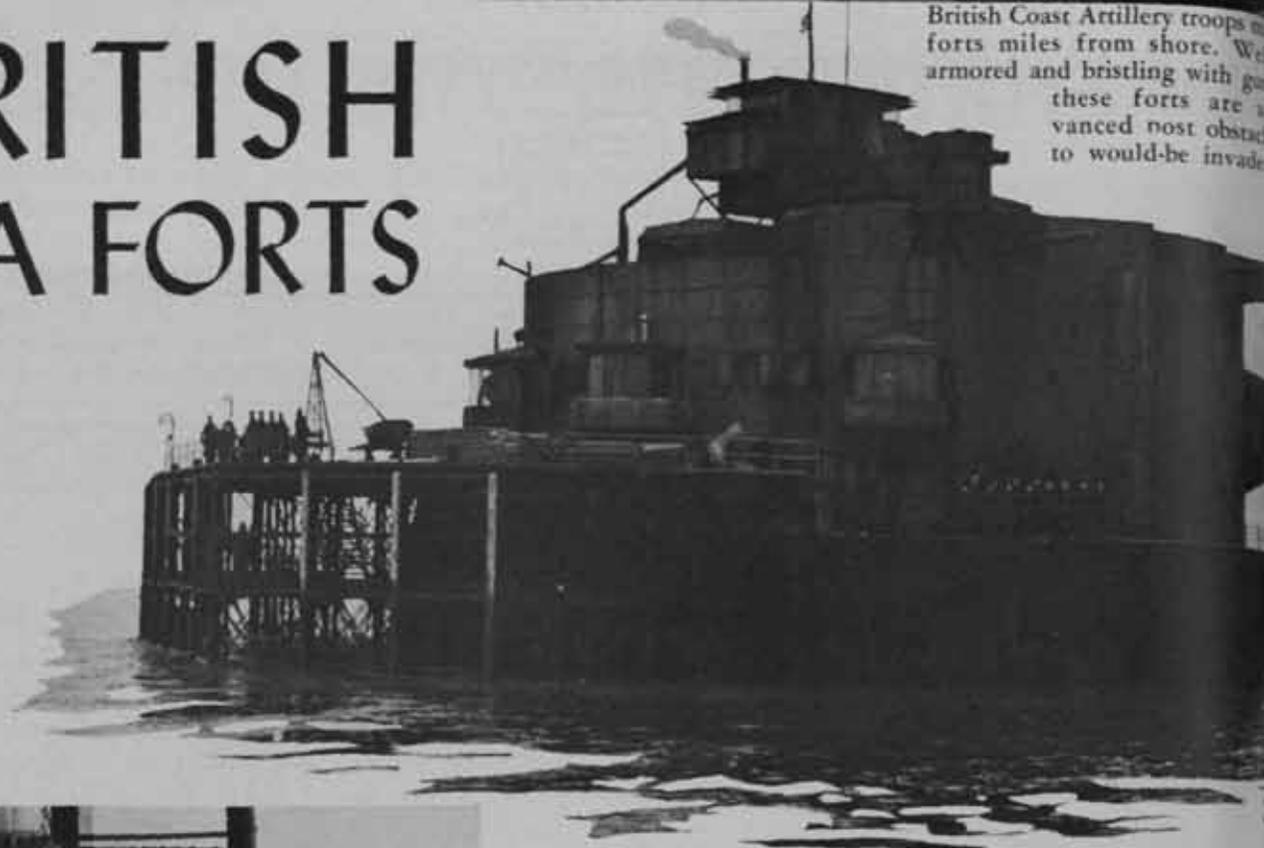
Barrage Balloon Training Center come under the jurisdiction of the Anti-aircraft Command. The Barrage Balloon Training Center, which is located at Camp Tyson, Tennessee, includes troops and units in training, the Barrage Balloon School, and the Barrage Balloon Board. The Anti-aircraft Artillery School and the Anti-aircraft Artillery Board, recently located at Camp Davis, North Carolina, are included in the Anti-aircraft Command.

A detailed breakdown of the Command by location and functions is shown on Chart No. 2. On April 1, the headquarters of the Anti-aircraft Command moved from Washington, D. C., to Richmond, Virginia.



# BRITISH SEA FORTS

British Coast Artillery troops on  
forts miles from shore. Well  
armored and bristling with guns,  
these forts are the most ad-  
vanced most obstacles  
to would-be invaders.



▲ A searchlight turret gives some idea of the detail of the forts' construction. Note the armored shutters.

.....  
*Photos by British Press Service*  
.....

→ Cramped quarters for squads east and west, but British gunners take it with a smile. The glass windows fold back accordion style.



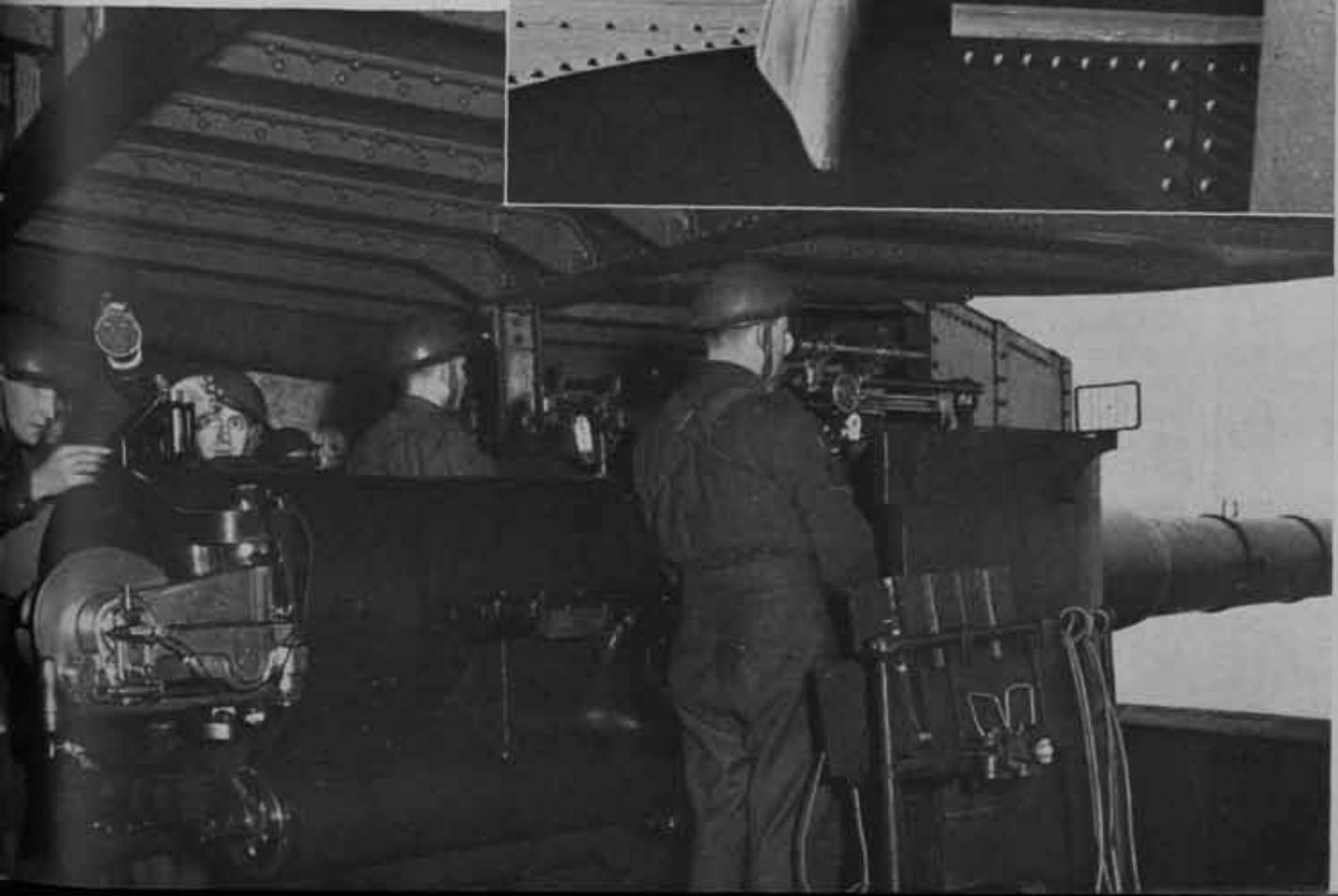


←  
Life at sea without *mal de mer* has its advantages.

↓  
Day and night, the watch is kept at the sea forts.



British Coast Artillerymen too have that air of calm assurance. This group has a roomy turret for the efficient-looking gun and crew.



# JUNGLE WARFARE

## PART ONE

(Condensed from Field Manual 31-20)

In jungle warfare the soldier fights two enemies: Man and Nature. Of the two, Nature is often the more formidable. Troops newly arriving in tropical jungle areas experience a climate to which they are not accustomed and are exposed to diseases with which they are not familiar. These conditions impose a special responsibility on all leaders. They must make certain that their troops are adjusted to tropical climates and that their health and combat effectiveness will insure the execution of the assigned mission under jungle conditions.

In the tropics, food that is not in sealed, airtight containers, and leather and web equipment deteriorate rapidly in the damp heat. Both in garrison and in the field all commanders and mess and supply personnel must constantly seek to guard against this. Mess personnel must watch especially that the food is not allowed to spoil and that storage areas are dry and airy. Equipment stored in garrison or camp must be kept dry, and for this purpose dry closets or storage rooms, warmed by artificial heat, are advantageous. The damp heat of jungle areas likewise requires special care for all arms and other non-rustproof equipment in daily or frequent use.

The denseness of jungle growth makes its penetration slow and fatiguing. New trails must be cut by hand-labor, and only a few men can clear trail at a time. Where trails exist they are ordinarily suitable only for the passage of foot troops, mounted men, or pack animals. To convert such a trail into a road over which wheeled vehicles can move usually takes much time and labor. On the other hand, rivers usually traverse jungle areas, and where water transportation and suitable landing areas are available the rivers are good routes of communication. Thus jungle logistics will usually be based on three things: river transport; the amount of food and ammunition a man can carry; and the amount of supplies that pack animals (if available) can carry, less the feed they must carry for themselves.

The jungle terrain and climate markedly affect tactical operations. In determining the feasibility of a desired tactical operation, supply is often decisive. And it will ordinarily have a greater importance in the tropical jungle than in operations carried on in temperate climates or even in open tropical areas.

Weapons must often be limited to those which, with enough ammunition, men and pack animals can carry and which can be useful in the jungle. This often bars the use of many supporting arms thus forcing jungle

tactics to be based mainly on weapons that can be carried by hand and do not require too much or too heavy ammunition.

The leader who appreciates the difficulties of jungle movement and supply, and the limitations on fire which the jungle imposes, and who correctly evaluates these conditions in applying sound tactical doctrine, will find that his jungle tactics are also correct.

### GETTING READY FOR JUNGLE SERVICE

Officers and noncommissioned officers must themselves have, and should give their men, a simple knowledge of personal hygiene, preventive medicine, and self-protection against poisonous plants, noxious insects, and venomous reptiles if they are to maintain the health of their commands in the adverse climate and primitive environment of tropical jungles. Armies have been defeated and campaigns lost from disease.

Men from temperate zones, when they go to the tropics, require a period of physical adjustment to the greater heat and humidity and the greater power of the sun's rays before they can undertake long periods of hard physical exertion without discomfort and loss of efficiency. This gradual conditioning usually takes from six to eight weeks for seasoned troops and a somewhat longer time for recruits.

The hardships of jungle operations demand physical fitness as well as acclimatization. The loss of body fluids from sweat, the greater concentration of the blood plasma and urine, the raising of body temperature due to physical exertion at high temperatures, the effect of the sun, and the cooling of the body surfaces by the winds at night all tend to lower the body's resistance. Thus, unless the physical condition of a command is excellent, many casualties will result.

### JUNGLE DISEASES

Insect- and animal-borne diseases are those in which the agent that causes the disease is transmitted from man to man, or from animal to man, by a blood-sucking insect or animal. The agent may be put into the blood stream or tissues of a man by the bite of an infected insect. Or it may be deposited upon the skin by the infected insect during the biting. The irritation from the insect bite causes scratching and this may infect the bite. It is therefore necessary for troops to exercise every precautionary and preventive measure described later on in order to avoid infection. The carriers of these

diseases are mosquitoes, ticks, sandflies, fleas, lice, mites, and other insects. These insects, the diseases they cause, and the measure to prevent each disease are described in turn below.

Mosquitoes carry malaria, yellow fever, dengue fever, and filariasis. There are three kinds of mosquitoes that transmit disease, the *Anopheles*, *Aedes*, and *Culex*.

The *Anopheles* carry malaria. They bite during the night and may be especially active at dusk and at dawn. They may also bite, when disturbed, during daylight hours in shady, cooler, humid areas. They do not sing as they fly. The adults have wing markings easy to recognize, long feelers, and except for a very few species, they rest and bite with their bodies at an angle of about forty-five degrees to the surface they are standing on. Many species hold their hind legs in the air while they bite.

The *Aedes* transmit yellow fever, dengue (or break-bone fever), and filariasis. They bite during the day but may also bite at night. They breed in water of almost any kind; in rainbarrels, cans, flowerpots, gutters, cisterns, and the like. The adults have markings of silver, white, or yellow bands and lines. They rest and bite with their bodies parallel to the surface.

The *Culex* mosquitoes transmit filariasis. Most of the *Culex* species, however, do not carry the disease but are biting pests. They bite at night, at dusk, and at dawn. They breed in cesspools, stagnant water, swamps, road ruts, and around houses. The adults have no stripes on their chests or abdomens, and with few exceptions, rest and bite with their bodies parallel to the surface they stand on.

Any collection of water that stays for longer than a week may be a breeding place for mosquitoes. Most species prefer fresh, slow-moving waters; some prefer brackish water, others breed in gutters or water containers around houses. Some like to breed in water containing organic material. Some like sunlight, and others do not.

Jungle warfare is largely warfare of movement; hence the situation itself mainly dictates any mosquito-control measures that moving troops can use. Since concealment against observation from the air is of prime importance, vegetation cannot be cleared except in limited areas. It follows that the control of mosquito-borne diseases has to be based upon protecting men from the bites of mosquitoes.

Ticks transmit the following diseases: Relapsing fever, Texas, Mexican, Central American, South American, and African types; São Paulo typhus; South African tick typhus; Indian tick typhus; Kenya tick typhus; *Fièvre boutonnaire* (Mediterranean exanthematic fever).

Ticks as a class have a flat, oval body, small head and chest, and comparatively large abdomen. Their legs are short and jointed, and all about the same size. The larvæ or seed ticks have six legs, and nymphs and adults eight. Ticks do not immediately attach them-

selves after gaining access to the body of man. Even after they have started biting, infection does not usually occur until the tick has stayed in place for six hours or longer.

The first measure of prevention is frequent inspection of exposed skin areas and prompt removal of unattached ticks, and complete body inspection each morning and night when the military situation permits, with careful removal of free or attached ticks. Never smash or squash ticks on the skin—cover the tick with a heavy application of saliva and this will cause the tick to free itself, and removal is then easy. If the tick is pulled out, parts of its mouth will be left in the bite; moreover, the pulling may result in squashing and infection. Huts, storehouses, native shops, and cantinas in tick-infested areas should be avoided. Abandoned huts, storehouses, barns, and corrals should be burned. Native domestic animals and pets should be avoided because of the possibility of unattached ticks transferring themselves to man.

Sandflies transmit the tropical sore, Leishmaniasis Americana, dum-dum fever, Oroya fever, and Verruga Peruana.

Sandflies are very small, slender, two-winged insects with long legs, hairy wings, long, hairy antennæ, and shaggy abdomens. They are delicate, apparently disintegrating into grey dust when hit, but are vicious biters. Headnets and gloves are some protection against them.

Fleas are among the other tropic disease-carriers. The rat flea is the most common carrier of bubonic plague, endemic typhus, and other typhus-like diseases, although the fleas of other rodents may also transmit these diseases. Fleas also transmit Mexican summer and shop typhus and *Fièvre Nautique*.

Fleas are small, wingless, brown or black insects with a laterally compressed body, a small head and chest, large abdomen, and large powerful legs. The first pair of legs appear to be attached to the base of the head. The female is larger than the male.

Since rats are the usual hosts of the flea, the elimination of these rodents is the best preventive. Food should be stored so that rats cannot get at it and all garbage should be burned. In camps that are to be occupied for any length of time, trapping and poisoning should be practiced as soon as rats appear. Field Manual 21-10 describes the methods used in trapping. Rats (and their fleas) are usually found in huts, storehouses, native shops, and cantinas. The animal pets found in these places are usually flea-ridden.

The body-louse and head-lice may transmit endemic typhus fever, relapsing fever, and trench fever.

Lice are small, grey, flattened, six-legged, wingless insects having claws on the terminal joint of each leg.

They transmit infection through their feces, which is rubbed into the wound by the person bitten as he scratches to allay the irritation caused by the bite. To keep from getting lice, stay away from people likely to be infested, and stay out of huts and cantinas.

Free-living mites are widely distributed throughout the world. They transmit tropical, scrub, Malaya, and Sumatra typhus. They are very small insects less than one twenty-fifth of an inch in length. The body is oval, covered with fine hairs, and has four pairs of legs. The only control measure is individual protection by means of repellants. Among these are sulphur ointment, pine oil, and rotenone. Flowers of sulphur or powdered sulphur taken internally before entering the field and daily while in the field are also very effective. Ten grains daily will cause hydrogen sulphide to be sweated and this acts as a repellent.

The various blood-sucking flies are vicious biters. Only the female of the Chrysops, Culicoides, and Simuliidæ transmits diseases, while both sexes of Glossinæ are disease-carriers. Filariasis is transmitted by midges and buffalo greatflies. Filariasis, tularæmia, African sleeping sickness, are transmitted by the blood-sucking fly (and various species of Glossinæ).

Pine oil and rotenone used as repellants, and protection by sandfly-proof screening, mosquito bars, headnets, leggings, and gloves, are effective preventive measures.

The kissing-bugs, assassin or cone-nosed bugs (Triatomidæ) may transmit certain of the diseases mentioned above. They are large-sized, dark brown, or black bugs, having a narrow, cone-shaped head, a long, oval-shaped abdomen, long legs, well-developed wings, and regularly arranged markings on the forward part of the chest, wings, and borders of the abdomen. They are common in tropical America, where they are called *barbero* (because they frequently bite about the face) and also *chincas voladoras* or flying bedbugs.

To avoid these bugs, keep out of huts, native shops, cantinas, stables, barns, or chicken houses. Burn abandoned huts or barns. Do not sleep on the ground. For individual protection use headnets, leggings, gloves, and mosquito nets. At semi-permanent or permanent camps or stations, buildings should be screened.

Vampire bats on the island of Trinidad transmit rabies (hydrophobia) to human beings and animals. The infected bat carries the virus of rabies in its saliva.

Anti-rabic treatment must be administered if rabies is known to be transmitted by this bat. The immediate first-aid consists of cauterization of the bite wound with trichloroacetic acid or nitric acid. After cauterization, the wound is treated by the application of sterile tannic acid ointment and a tight compression bandage.

Contaminated drinking water is the cause of typhoid fever, the paratyphoid fevers, bacterial dysentery, amoebic dysentery, and cholera. To guard against infections from this source, drink only treated or purified water.

The drinking water should come from as clean a source as possible. When water is obtained from a stream, the waterpoint for the men should be above the waterpoint for the animals, the bathing point, the laundry point, vehicle-washing point, and fords. On lakes, the intake point should be so placed that water

and wind currents flow away from the intake point and toward the waterpoints for other uses. The heavier organic or inorganic matter should be removed by filtering, straining, or settling. An infiltration basin may be constructed by digging a pit six or eight feet from the edge of the stream or pond and five to six feet below the main water level.

Boiling for five minutes renders water safe to drink, but for large groups this method is unsatisfactory because of the time, fuel, and containers needed.

Chlorination is the better method and may be taken care of by mobile purification units operated by the Engineers, or by organizations using watercarts, small reservoirs, or the water-sterilizing (Lyster) bag. Field Manual 21-10 has a discussion of the various suitable means of purifying water.

The principal tropical intestinal infections are amoebic dysentery, bacterial dysentery, cholera, food infection, food intoxication, worm infections, paratyphoid fevers, protozoal dysenteries, typhoid fever, and undulant fever. These diseases are usually transmitted by contaminated food or water. Contamination of food is common and in vegetables may be caused by human excreta when this is used as a fertilizer. However, any food may be contaminated by dirty utensils or by food handlers who are carriers of intestinal diseases.

In the jungle, all perishables—both meats and vegetables—which cannot be stored in a refrigerator below forty degrees should be cooked as soon as received, except that frozen meat should be cooked immediately after thawing. All non-perishable food should be stored in vermin-free boxes or chests. Keep all food as free of dust as possible, and make every effort to prevent contamination during transit.

All foods should be served immediately after preparation. No leftovers should be served. Hard bread, tinned meat, and canned foods should be issued to troops in position unless hot food can be brought up in original containers. Because of the possibility of both contamination and the growth of an infectious agent before they are eaten, sandwiches or other prepared lunches should not be issued for later consumption.

Then there are some special tropical or exotic diseases. Among these are yaws, lymphogranuloma inguinale, and granuloma inguinale, which may be transmitted through sexual intercourse. The sores of yaws are similar to those of syphilis. Lymphogranuloma inguinale is a virus disease, whose initial sore is so small that it usually passes unnoticed. Later the lymph glands in the groin become enlarged, break down, and exude pus. Granuloma inguinale is usually limited to the genitalia and inguinal region, but may spread to other parts of the body. The sores consist of large pus areas which spread, gradually destroying the tissues.

The principal fungus diseases of the skin and hair are dhotie itch, athlete's foot, pinta (a fungus disease of the skin characterized by pigmented patches), and trichosporosis (a fungus disease of the hair).

Personal cleanliness will do much to obviate these diseases. The body should be bathed as often as possible. If there is not enough water for a complete bath, then at least the armpits, groin, and feet should be washed daily with soap and water, rinsed, and carefully dried. Take care to dry between each toe, and use enough force to remove the dry scales of skin. Foot powder should be used every day under the arms, about the groin, and between the toes. If possible, socks should be changed daily. Socks should be washed in boiling water if practicable, then dried, stretched, and softened before being replaced in the kit.

The venomous snakes or poisonous snakes may be told from the non-poisonous by the following physical characteristics:

- (1) A lance-shaped head.
- (2) The body (neck) narrows right behind the head.
- (3) The body is heavy and narrows sharply at the vent.
- (4) The tail is short and stubby.
- (5) There is only a single row of scales on the belly in rear of the vent.

The strike of a poisonous snake is accompanied by an intense burning pain. Two puncture marks that show where the fangs entered will usually be seen, but only one fang may penetrate and give but a single wound. The distance between the fang marks gives a rough idea of the size of the snake.

Each case of snakebite must be treated as serious. The earlier that suction treatment and serum treatment are administered the more effective the results. Pain and swelling are guides to the poisonousness and amount of venom injected. As far as practicable, suction should be applied to remove the venom from about the fang marks and the neighboring tissues. In order to neutralize the venom the proper antivenom should be used as soon as possible. Permanganate of potash, either in crystals or in solution, is useless and may be more dangerous than the snakebite itself. Drinking alcohol or whiskey increases circulation and only causes the system to absorb the poison more quickly. Each case of snakebite is serious—treat it that way.

If you are bitten, kill the snake if possible so it can be identified. This is very important, for the type of snake must be known in order that the proper antivenom may be administered.

Bare the part bitten, and if the bite is on an arm or leg, apply a tourniquet between the bite and the heart.

*Do not run.*

Call for help or go slowly to a place where you can get help.

If you have a snakebite suction kit, use it as directed below.

If a fellow soldier is bitten, send a runner for a medical officer. Apply a tourniquet. Carry the man to an aid station and start the suction treatment.

The suction kit consists of a tourniquet, a rubber

bulb, two metal suction applicators, and one razor blade.

Apply the tourniquet between the bite and the heart, if the bite is on a part of the body which will permit you to use a tourniquet.

With the razor blade make crisscross incisions about one-half inch long and one-half inch deep through the fang marks.

Insert the metal applicator in the suction bulb, squeeze the air out of the bulb, and apply the metal applicator to one of the crisscross incisions. Then fill the bulb with blood, serum, and air; empty it and apply it to the other crisscross incisions. Continue this process. Venom can be extracted from the tissues by suction as late as three to five hours after a bite. Multiple crisscross incisions should be made over the swollen area, especially at the advancing edge of the swelling, and suction applied.

Release the tourniquet at the end of each fifteen minutes. After circulation is restored for about one minute, re-apply the tourniquet. The tourniquet should stop the return flow of blood (venous flow) but should never completely stop the flow of blood from the heart (arterial flow)

If swelling develops above the fang marks, make criss-cross incisions at the advancing edge and continue to apply suction to these incisions.

In the absence of a suction kit, make the incisions over the fang marks and suck the wounds with the mouth. Do not suck the wound if there are sores, cuts, cracks, or open breaks in the mucus membranes of the lips or mouth.

Continue suction until a medical officer arrives or until the patient can be moved to a first-aid station.

Antivenom morphine and other medical treatment should be given by a medical officer.

#### PERSONAL HYGIENE

The hot weather of the tropics is usually accompanied by high humidity. Sweating helps greatly to regulate the body heat, but rapid cooling of the sweat-wet body is dangerous. Since the white man is sensitive to slight changes in temperature, the chilling brought on by the rapid evaporation of sweat will reduce his body resistance and may cause infections of the respiratory tract, such as nasopharyngitis, sinusitis, bronchitis, and pneumonia. Intestinal disturbances may also be brought on by chilling.

Avoid chilling the body surface, especially the chest and abdomen. Change wet clothing for dry as soon as possible, and if practicable dry the body during the change. If no dry garment or blanket is available it is less dangerous to strip, rub down, and stay naked until the wet clothes have dried than to keep on wet garments. Or a light, dry garment may be put on over the wet clothes, thereby reducing evaporation and the chilling that results. If necessary to keep on wet clothing, seek shelter from the wind.

Wearing clothing wet with sweat for long periods

may bring on fungus infections or skin irritations such as prickly heat. Prickly heat or heat rash may be prevented by scrupulous cleanliness, by daily bathing in water to which baking soda has been added, by the use of borated talcum powder, and by daily changes of clothing.

Sweat makes the body lose fluid and salt. Ordinarily we eat and drink enough salt and fluid to replace the loss, but during hard work the loss of fluid and salt through perspiration may be excessive. This brings on thirst, and drinking more water alone merely results in losing additional salt which can bring on heat cramp. These conditions may be prevented by adding extra salt to the food, and by taking salt tablets or drinking salt water during the period of heavy work. Usually three 3-grain salt tablets each hour are enough to keep the salt balance of the body.

Clothing for the jungle should absorb as little heat as possible and at the same time permit the maximum circulation of air in order to allow sweat to evaporate. The head should be protected from the rays of the sun by a hat which allows free air circulation over the scalp and which is broad enough to keep the sun's rays from the face and neck.

#### PRACTICAL HINTS FOR JUNGLE SERVICE

Your clothing and equipment get rough treatment in the jungle. Since it is often difficult to replace them, you must protect all articles and clean, dry, or repair your gear whenever you have the chance to do this.

Tight-fitting clothing is hot and restricts movement. The woolen olive-drab shirt, issue khaki trousers, canvas leggings, and field shoes are suitable for jungle service. A heavy, loosely-woven, issue cotton shirt may be used instead of the woolen shirt. The heavy cotton shirt has the advantage of resisting snagging and fungus rot better than the woolen shirt and it is cooler. The tropical helmet, which sheds rain and permits free air circulation, is suitable for ordinary conditions, but in combat the steel helmet is worn. A headnet should be available to wear at night or in areas of dense growth. Gloves which are proof against mosquito bites should be a part of each soldier's equipment. Raincoats are impractical in jungle operations, but a small poncho of lightweight, waterproof fabric is highly desirable during rainy weather. Before beginning jungle operations, the men should be given new shoes that have been well oiled to protect them against wet-rot.

To sleep in the jungle during the rainy season, a man should get off the ground and under a mosquito net. Using only the present issue equipment, the two-man, off-the-ground jungle bunk has proved serviceable although it is somewhat laborious to make. This bunk is a platform one foot above the ground with its corners supported by four forked posts. A frame of two-inch poles is laid in the forks, and thinner poles are laid across this frame. All are fastened together by vines. The platform is then covered with light branches and leaves

to make a mattress. A blanket spread over this holds everything in place. On this platform are pitched the shelter tent and mosquito net, or in dry weather the mosquito net only. Improvised hammocks made of blankets, oblong pieces of canvas, or shelter halves may be used.

During the dry season, men sleep well enough on the ground, but they must sleep under mosquito nets.

The right food is necessary, but the quantity needed is not nearly so great as is commonly believed. Most food should be ready to eat without cooking and all of it should give the maximum food value for the minimum weight. Here it should be noted that ordinary, undried foods contain more water than solids. But such foods as dried cooked meats, dried breads, powdered milk, quick-cooking oatmeal, rice, coffee essence, cocoa-malt, sugar, salt, and dried fruits and vegetables are light, easily carried and preserved, yet they give ample nutrition, vitamins, roughage, and volume. Two pounds daily of these dry foods are enough for prolonged, hard marching. Precooked soybean flour, if you can get it, is almost a balanced ration in itself.

To carry dried foods rubber balloons like those used for target practice are excellent, for they are completely waterproof, very light, fit into the smallest possible space, and allow the rations to be broken down into small sealed units.

For cooking utensils you need only a light aluminum vessel for boiling and a spoon. The one-quart canteen cup is useful both as a cooking and eating utensil. Most food you will get in the jungle can be cooked over an open fire.

You must usually provide your own medical care yourself, and you must attend to your own scratches and bites at once. And our experience has proved that if medicines are in sealed kits or are carried inside a pack, you will not use them early or often enough. So you should carry, easily available, a small bottle of iodine with applicator top, a small roll of adhesive tape, and small chlorine tablets. The chlorine tablets are for the treatment of drinking water. You should also carry salt (sodium chloride) tablets. Your greatest real danger if lost in the jungle is disease—so carry dysentery pills and atabrine or quinine. And effective insect lotions are also desirable.

Trails are necessary for rapid progress in the jungle. The beds of swiftly flowing streams are natural trails. Before starting on any jungle trip, study the trails shown on maps and ask natives for the best trails. Put your questions to natives in such form that they are forced to give information themselves, and cannot merely answer "Yes" or "No." For example, one should ask a native, "Where does this trail go?" and not "Does this trail go to San Juan?"

It is usually safe to assume that there are trails between important habitations even if none are shown on maps. Often you will find a circuitous trail better than the most direct one, because during the dry season

trails are often shortened by the use of ground that is swampy and impassable in the wet season. Many trails that run over steep slopes are very difficult after rains, especially when pack animals have been over them. You cannot depend on maps for accurate trail routes, for trails change owing to erosion, fallen trees, and swollen streams. During the rainy season, vegetation rapidly overgrows trails which are not used regularly. Aerial photographs do not show trails covered by dense trees.

If unfordable streams are to be crossed, men must know how to swim, and animals must be trained to enter water and swim without hesitation.

Only in the complete absence of trails or streambeds should men crossing dense jungle try to cut new trails, for this work is both hard and slow.

Jungle expedients call for originality and forethought. Of the many methods and devices that are almost always useful on a jungle trip, the following are of especial value:

Carry your matches in a completely waterproof container, for perspiration alone will often make them useless.

Never go anywhere without a compass, preferably a lensatic or prismatic one which you know how to use.

Next to your machete, a good pocket knife is your most useful tool in the jungle.

Carry a watch—not only to give time but also to help you in estimating distances.

Fish are easily caught in most tropical waters. A light hook and line often give quick results, but since many tropical fish are suckers, a light gig, such as a spear with barbed points, usually yields more fish in

less time. A few small sticks of black powder or other explosive with which to stun fish are quickest and surest of all fishing equipment.

Running water is usually purer than still water, but all drinking water should be boiled or chlorinated. You can get rid of most mud or other solids in water by straining it through a cloth or by stirring a small amount of alum into the water to make the solids settle down.

If you get lost, remember that if a man goes down-slope he will come to a stream, and that watercourses almost always lead to inhabited valleys or coastal regions. Moreover, they furnish water and food.

Do not try to travel alone at night. Stop early enough in the afternoon to make camp, build a fire, and collect plenty of dead wood before darkness.

To build a fire in wet weather, take shelter from the rain and then split out the heartwood of dead limbs broken from trees. If you are forced to use damp wood for fuel, a small can of solidified alcohol is very useful for starting a fire, and it will last for many days.

Vines can be used instead of string or rope for many purposes.

Edible fruits can usually be identified by signs of animals having eaten them. Don't eat unknown fruits and plants except in dire emergency.

Sleep off the ground and so avoid dampness, reptiles, and especially insects. Climb a tree if mosquitoes and other insects are too bad near the ground.

If possible travel with one or more companions.

Do not fear the jungle. Remember that if you keep relaxed and use your head you can live and travel alone for weeks in uninhabited country.

(To be continued)



## No Victory On a Silver Platter

It is worse than useless to think that superior resources will bring us victory on a silver platter. Those resources are latent; war is dynamic. There must be an unwavering will to "fight it out on this line" if it takes not all summer, but ten years. Japan has become a "national defense state" in which all the energies of the nation are harnessed to war, and everything above bare subsistence is devoted to aggression. We also must convert ourselves into a "national defense state" in which all that we have is thrown into the struggle. Only thus can we preserve and hand down to the future the most humane way of life the world has known.—From *The Japanese Enemy* by HUGH BYAS.



# Ready for Anything

By Lieutenant Colonel Burgo D. Gill, Coast Artillery Corps

A mobile antiaircraft battery, regardless of type, must be ready for anything. While the primary mission must be kept in mind, the battery commander must remember also that the battery may have to fight against mechanized forces, ground troops in local defense action, and paratroops, in addition to being watchful against fifth-columnists.

Let us consider two situations, one offering few problems and the other a rather difficult one for the battery commander.

## THE UNCOMPLICATED SITUATION

The battery, serving with its regiment, protects rear area installations or part of a coastal frontier, far distant from an active theater of operations. In this case, the battery commander's instructions are given him in rather complete form. The RSO is taking care of his supplies, and the Adjutant is checking on passes for his men.

## THE DIFFICULT SITUATION

The battery is taking part in an active campaign. During one of those nights when the rain has been beating down for hours, and when the men are near exhaustion, the battery commander receives the following order:

"Proceed immediately to MUDDY BRIDGE (123-456) and be in position prior to daylight."

(Signed) HURRIEUP.

That's all the instruction our hero gets, and that's all he can expect for quite a while because of the rapidly changing situation.

Our BC finds the bridge on a map—it is thirty miles from the present position to the bridge. The roads, as shown on the map, don't look too good. (They aren't.) The bridge is in another sector, under a different commander. The latest intelligence reports that came to our BC mentioned that enemy troops have been observed on the other side of the river. The BC realizes that he knows very little of what our troops (if any) are doing on our side of the river.

The smudged aerial photo indicates that our side of the river resembles low mud flats; the enemy's side appears wooded, and with high banks. The good positions are across the river.

To quote our BC's driver, "The skipper don't know nothing, and nobody ain't around to tell him nothing, neither."

But our synthetic BC does know several things. He

knows his battery's good points and its deficiencies, and he is confident in its training and personnel. He knows what his guns and his ammunition will do. Plane attacks will be simple, basic problems. He knows his .50's will be effective against scout cars, but not so good against heavily-armored tanks. Half-track troop carriers will be an easy dish, and he has some bitter medicine for paratroopers. If the aerial situation does not require his attention he can put down barrage fire against ground troops, and has even doped out a method of indirect fire against these same groundlings.

If he happens to be in command of a battery of 37's, much of the above is still true. Besides, he has fired a few rounds of HE with instantaneous fuze, and knows that if he has to (which he hopes he doesn't) he can be very nasty to enemy infantry.

If he has 3-inch guns, he has had some practice in firing the field artillery equivalents of shrapnel and time shell.

So what to do!

#### RECONNAISSANCE

After giving "march order," our BC sends his reconnaissance officer to do his stuff. Two agents in jeeps are reminded to keep at least a hundred yards apart for protection and to afford a getaway car in case of ambush.

The battery is now loading trucks, his agents are out scouting the approach route, and with luck they might find a suitable position. He still feels that he "don't know nothing," but he can still try to find out. One officer and two jeeps are gone. Three officers and two jeeps are still available.

"Bill, take a half-ton truck and a ton-and-a-half. Pick up our rations and see what you can find out.

The First Sergeant interrupts.

"No, I don't give a hoot if it is raining. Roll the paulins back off the trucks so the men can use their rifles and automatics."

He squints at the two remaining lieutenants.

"Brown, buzz off in a truck—no, I need those jeeps—over this road (pointing) and locate headquarters. See what you can find out. I doubt they know we exist. Get rolling."

"Blacky, you lead us out by at least a half a mile with your advance guard. Tell the first sergeant to follow with the rear guard." (The guards each consist of a jeep and two trucks mounting .50's.)

The battery begins to roll.

#### INTO POSITION

The battery arrives at the bridge. There is a fine position a few hundred yards away, but it is on the wrong side of the river, and there still has been no information about the enemy's location.

Comes the dawn. Nothing vital has happened. The men have had a hot breakfast and now they want to sleep. The agents haven't found out very much, but they tell the BC instructions will be along shortly. The

BC reports to the nearest ground troop commander, a colonel commanding a small motorized combat team. The colonel is glad to see him—and that's that.

Some friendly armored cars scurry across the bridge. Our hero begins to feel better.

#### INITIAL PREPARATIONS

The gun crews have begun some camouflage. The trucks are in a wooded area to the rear. Our BC orders ammunition dumped near the guns, the trucks regassed, and starts the men to digging in. Under ordinary circumstances the men begin to dig in without command, but this time the tired troops are quite willing to sleep.

As the officer agents return, the BC learns that the nearby combat team is a flank guard and that his battery is more or less on its own. The enemy's actions across the bridge are still unknown. The following message clarifies a few points:

"Provide AA protection for MUDDY BRIDGE at all costs until tomorrow AM to permit passage of mechanized troops. Thereafter, position will be held depending on your own judgment. If forced to retire, proceed to HOKUM BRIDGE and reinforce WHITE's Command."

(Signed) HURRIEUP.

So, the BC thinks to himself, we are going to stay put for a little while. It is standing operating procedure that ammunition be properly arranged at the gun positions, regardless of the situation. Twelve rounds are placed circularly around each gun for instant use (for a 3-inch battery). Other large piles are arranged. A third batch of ammunition is arranged and prepared for use against low-flying or dive-bombing planes. For each gun, about ten rounds are cut, running from minimum range to eight seconds with two-second intervals. Then the AP shells are arranged conveniently.

The gun crews have been divided into shifts, one shift to sleep and the other to man the guns. The crew on shift goes on with the digging.

The supply officer reports that the dumps have been found and that arrangements have been made to draw rations.

"Go back and get a couple of truck loads of land mines and barbed wire—lots of it. Procureth honestly if possible, but, Brother, procureth!"

By now our BC's conscience bothers him and he decides to better his position. He orders two of his .50's across the river to the knoll over there, and keeps two of them with him. As an added security measure he sends a small permanent patrol to the far side of the river. This patrol may come in handy to notify him of local infiltrations of enemy troops. A liaison detail is told off to work with the nearby combat team.

Another officer is sent back to Hokum Bridge to contact Lieutenant Colonel White's improvised battalion to find out what he can, as well as to reconnoiter routes.

Wire is strung from the .50's on the far side of the river to his CP and to his truck park.

After a short snooze, our hero takes an automatic rifle and a jeep and takes a look-see for himself.

Back at the battery, he notes possible enemy approaches and instructs his range officer and machine gun officer to check on ranges and reference points. He orders a high observation post built in the trees on the far side of the river, both for AA and ground observation.

The supply officer has "procurethed," and without asking embarrassing questions the BC wakens the rest of the battery and starts to improvise road blocks a half-mile from the bridge, on the far side of the river, and notifies the ground troop commander of the locations. The BC begins to feel satisfied.

But the digging continues. The revetments are built so the guns can move out in a hurry. The outriggers aren't buried, and there is a rearward opening so the bogies can be shoved into place quickly.

Just as our BC begins to slide off into another short snooze, he wakens with a start. Two more things to check—how about alert signals? And even if it is SOP to gas and oil vehicles as soon as the battery comes into position, he'd better check. That's important! Some day he's going to make up a check list, so he can be *sure* he's not overlooking something every time he changes position.

Here it is.

#### CHECK LIST FOR A MOBILE AA BATTERY COMMANDER MISSION

What am I to protect? For how long?

What might be my next mission?

Am I ready for anything that might happen, such as:

Attack by ground troops?

Attack by mechanized forces?

Attack by paratroops?

#### ORDERS

I can expect them to be sketchy. Am I still under direct orders from regiment, brigade, some combat team C.O., or a sector C.O.?

#### SUPPLIES

Where do I get them in this new situation?

Have I checked the supply points, and the routes to them?

#### RECONNAISSANCE (Initially)

Have I checked my approach route, and alternate routes?

Have I checked on my position, and alternate positions?

#### (After Arrival)

Do I know possible routes for:

Advancing?

Movements to either flank?

Withdrawals?

Have I "procured" and studied maps for the area in my vicinity?

Have I made personal reconnaissance, or had my agents do so?

#### LIAISON AND COMMUNICATION

Have I reported to the sector C.O.?

Do I have contact with troops in my front, rear, and flanks?

Whom should I maintain liaison with and send agents to, or will these units send agents to me?

Have I established possible wire communications?

#### LOCAL PROTECTION (If on the march)

Do I need advance scouts and guards?

Flank guards?

Rear guards?

Am I furnishing my own column protection, or am I protecting somebody else, or is some other unit going to protect me?

#### (In position)

Have I air sentinels, security ground pickets, and gas sentries posted?

Besides siting my guns for use against planes, have I considered probable areas, or routes where I might expect other forms of attack?

#### DIGGING IN AND CAMOUFLAGING

I start this immediately, and keep on working on it as if I were going to stay here forever, but at the same time I'll be prepared to pull out on a moment's notice.

#### INFORMATION (Own troops)

What are our own troops doing, or planning to do?

Can I look to them for help in case of local attack?

Have I informed the local C.O. of my own capabilities?

Have I discussed with the local C.O. my own mission?

Where are our own troops located?

#### (Enemy)

Who are they?

How many?

What are they up to, what can I expect them to do?

Where are they?

Have I contacted the local G-2?

#### TRANSPORTATION

Are my trucks serviced ready to go?

Regardless of how tired my men are, the hour, and the weather, my trucks will be serviced the instant the guns go into position.

# Characteristics of Enemy Aircraft

Descriptions and available performance figures of more than fifty types of combat aircraft now in use by Japan, Germany and Italy were made available to the people of the United Nations by the British Air Ministry and the United States Army Air Forces.

Of the thirty-one Japanese combat types listed nine are Army and Navy fighter planes whose chief characteristics include comparative lightness in weight and engines of comparatively low horsepower. Protective armor for personnel is lacking in almost every case and armament consists generally of 7.7mm machine-guns—approximately the same as the American and British .30 caliber. The occasional use of 20mm cannon is noted. A more recent type is armed with four machine guns and two 20mm cannons.

Horsepower of these single-engined Japanese fighters ranges from 650 to 850 horsepower at the most effective heights, whereas the four German pursuit planes listed are driven by engines developing 1,200 horsepower.

The German fighters are marked by the more fre-

quent use of 20mm cannon, generally higher speeds and greater protective armor for the pilots. The Heinkel 113 and the Messerschmitt 109F, for example, both single-engined fighters, weigh approximately 5,700 and 6,000 pounds respectively, as compared with an approximate average of 4,400 pounds for the Japanese pursuit ships. The German fighter aircraft listed also are armed with 7.9mm machine guns which is approximately .31 caliber.

Each of the five Italian fighter planes listed is armed with at least two 12.7mm machine guns which compare almost exactly with the American .50 caliber. Italy also uses the 7.7mm machine guns, fixed in the wings and firing forward in the fuselage. The Italian planes generally provide armor-plating for crew protection which makes them considerably heavier than the Japanese planes of the same comparative class, although rated horsepower for the Fiat G50 and CR42 and the Macchi C.200 is 840 horsepower. The Macchi C.202, which is rated as having a maximum speed of 330 miles



Japanese Mitsubishi T97's over Yenan.



Japanese Zero fighters. *Photo from European*

per hour at 18,000 feet and a cruising speed of 300 miles per hour, is powered with a 1,200 horsepower engine.

No Japanese twin-engine fighter planes are listed, although descriptions are given for the German Messerschmitt 110, powered with two 1,200 horsepower liquid cooled engines, and the Junkers 88, driven by two motors of the same power; and the Italian Breda 88, powered with two air-cooled motors.

The German JU 88, night-fighter version of a similarly designed twin-engined ship used for long-range and dive-bombing missions, carries minimum armament of three 7.9mm machine guns or three 20mm cannon in the nose of the fuselage, in addition to 7.9mm machine guns protecting the rear and the underside. It has an approximate maximum speed of 290 miles per hour at 18,000 feet.

The ME 110, with a service ceiling of 32,000 feet, is armed with at least four 7.9mm machine guns and two 20mm cannons firing forward, in addition to machine gun protection for the rear.

The Breda 88 has a rated maximum speed of 310 miles per hour at 13,500 feet, a service ceiling of 28,500 feet, a range of 900 miles, and is armed with three 12.7mm machine guns in the fuselage and two 7.7's in the wings.

Information on two troop-carrying German gliders is included. One—the Gotha 242—has a crew of two pilots and can accommodate twenty-one other fully equipped soldiers. The plane is armed with four machine guns, and carries a wheeled undercarriage which can be dropped, leaving the landing to be effected on three skids.

Also listed is the German Focke Wulf 200K, a 24-ton long-range bomber driven by four 850 horsepower motors. This ship has a range of approximately 2,400 miles and a bomb load capacity of 3,300 pounds. Minimum armament includes a 20mm cannon, and five 7.9mm machine guns. Its duties include long-range sea reconnaissance, ship strafing, mine-laying and work in conjunction with submarines.

The Junkers 87—the dive bomber used extensively in Europe during the early stages of the war—is powered by a single liquid-cooled engine of 1,150 horsepower, has a bomb load capacity of 1,100 pounds and is armed with two 7.9's in the wings and one of similar caliber to protect the rear.

The only four-engined Japanese ship listed is the Awanishi T97 Navy flying boat, reported to be based on the S42 Sikorsky flying boat. The Jap ship is a monoplane powered with four 900 horsepower air-cooled motors, and has an approximate range of 1,500 miles with 3,500 pounds of bombs. This ship carries a crew of ten men and is armed with two machine gun turrets.

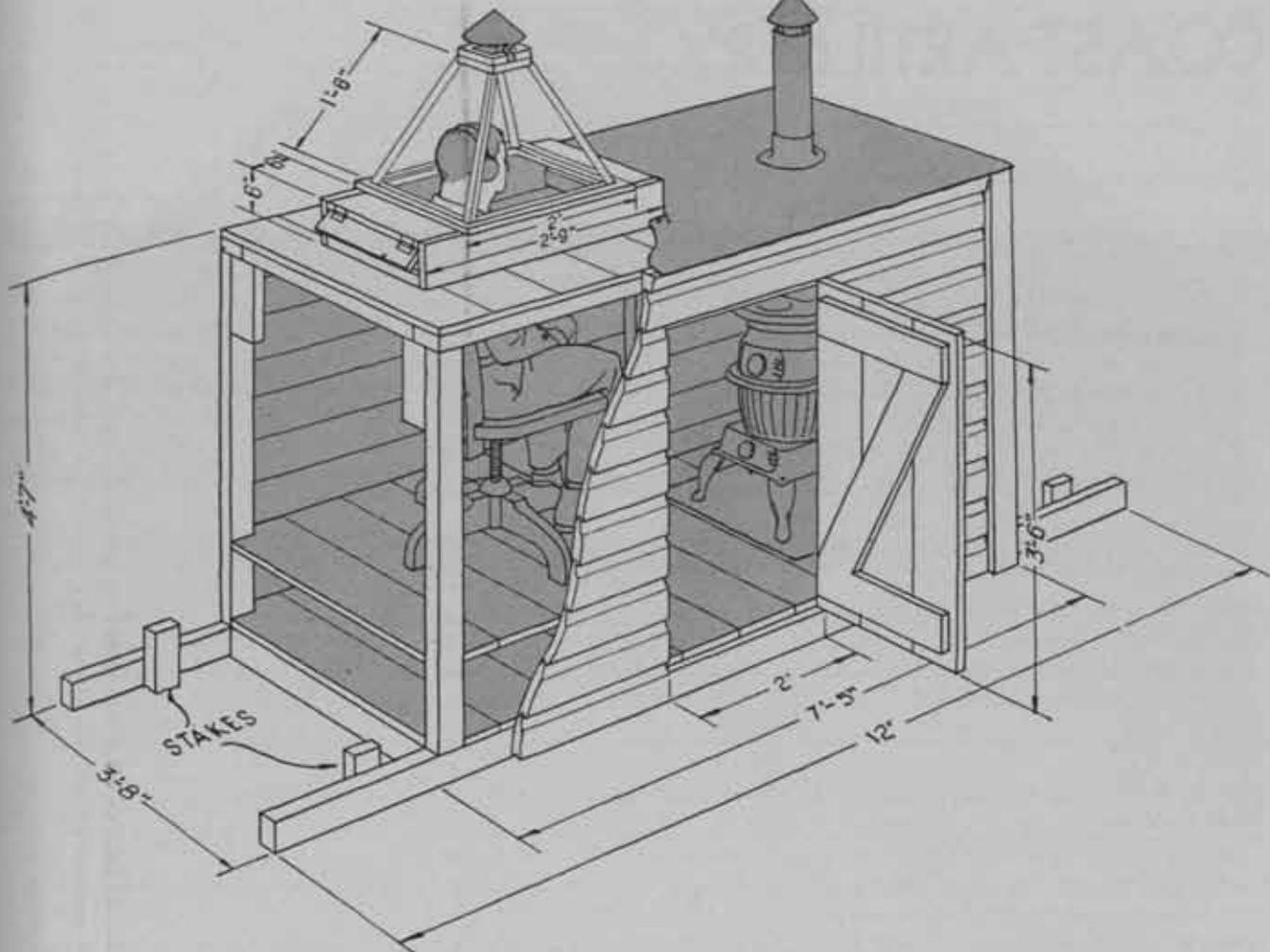
The Japanese Mitsubishi T97, powered with two 870 horsepower air-cooled motors, can carry 4,400 pounds of bombs over a range of 1,180 miles, and the Kawasaki T97 can carry either 1,100 pounds of bombs 1,250 miles or 4,400 pounds of bombs 240 miles.

The German Dornier 217, a twin-engined bomber powered with two 1,500 horsepower air-cooled motors, has a range of 1,010 miles with a bomb load of 4,400 pounds, and the twin-engined Junkers 88 can carry a similar load 1,150 miles. The Heinkel 111 has a range of 1,540 miles with 1,760 pounds of bombs, or 760 miles with 4,400 pounds of bombs.



German Junkers Ju-88 Bomber.

*Photo from European*



# Portable Observer's Hut

By Lieutenant Colonel William P. Bray, Coast Artillery Corps

Fort Michie is a small island, and from November to May severe winds blow constantly. Consequently, AAAIS observers who must endure the cold winds that sweep across the water would be superhuman if the constant frigidty did not interfere with their efficiency. It was decided that some sort of shelter was necessary, but it had to be shelter that would not interfere with all-around observation. The sketch above illustrates the result.

This shelter was deliberately designed to provide but one comfortable place for the observer. He must sit in the chair with his head above the main roof, or stand outside the shelter. The observer's compartment was made just wide enough to permit 360° rotation of the swivel chair with room for the observer's knees. Openings above and below the glass windows were provided for three reasons: to aid in detecting airplane sounds, to prevent fogging of the glass, and to permit the escape of coal gas fumes.

The cost of the complete shelter was very little. The tin hood above the glass was made from a No. 10 can, and the stove was a mail-order special at \$4.95. The sills, studs, joists and rafters were made of short lengths of 2 x 4; the roof was built with 1 x 6 roofers covered with roofing paper. Window frames and base were made of 1 x 2, 1 x 4, and 1 x 6 pine. The plate glass was cut into trapezoids, twenty-two inches at the base and five inches at the top, with eighteen-inch dimensions on the non-parallel sides.

The telephone wires to the operator's headset were made long enough to permit him to step outside to detect the exact direction of airplane sounds.

The blind spot caused by the hood did not prove the least bit troublesome, since slight movements of the observer's head were all that was needed to give him all-around vision.

The shelter as illustrated (with the open end closed) was designed by the writer and constructed by a battery mechanic.

# COAST ARTILLERY



## BOARD NOTES

Any individual, whether or not he is a member of the service, is invited to submit constructive suggestions relating to problems under study by the Coast Artillery Board, or to present any new problems that properly may be considered by the Board. Communications should be addressed to the President, Coast Artillery Board, Fort Monroe, Virginia.

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SECOND LIEUTENANT HOMER R. OLDFIELD  
SECOND LIEUTENANT FRANCIS S. BUFFINGTON

Since the last issue of the JOURNAL, the Antiaircraft Artillery Board has been activated. About the end of May, the Antiaircraft Artillery Board will move to Camp Davis, North Carolina. Nine former members of the Coast Artillery Board have been assigned or attached to the Antiaircraft Artillery Board.

The secret and confidential classification of matériel and reports is making it more difficult each month to find items of interest to JOURNAL readers which can be published. The following items have been gleaned from the estimated five per cent of unclassified reports.

*Camouflage equipment.* The Antiaircraft Artillery Board recently reviewed the requirements for camouflage equipment for antiaircraft organizations. In addition to recommending a number of changes in the present basis of issue for this equipment, the Board recommended that a new set be established in the Engineer Supply Catalog, this set to consist of one standard 36' x 44' camouflage net, and the necessary material and tools required for preparing and erecting the net.

*Range-elevation scales for 155mm guns.* The Coast Artillery Board has been receiving many requests for range-elevation scales for 155mm guns calculated for specific heights of site. The preparation of range-elevation scales calculated to the nearest foot for all heights of sites that may be desired is not considered warranted. Even though such scales were provided, corrections for tide still must be taken into consideration and, if appreciable, applied on the range correction board.

Although corrections for heights of site up to 500 feet are provided for on range correction board charts, it has been found desirable also to provide range-elevation scales computed for heights of site at various intervals. The range-elevation scale which is most suit-

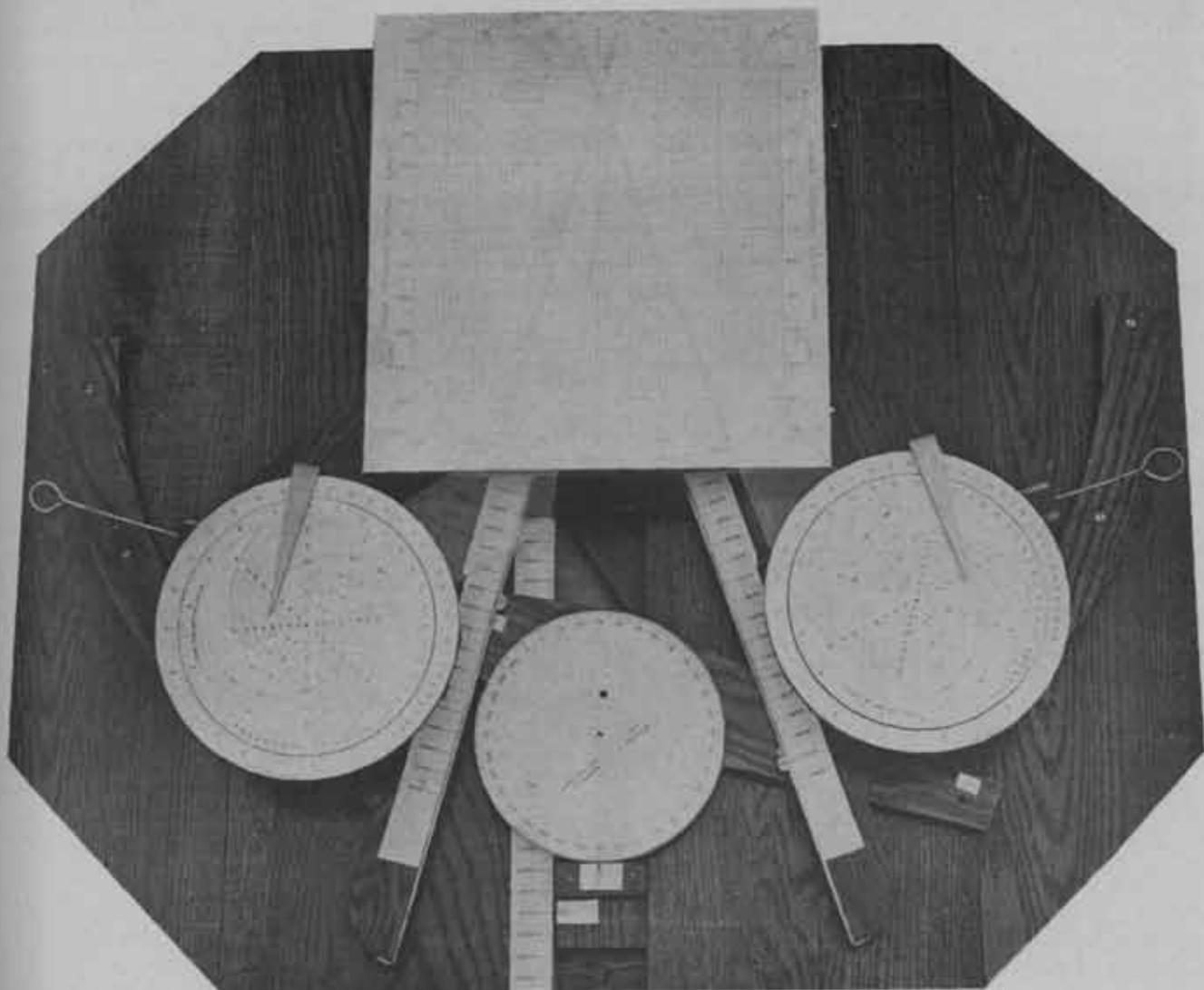
able for the battery position should be used and corrections made on the range correction board for the difference between the actual height of site of the battery and the height of site for which the range-elevation scale is computed. This will reduce the amount of the percentage correction that must be applied as a result of operating the range correction board.

As an example, assume that a battery is 173 feet above the reference datum, a range-elevation tape calculated for a height of site of 150 feet is being used, and the tide at the moment is minus three feet. The total height of site correction which must be applied, therefore, is for target below gun 176 feet. Since the range-elevation scale corrects for 150 feet of total, a correction for target below gun twenty-six feet (176-150) should be applied by means of the range correction board.

Upon receipt of requests for range-elevation scales for 155mm guns for specific heights of site, the Coast Artillery Board will furnish from available scales on hand the scales most suitable for use at the height of site specified. These requests should indicate clearly the type of shell and fuze.

*Mess equipment.* During April several studies were made on the question of increased allowances for searchlight and automatic weapons batteries to enable platoon messes to be established in the field. Equipment as listed in current table of basic allowances does not lend itself to operate adequately more than one basic mess and one platoon mess, for the four-unit field range set does not have sufficient cutlery, spoon and miscellaneous equipment to permit its being divided for separate operation of two messes, and no extra burners are included for use as hot water heaters.

Searchlight batteries, to a greater extent than other antiaircraft batteries, have great difficulty in providing



Improvised spotting board constructed by Harbor Defenses of the Delaware.

mess facilities for their men. Platoons are normally separated by several miles and in some cases on opposite sides of natural obstacles, while the sections of each platoon are in turn scattered over many miles of terrain. The preparations and distribution of food from a central mess, under such circumstances, is impracticable.

The Antiaircraft Artillery Board submitted recommendations for additional items to provide each platoon with a minimum of one 2-unit gasoline field range with extra burner; four insulated containers with inserts; and ten 14-quart galvanized buckets.

*Plotting Boards M3 and M4.* The War Department recently distributed TM 9-2681, Instruction Guide for the Plotting Boards M3 and M4. This board is designed for use with all types of fixed seacoast artillery. Six-inch, or larger caliber, modern batteries will be supplied with this plotting board.

Since the manufacture of this plotting board at the arsenal requires accurate data, extreme care must be exercised in furnishing this information. Data of a precision equal to third order triangulation are required for the final stages of manufacture. Approximate data ( $\pm 50$

yards) can be used in the preliminary design and early stages of manufacture.

In general, the following data are required: First, limiting azimuths of the field of fire; second, directrix of the battery; and third, X and Y coordinates of directing point and observing and position finding stations to be used with the battery.

*Universal Deflection Board charts.* Charts for the Universal Deflection Board for all guns and ammunition have been redrawn recently to provide charts which are more suitable for mounting the rotation of the earth curves and elevation or range scales in the platen. This revision was made merely as an improvement in the layout of the charts. The new charts may be obtained on request.

Requests for the new charts submitted to the Coast Artillery Board should be consolidated for all batteries by harbor defense or regimental commanders so as to facilitate and expedite the fulfillment of these requests. The instructions appearing in paragraph 5, Coast Artillery Memorandum No. 21, dated June 1, 1941, should be followed to avoid confusion and loss of time. Where

applicable, the type of fuze for high explosive shells should also be stated in the requests.

*Modification of improvised spotting board.* The Coast Artillery Board supplies, on request, plans and scales for the construction and use of an improvised spotting board similar to the M2 spotting board. Recently, the Harbor Defenses of The Delaware constructed one of these improvised spotting boards, modifying the plans so that spotting stations which cannot be represented on the orienting disc can be used. The board in its modified form is illustrated in the accompanying photograph.

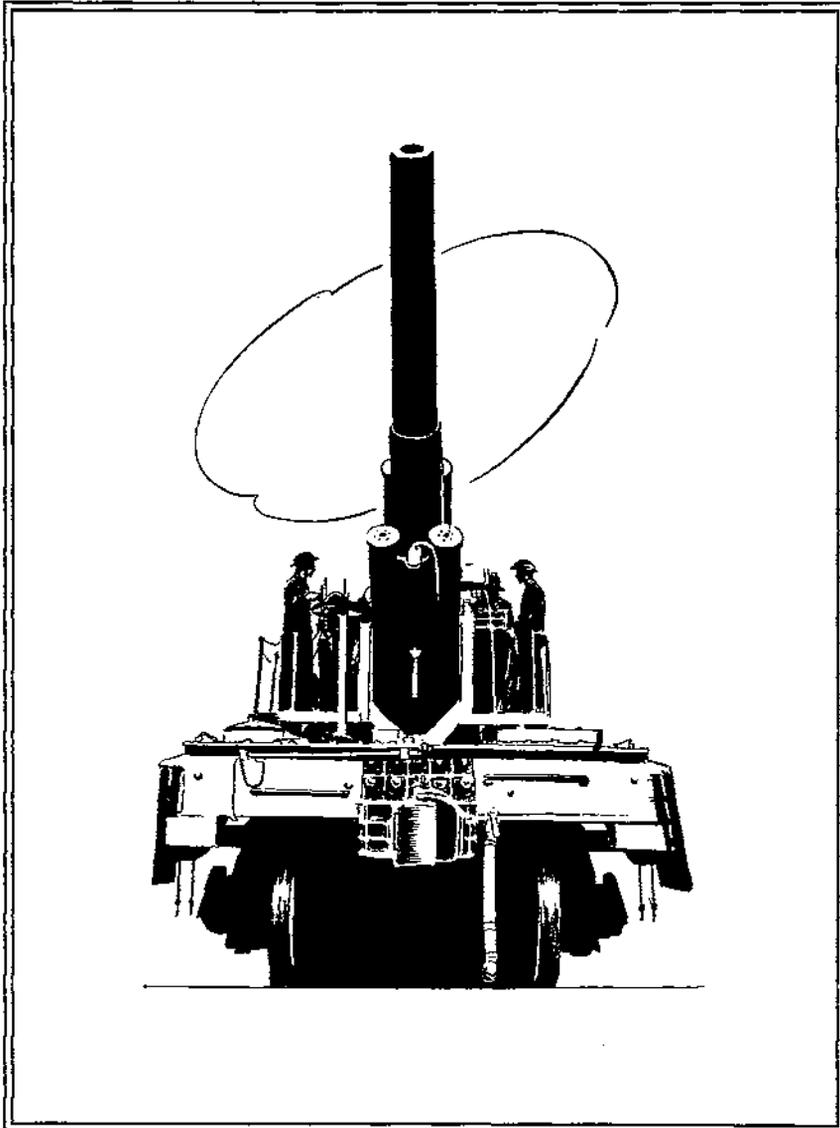
The modifications of the board are as follows:

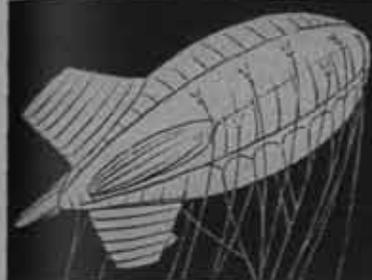
a. Wooden arms are screwed to the wooden disc on

which the paper orienting disc is mounted. These arms must be of the proper length and width depending on the scale factor used, and are attached so as to accommodate the several spotting stations available. Holes are drilled in these arms at the distances and azimuths of the spotting stations from the directing point.

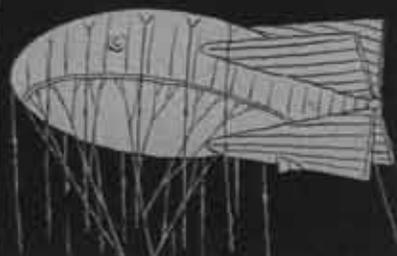
b. The spotting stations being used are represented by targs plugged into the appropriate holes in the arms or disc. To change to other spotting stations, it is only necessary to remove the targs and plug them into the holes representing the new stations.

c. Additions to the sides of the base and circular segments fastened thereto serve as supports of the deviation arms.





# Barrage Balloon Board



*The Barrage Balloon Board will welcome constructive proposals from anyone whether or not a member of the service, pertaining to subject matter that may properly be studied by the Board. Communications should be addressed to the President, Barrage Balloon Board, Camp Tyson, Tenn.*

COLONEL PORTER P. LOWRY, *President*

MAJOR SELBY M. SKINNER

MAJOR HUBERT W. AMUNDSEN, A.C.

CAPTAIN HUBERT duB. LEWIS

CAPTAIN EDWARD W. McLAIN

CAPTAIN OSWALD H. MILMORE

Under the recent War Department reorganization, barrage balloon organizations at this station have become a part of the Antiaircraft Command. Development and procurement of barrage balloon matériel are functions of the Corps of Engineers. The Barrage Balloon Board succeeding the Joint Barrage Balloon Committee as the representative of the using arm, will be charged with the setting up of initial military characteristics, and with service tests of matériel. Preliminary engineering tests are conducted by the Corps of Engineers.

The senior officer of the Board is President of the Board, and the next senior the Executive. All members, except the President, are formed into six committees of two or three officers each; any one officer is a member of two or more committees. Committee chairmen are responsible for the final form of any project.

The six committees are responsible for the field indicated:

*Committee No. 1*—Projects pertaining to balloon envelopes, bedding, central anchorages, mechanical handling, sites, and certain operation characteristics.

*Committee No. 2*—Projects pertaining to winches, winch mounting, winch parts and attachments, lead-off gear, cables, cable attachments, lethal devices, marine handling equipment, preparation of blank forms.

*Committee No. 3*—Projects pertaining to gases, gas generators and equipment, inflation equipment, gas valves, compressors, meteorological apparatus and instruments.

*Committee No. 4*—Projects pertaining to communications, signalling, computations, publications other than blank forms.

*Committee No. 5*—Projects pertaining to fabrics, fabric repairs and repair materials, plastics, coatings, solvents, etc.

*Committee No. 6*—Projects pertaining to subjects not indicated above.

Projects are assigned by authority of the Commanding General, Antiaircraft Command, or the Commanding General, Barrage Balloon Training Center. The Board is the sole agency which conducts and reports upon service tests of barrage balloon matériel; however in special cases where extended service tests may be necessary in particular localities or particular weather conditions, the Commanding General, Antiaircraft Command, may recommend that a battalion be designated to conduct certain phases of the test and report those phases directly to the Barrage Balloon Board, for consideration or inclusion in its report.

Suggestions for improvement of matériel, or information as to any unsatisfactory functioning of matériel is received by the Board through Unsatisfactory Reports or from any individual in the military service; such suggestions have at times resulted in improvement of matériel, better operating procedure or the setting up of substitute articles to supplement the supply of items in process of development or improvement.

After an item has been developed to the point where it is believed to meet Required Military Characteristics, it is submitted to the Board for test. As a result of the test, further modifications may be found necessary. When it fulfills all requirements, adoption as a standard article is recommended by the Board, and, after approval by the Secretary of War, manufacture and procurement begin.



# Coast Artillery Journal

*Fifty-first Year of Publication*

COLONEL FREDERIC A. PRICE, Editor  
MAJOR ARTHUR SYMONS, Associate Editor



The JOURNAL prints articles on subjects of professional and general interest to officers of all the components of the Coast Artillery Corps in order to stimulate thought and provoke discussion. However, opinions expressed and conclusions drawn in articles are in no sense official. They do not reflect the opinions or conclusions of any official or branch of the War Department.

The JOURNAL does not carry paid advertising. The JOURNAL pays for original articles upon publication. Manuscripts should be addressed to the Editor. The JOURNAL is not responsible for manuscripts unaccompanied by return postage.

## The United States Coast Artillery Association

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*The purpose of the Association shall be to promote the efficiency of the Coast Artillery Corps by maintaining its standards and traditions, by disseminating professional knowledge, by inspiring greater effort towards the improvement of materiel and methods of training and by fostering mutual understanding, respect and cooperation among all arms, branches and components of the Regular Army, National Guard, Organized Reserves, and Reserve Officers' Training Corps.*

## News and Comment

### Colonel Clear's Report on Corregidor

The following paragraphs have been extracted from the report of Lieutenant Colonel Warren J. Clear given during the Army Hour broadcast Sunday, April 12. Colonel Clear, a retired Infantry officer, had been on staff duty in the Philippines, and had returned from Corregidor just previous to the broadcast:

"Living on Corregidor is like living on a bull's eye. It is and it will be even more so now the target of everything the Japanese have got. There is literally no place where bombs are not likely to fall. But the Japanese attacking Corregidor still must combat American courage and American marksmanship and American ingenuity and American steadfastness.

"I have been alongside our American soldiers in a battle against the greatest odds, and I have seen them perform for weeks on end until utter exhaustion proved the deciding factor. These men have resisted far above and beyond the call of duty. All that has been written into the words 'Thermopylae,' 'Valley Forge' and 'Verdun' applies to the officers and men under General Wainwright, General Moore and General King who stood by their guns so long and so well."

✓ ✓ ✓

### New Corps Area Alignment

Changes in the corps area assignment of four states, recently announced by the War Department, have resulted in the following corps area boundaries:

First Corps Area, (headquarters, Boston, Massachusetts), Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island and certain military installations in New York State.

Second Corps Area, (headquarters, Governors Island, New York), New York (less portion attached to the First Corps Area) New Jersey and Delaware.

Third Corps Area, (headquarters, Baltimore, Maryland), Pennsylvania, Maryland and Virginia and the District of Columbia.

Fourth Corps Area, (headquarters, Atlanta, Georgia), North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama and Mississippi.

Fifth Corps Area, (headquarters, Columbus, Ohio), Ohio, Indiana, West Virginia and Kentucky.

Sixth Corps Area, (headquarters, Chicago, Illinois), Michigan, Illinois, Wisconsin.

Seventh Corps Area, (headquarters, Omaha, Nebraska), Minnesota, North Dakota, South Dakota, Iowa, Nebraska, Kansas, Missouri, Colorado and Wyoming.

Eighth Corps Area, (headquarters, San Antonio, Texas), New Mexico, Oklahoma, Texas, Arkansas and Louisiana.

Ninth Corps Area, (headquarters, Fort Douglas, Utah), Arizona, Utah, Nevada, Idaho, Montana, Washington, Oregon and California.

\* \* \*

### Radio Locators in Production

Secretary of War Stimson has announced that the Army is rapidly equipping the Nation's coast lines with "electric eye" detection devices able to locate planes or ships more than 100 miles at sea, and thus providing a warning of approaching enemy raids.

He told reporters he had inspected the secret radio locators during a recent trip to Fort Monmouth, N. J., and nearby areas, and confessed that his eyes had been opened by the amazing things achieved in this field by the Army Signal Corps.

"We already have a great many of the detectors and are working hard to get more," the War Secretary said at a press conference.

The Signal Corps, he said, has been "applying much of the new science to war," and its officers at Fort Monmouth have been giving intense study to using radio wave echoes to warn of approaching enemy planes and ships.

"This electric eye can see 100 miles or more and warn of danger," Stimson said. "It can see at night and through fog and tell the location of enemy craft."

On his recent inspection trip, the Secretary said, he had looked at one of the new warning instruments and had seen the indication of a plane 60 miles away.

"And what I saw was elemental compared to what the officers are working on, with every indication of success, in the laboratories at Fort Monmouth," he added.—*Washington Post*.

\* \* \*

### The Army Hour

The JOURNAL recommends to all its readers the Army's nation-wide radio program, *The Army Hour*. There have been many radio shows sponsored by individual army units—some of them have been good, some not so good. *The Army Hour* is consistently interesting, well-staged, and down-to-earth. Although it has been designed for an audience of civilians, it is even more valuable for soldiers because in addition to bringing to us information about the army and the men who are the army, the show helps us to feel our bond with American soldiers everywhere, regardless of branch of service or rank.

The program is scheduled every Sunday, from 3:30 to 4:30 P.M. (E.W.T.). For those of us who can possibly get to a radio during that period, there is a treat in store.

### Mixed Batteries

The A.T.S. (*Auxiliary Territorial Service*) was originally formed in the same way as the W.A.A.F. (*Women's Auxiliary Air Force*) and the W.R.N.S. (*Women's Royal Naval Service*) to free men for other duties. You will all agree that women do many jobs better than men do. For example, they are better cooks, they are better typists, they make first-class secretaries. In fact, anything which needs meticulous care seems to be suitable employment for women.

It was with this in mind that some time ago I approached the War Office and asked that an experiment should be carried out of training women to man our various instruments in an anti-aircraft battery: predictor, height finder, radio locator, etc. The experiment proved an instantaneous success and today I have under my command, spread throughout Great Britain, a large number of batteries—we call them "mixed batteries"—in which women play their part not only in the cook-houses and in clerical duties, but by manning the instruments. There is no question about the success of this experiment. Some of the batteries have already been in action, to our great satisfaction, but with less satisfaction to the Germans.

It is natural that such an innovation as the employment of women in an operational rôle should be received with misgivings by many. We in England are conservative by nature and when a man has to hand over a very important job, which he has done very well, to a woman, he might be expected to have some doubts in his mind. The team spirit between the men and women in these mixed batteries is excellent and there is no feeling that the women are not as important a component of the battery as the men themselves.—*Lieutenant General Sir Frederick Pile, in The Gunner*.



There are many jobs a woman can do.  
This W.A.A.F. is a meteorologist.

*British Press Service*

### The Anchor Still Held

By Dean Schedler, Associated Press War Correspondent

CORREGIDOR, P. I., March 25 (Delayed).—That world-captivating phrase, "London can take it," most definitely covers also the defenders of this fortress in Manila Bay.

Not only can these American and Filipino soldiers take it, but they have poured it back at the Japanese air force during almost constant raids the last three days and nights.

The deadly fire of Corregidor's antiaircraft guns, including the famed 60th Coast Artillery, have caused enemy pilots to climb higher and higher as their respect increased for the ability of these gunners.

Though there are no defending planes to help beat off the enemy raids, morale of the defenders remains unshaken. During the attack by waves of enemy bombers yesterday over the "Rock" Lieutenant General Jonathan M. Wainwright and Major General George F. Moore, commanding the harbor defenses, were much in evidence, inspecting positions and instilling that great quality of faith among the soldiers.

### CROWDS INTO FOX HOLE

One night I crowded into a fox hole with two soldiers operating an observation post so I could get a good seat at the night show. Through the afternoon and into the night there had been intermittent bombing.

One said most of the bombs on the last trip had fallen in the water and it was all right with him "to shake a few fish around instead of us." I agreed, quite heartily.

The night show was not long in reopening, for about ten minutes after I settled into the crowded space the raid alarm wailed. Looking skyward, the star-studded half-moon seemed unreal, a scene of peace amid screaming bombs.

The hum of airplane motors increased toward the west as the searchlights poked skyward. An almost breath-taking silence seemed pressing down on us as each of us gritted his teeth.

### SEARCHLIGHTS SPOT PLANES

First one light spotted a plane, joined immediately by others to form a pattern. Caught in the converging rays, the plane seemed moving slowly, so great was its height. Three planes, dull gray objects, thus were caught. So fascinated was I by the sight that I ducked hard when a nearby battery opened with rapid fire, its staccato joined by other batteries as the lights held their prey.

There were bursts of orange-colored flame near the formation of enemy planes. We three, in our fox hole, agreed that if there had not been a direct hit, at least the pilot must have got a little steel floating past his windows.

Other gun positions were laying a pattern of shells in the skies. There were cheers when one plane veered from the formation and trailed smoke as it headed for

the shore near Cavite. As it dropped lower and lower and merged into the darkness our eyes burned with the expectancy of an explosion or crash as it hit the water.

### FORGOT TO WORRY ABOUT BOMBS

The entire show lasted but a few minutes. So absorbing was it, we forgot to duck or worry where the next bomb would drop. The all-clear signal wailed and we climbed out of the hole and guardedly smoked cigarettes. I thanked my pals for sharing their space with me and promised to pay them another visit soon.

Walking down the road to my quarters I felt really thrilled at the show and wanted all America to know what kind of warfare this is, hitting back at 200-mile-an-hour heavy bombers with only antiaircraft guns and knowing how different the story will be when pursuit ships from the United States tangle with the enemy.

Passing a cheery word with a sentry, I asked him what damage the bombs did and where they hit.

"A couple hit a tree," he said. "All the rest splashed around in the water."—Associated Press.

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### Corregidor's AA Kept 'Em Frying

By Dean Schedler, Associated Press War Correspondent

CORREGIDOR, P. I., March 31 (delayed).—Corregidor's accurate antiaircraft guns shot down twelve Japanese planes in the last week, making a total of sixty-six bagged by the island-fortress' guns since the start of the war.

The figures are taken from the scoreboard which lists only confirmed losses inflicted on the enemy.

The 60th Coast Artillery antiaircraft units are over-careful in crediting the batteries with hits and with recording planes actually downed. Planes are marked as down only after this has been confirmed by observation. Many times bursts of antiaircraft fire amid tight formations of enemy planes are seen to shake up the planes, causing some to veer from their course, trailing smoke as far as they can be seen. But unless such a plane is seen actually to come down, it is marked up as a "probable" loss to the enemy.

### WASHINGTONIAN IS COMMANDER

The motto of the hard-hitting 60th, commanded by the veteran Colonel Theodore M. Chase, a native of Washington, D. C., is *Coelis Imperamus* which translated literally means: *We rule the heavens.*

During the last week, and since the start of the war, they have demonstrated they can dish it out to the enemy, as well as take it.

According to Major T. K. McNair of Red Bank, New Jersey, Corregidor has undergone more than 120 actual air raids since December 29, with the longest raid, of more than six hours' duration, last week.

Japanese planes, operating from a nearby Luzon

Island base, place Corregidor in a state of almost continuous alarm, although each day the flyers have evidenced growing respect for the antiaircraft guns. Flights as a result have diminished in size from twenty-seven-plane formations to sorties by one and two planes at a time.

As the size of the flights diminished, the planes also climbed higher, forcing the antiaircraft units to their utmost to pick the bomb-laden tiny specks out of the sky.

#### PRACTICED LONG AND HARD

Colonel Chase's men practiced long and hard with their guns before the war started, realizing the value of antiaircraft units as proved by the war in Europe. Since the bombing of Manila Bay harbor defenses started, all soldiers have developed a great respect for their work. The hard pounding given Corregidor the last week has provided the fullest test men and material can face in fighting an enemy on uneven terms and matching air power with ground guns.

Searchlights aid the gunners at night in keeping Japanese bombs pushed wide of the target areas.

One battery, under the command of Captain C. R. Ames, Rockaway Beach, New York, has been dishing it out to the enemy while ducking not only bombs but also artillery shells from the Cavite shore across the bay.

Last evening I was talking to Captain Ames and found his men all bronzed and in high spirits. A few minutes before they had assisted in some of the best shooting yet.

Two bombers were flying over Corregidor at dusk. The bombers crossed flying slightly lower than previously. Captain Ames' men and the men of the other batteries trained their guns to make each shot count.

#### REQUIRES ONLY FEW MOMENTS

The gun crew under Sergeant E. J. Swanson of Lewistown, Montana, was given the order to fire. Four rapid shots from each battery roared into the sky. The first bomber was hit near one of its motors. The wing broke off, sending the plane plunging into the bay amid a cloud of smoke. The action required only a few moments of intense fire. All the gun crews had been undergoing the same thing all week, in addition to taking a shelling themselves.

The score for this particular raid was "two up, two down, all clear."

It was a tonic not only to the men in the 60th's batteries, but permeated the entire body of troops on Corregidor.

The soldiers and marines let out a mighty football cheer as the two planes were shot down. Every one is retelling the story, with many eyewitnesses declaring it



AA alert in Libya

—British Press Service

was "the greatest thrill yet. It makes one able to take those bombs."

Although the two planes were not the only ones shot down for the week, the boys seemed to let out their pent-up anger in those few rounds.—*Associated Press*.

↑ ↑ ↑

### German AA on the Eastern Front\*

[Translated from a German article in *Völkischer Beobachter*, 15 September 1941]

German antiaircraft artillery has distinguished itself on all sectors of the front in the operations against the Russians. Antiaircraft artillerymen have not only helped to clear the air of Soviet fliers, but have also prepared the way for the employment of their comrades of the infantry in ground operations. The unusual achievements of an antiaircraft corps employed in the southern sector of the eastern front, which have already been announced in special reports, were: Up to 8 September, 1941, the batteries of this corps have shot down 125 Soviet aircraft, thereby causing great loss to the Soviet Air Force.

Since the beginning of operations on 22 June, 1941, the words, "Antiaircraft cannon to the front," have often been heard and the antiaircraft artillerymen have assisted their army comrades in ground engagements. Fifty-one Soviet bunkers, including several heavily armored works, were put out of action by the well-aimed fire of their cannons. Up to 8 September this antiaircraft corps had also destroyed 345 Soviet tanks, had silenced 57 batteries, and in combats which were often severe, had demolished 170 Soviet cannons and 446 Soviet machine gun nests.

Single antiaircraft cannons repeatedly succeeded in destroying superior numbers of Soviet forces with direct fire. In the concentrated fire of light and heavy antiaircraft cannons, numerous attempts by strong Soviet units to launch counterattacks collapsed with severe losses to the enemy. In all these operations, the antiaircraft corps completely destroyed a whole Soviet infantry regiment, six single battalions, 43 single companies, three squadrons of Soviet cavalry, and 34 other columns with well laid cannon fire. In addition, the corps units took 6,944 Soviet soldiers prisoner.

The rear Soviet service units suffered severe losses as a result of the well laid fire of the German antiaircraft guns. Since 22 June, the corps had destroyed 473 motorized vehicles, 18 transport aircraft, a great number of horse-drawn vehicles, an ammunition train loaded to capacity, and many locomotives, thereby causing severe losses to the Soviet Supply system. During the operations on the Dnieper, the gunners carried out daring assaults, sinking five Soviet cannon boats and destroying a ponton bridge. A great amount of Soviet ammunition was captured by antiaircraft units. The corps reported the securing of 13,300 rounds of artillery am-

munition, 30,000 rounds of infantry ammunition, 6,250 hand grenades, and 1,250 aerial bombs of various calibers.

German antiaircraft artillery has for some time been known to seek out ground targets of opportunity. It is known to be accurate at short range, this being attributed to its high muzzle velocity. Ease of its use and rapid methods of fire control have proved antiaircraft effective against hostile tanks. By use of special projectiles, this artillery has also been employed effectively against fortifications.

The calibers of German antiaircraft artillery are believed to range from 20mm to a size estimated at about 105mm. Other sizes include 37mm, 50mm, and 88mm. Antiaircraft units known to be in the German Army proper, and not in the Air Force, are believed to be essentially for local protection. They use the light 20mm and medium 37mm cannon. The latter was changed to 50mm for antitank purposes in 1941, it is now thought. Finding that the 50mm gun would not stop the heavier Russian tanks, this fact is believed responsible for the development of an 88mm antiaircraft gun. Indications are that an even larger caliber, estimated at 105mm, may now also be in use.

At least two types of projectiles are used with German antiaircraft artillery. One is an HE, with a sensitive fuze for antiaircraft use and the other, also HE, has an armor-piercing nose and a delay fuze for antitank use.—*The Editor, C. and G. S. School Review*.

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### New Medals

The War Department has announced the authorization of two new service medals—the American Defense Service Medal and the Good Conduct Medal. Pending issue of the medals, army personnel eligible for the awards may wear the ribbons.

The American Defense Service Medal has been authorized for issue to all U.S. military personnel for honorable service by those who entered upon a period of active Federal service of twelve months or longer and who in discharge of such service served at any time between September 8, 1939 and December 7, 1941, inclusive. The ribbon is yellow with narrow red, white and blue stripes near the edges. Bronze stars will be awarded for wear on the suspension ribbons of the medals in cases where personnel were exposed to hostile attack during the period for which the medal may be awarded, one star for each separate attack.

The Good Conduct Medal is authorized for award to those enlisted men of the Army of the United States, in all its components, who on or after June 28, 1941, honorably completed three years of active Federal military service and who are recommended for the award by their commanding officers for exemplary behavior, efficiency, and fidelity. The ribbon for this medal is dark red, with white stripes at the center.

\* (Reprinted by permission of the Editor, *C. and G. S. School Military Review*.)

**A Medal Winner Writes**

Box 1914  
College Station, Texas  
April 8, 1942

U. S. Coast Artillery Association  
1115 Seventeenth Street  
Washington, D. C.

Gentlemen:

Easter Sunday at a review of the Cadets of the A. and M. College of Texas I was presented the Coast Artillery Medal which I consider a great honor.

In my future military life in the Coast Artillery I shall strive to live up to this honor and in every way do my part for the defense of my country.

I wish to thank the U. S. Coast Artillery Association and all concerned for the honor bestowed on me and my parents.

Sincerely yours,  
SPENCER R. BAEN,  
Cadet 1st Sgt., C.A.C.

**Mail for Prisoners of War**

The American Red Cross has announced that mail addressed to prisoners of war and interned civilians in the Far East may now be sent from the United States through the International Red Cross Committee in Geneva.

This service applies only to prisoners and civilians who have been listed officially as in the hands of the enemy. Friends and families of men in the armed forces were advised not to send mail on the mere assumption that persons have been taken prisoner. Mail will not be forwarded to personnel until their names appear on the official lists released by the Provost Marshal General.

Letters sent to prisoners of war require no postage. This does not hold for interned civilians, but it is hoped that arrangements will soon be made to include these persons in the postage-free category.

Mail to prisoners of war should not be addressed to the American Red Cross. Chairman Norman H. Davis, of the Red Cross, suggests that until more complete information is received giving the prisoners' identifying numbers and complete prison address, mail should be addressed as follows: John Doe, Military Title and Branch of Service, formerly of (Wake, Guam, Shanghai, etc.), American Prisoner in Japan, c/o International Red Cross Committee, Geneva, Switzerland. In the space usually reserved for postage stamps should appear, "Prisoner of War Mail, Postage Free."

**Information for Adjutants**

The Adjutant General's School, at Fort Washington, Maryland, has notified the JOURNAL that three publications relating to the duties of adjutants are now avail-

able. TM 12-250, Administration, deals extensively with the duties of the regimental adjutant. TM 12-220, Administration, Division and Larger Installations, deals briefly with the duties of post adjutants. In addition to these official publications, the Adjutant General's School itself publishes a small pamphlet titled *A Standard Operating Procedure for regimental headquarters*.

These publications may be purchased through the COAST ARTILLERY JOURNAL, at the following prices, postpaid:

TM 12-250 .....	\$1.00
TM 12-220 .....	.20
S.O.P. For Regimental Hq. ....	.10

**Time Fuzes for AA**

By Thomas R. Henry, Star Staff Correspondent

A UNITED STATES ARMY ORDNANCE ARSENAL, April 4.—It is no secret that the Army has a shell time fuze whose mechanism is essentially that of a superfine watch with an accuracy of a 400th of a second.

It has more than 100 separate parts. Some of them have a size tolerance of only ten thousandths of an inch. The motivating power is centrifugal force. Its tiny brass wheels start turning when the shell in which it is placed leaves the gun muzzle at a certain number of revolutions a second. Exactly on the mathematical split second when



—Photo, O.E.M. by Palmer

it is calculated the target should be reached the "watch" sets off a detonator and the shell is exploded.

#### BASIC IDEA GERMAN

The device is a miracle of mechanical ingenuity and precision. The basic idea came from a German patentee back in 1924. It was crude and unworkable. Without the split-second accuracy it would be useless. It had to be absolutely reliable and absolutely foolproof. Army ordnance engineers worked over the clumsy German idea until it was so perfect that "a shell could think for itself."

This watch must be tough. It must stand the test of being thrown with terrific force against a theoretical brick wall once a second for four hours. Then it is shaken violently in a shaking machine for eight hours. Then it is dropped on an iron plate from a two-story window. If it still keeps time within 400th of a second accuracy after this it is ready to be placed in an anti-aircraft shell. Otherwise it is melted back into scrap brass and the whole process starts over again. Very seldom is it necessary to reject one.

But, having perfected the mechanism, the ordnance engineers were only at the threshold of their real problem. The device contained parts practically indistinguishable from those upon which skilled watchmakers spend hours of incredibly patient, microscopic work. There are not enough watchmakers in the world to produce the timers in quantities sufficient to be of any real significance in modern warfare.

#### TURNED OUT BY THOUSANDS

Today at this arsenal they are being turned out by the thousands each day and the workers are not skilled watchmakers. They are, for the most part, girls who graduated from high school in the past two or three years. They are mostly girls who never did a day's work before. They have learned their crafts in, at the most, a couple of months. They are doing their jobs much faster and more accurately than these could have been done by expert mechanics with old methods—*Washington Star*.

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#### Northern Ireland: Democracy's Atlantic Bastion

In the early part of the eighteenth century, when the British Isles seem to have been swept by an urge to seek work and adventure abroad, thousands of the restless men of Northern Ireland left for the American

Continent. There they pushed forward to play an important part in the rise of the American nation, and to exert an influence which survives to this day.

The American Declaration of Independence, dated 4th July, 1776, is in the handwriting of an Ulsterman—Charles Thomson, who was born at Maghera; and was first printed by a second Ulsterman—John Dunlap of Strabane, who incidentally printed the first daily newspaper to be published in America.

In recent days, with the arrival of many American soldiers on her shores, Northern Ireland people have been vividly reminded of the close and historic associations they have with the U.S.A., both socially and industrially. These men—a symbol of the links which bind the two western democracies—have been gladly received, and are warm in their praise for hospitality shown to them.

During the past two centuries or so, coöperation between Britain and the United States has steadily grown in strength and cordiality. Nowhere is the present partnership in the fight for freedom seen with livelier interest and gratitude than in Northern Ireland which has, from the beginning of hostilities, placed everything possible in men, money and productive capacity at the disposal of Britain. Today, Northern Ireland also acquiesces with alacrity in any agreement that means closer liaison between America and Britain in the war effort.

Perhaps no greater service is being rendered by Northern Ireland to the cause of free nations than by the fact of her position as a bastion of the democracies in the Battle of the Atlantic, where she stands guard at a vital point on the main sea communications between Britain and the Western world. Little can be said at present about this, or about the little army of American technicians coöperating with the British authorities in that part of the island. Yet it is, after all, only one aspect of Northern Ireland's part in the war effort.

Conscription of man-power was not undertaken. Nevertheless, it is estimated that 100,000 Ulster volunteers are today serving in the fighting forces and the Merchant Navy. They are to be found not only in the famous home regiments, such as the Royal Ulster Rifles and the Irish Guards, but in almost every regiment. Tank and anti-aircraft units and Young Soldiers' Battalions have been raised in Northern Ireland, while the Air Training Corps units are now over 5,000 strong, and the Home Guard Force numbers well over 30,000 men.—*Bulletins From Britain, Number 85*.



# COAST ARTILLERY IN ACTION



## From the Communiques

*Number 150: March 17*

Our harbor defenses were heavily shelled for several hours by enemy batteries from the Cavite shore. The bombardment caused only slight damage.

*Number 153: March 20*

Among Army personnel who accompanied General MacArthur from the Philippines to Australia was Brigadier General William F. Marquat, Antiaircraft Officer.

*Number 154: March 21*

The harbor defenses of Manila Bay were under extremely heavy shelling from enemy artillery located on the south shore of Manila Bay. Intensive fire from 240mm guns was concentrated on our fortifications. Very little damage of military consequence was inflicted on our installations. Our guns effectively returned the fire.

*Number 155: March 21*

Enemy batteries on the Cavite shore of Manila Bay continued their bombardment of our fortifications. Effective counter-battery fire was laid down by Forts Frank and Hughes.

*Number 156: March 22*

Enemy batteries on the south shore of Manila Bay continue to bombard our harbor defenses, concentrating their fire on Forts Frank and Drum. One shell caused several casualties. Otherwise the enemy fire was ineffective. All of our forts returned the fire.

*Number 158: March 24*

The fortified Island of Corregidor and our positions in Bataan were heavily bombed this morning by fifty-four Japanese heavy bombers of a new type. Damage inflicted on our military installations was of slight consequence. At least three enemy airplanes were shot down by our antiaircraft artillery.

*Number 160: March 25*

Japanese bombers resumed their attacks on the harbor defenses of Manila Bay and on our front lines and rear installations in Bataan. Twenty-seven enemy

bombers and a few smaller planes participated in the attacks.

*Number 162: March 26*

The fortified islands at the entrance to Manila Bay were again subjected to heavy aerial bombardment by the enemy. Fifty-four heavy Japanese bombers participated in the attack which continued for six hours. Most of the bombing was concentrated on Corregidor. Damage to military installations was slight and our troops suffered only a few casualties. Four enemy planes were shot down by our antiaircraft artillery.

*Number 163: March 27*

During the past twenty-four hours enemy bombers made seven successive attacks on Corregidor. On March 26 the fortified island was bombed almost continuously from early morning until midnight. A short lull occurred about sunset. The raids in the afternoon and at night decreased in intensity. Most of the bombs fell in the bay. Those that struck the island did little damage. Our antiaircraft fire is believed to have hit several planes. Early today the aerial attacks on our fortifications were resumed.

*Number 165: March 28*

Corregidor Island was under almost continuous air bombardment during the afternoon of March 27. Our antiaircraft artillery forced enemy bombers to fly at such a high altitude that hostile bombing proved very inaccurate, causing practically no damage to military installations. The enemy attempted night raids, but the Japanese planes were picked up by our searchlights and hastily fled after dropping their bombs in the bay. One heavy enemy bomber was shot down by our antiaircraft fire.

*Number 167: March 29*

Corregidor was under frequent air attacks by hostile bombers throughout March 28. Our antiaircraft fire kept Japanese planes at extremely high altitudes, and as a result the bombing was inaccurate, and caused practically no damage. The guns of our forts fired intermittently at enemy positions on the south shore of Manila Bay. Many small boats assembled by the

Japanese at Patungan Beach were destroyed by our shell fire.

*Number 168: March 30*

Hostile air raids on Corregidor continue day and night, but the number of bombers employed is not large. No serious damage has been inflicted on our installations. An enemy airplane flying at an altitude higher than 27,000 feet was shot down by our anti-aircraft artillery.

*Number 169: March 31*

Both day and night raids on our harbor defenses continue intermittently. Thus far little damage has been inflicted. The day raids yesterday were accompanied by fire from enemy shore batteries in Cavite Province. The guns of our forts returned the fire. A battery firing from Fort Hughes destroyed an enemy launch in Manila Bay.

*Number 170: April 1*

The enemy made a number of minor raids on Corregidor and our rear areas in Bataan during the daylight hours of March 31. Most of these attacks were made by flights of two planes. The 116th air attack on Corregidor was brought to an abrupt end when the two heavy Japanese bombers engaged in the raid were shot down by our anti-aircraft artillery at about 5:00 PM, March 31.

*Number 171: April 1*

There were several harassing enemy air raids on Corregidor which did little damage. During the afternoon these attacks were accompanied by the shelling of our fortifications by enemy batteries on the Cavite shore.

*Number 172: April 2*

Intermittent air attacks on our harbor defenses continued throughout the day and night. Enemy bombers were forced by our anti-aircraft fire to fly at extreme altitudes and consequently the bombing was inaccurate and ineffective. Hostile batteries on the south shore of Manila Bay shelled Corregidor. No damage was inflicted by either the bombing or the shelling. Our forts returned the fire of the enemy batteries.

*Number 173: April 2*

Several hostile air raids were made today on Corregidor, resulting in little damage. Our anti-aircraft artillery shot down three heavy Japanese bombers. A fourth enemy bomber, which apparently had not been hit, blew up in mid-air and fell into Manila Bay. Artillery duels between the guns of our forts and those of Japanese batteries on the south shore of Manila Bay were frequent during the day.

*Number 174: April 3*

There were several light air attacks on our harbor defenses today. These were accompanied by shelling

from enemy batteries on the Cavite shore. Our forts returned the fire.

*Number 175: April 4*

Air raids on Corregidor continue, but the frequency and intensity of the attacks have somewhat diminished. The bombs dropped during the afternoon of April 3 were different than those of previous days. They burst in air with huge flames, some of them exploding high above the island. No damage resulted from these attacks. Our anti-aircraft artillery shot down two heavy Japanese bombers and probably damaged two others.

*Number 176: April 5*

During the past twenty-four hours Corregidor was free from air attacks for the first time since March 24. The guns of our harbor defenses exchanged fire with enemy batteries on the south shore of Manila Bay.

*Number 177: April 6*

One enemy dive-bomber was shot down by our anti-aircraft artillery (on Bataan). Corregidor was again free from hostile air raids, but two enemy dive bombers attacked Fort Frank yesterday morning and Fort Drum yesterday afternoon with light bombs. No damage and no casualties resulted.

*Number 178: April 6*

One enemy plane was shot down by our fire (on Bataan). There was no air attack on Corregidor today.

*Number 179: April 7*

An enemy amphibian plane was destroyed on the water in Manila Bay by the horizontal fire of one of our anti-aircraft batteries. Enemy artillery from the Cavite shore shelled Corregidor and Fort Hughes for two hours on the afternoon of April 6. No damage and no casualties were sustained. The guns of our forts laid down a counter-battery fire on enemy mainland artillery emplacements.

*Number 180: April 7*

There was no air attack on Corregidor today, but all of our harbor defenses were shelled intermittently by artillery located in Cavite province.

*Number 182: April 8*

During the past twenty-four hours there were no air attacks on Corregidor. The guns of our harbor defenses broke up a concentration of enemy barges and small boats in the vicinity of Patungan on the southern shore of Manila Bay.

*Number 184: April 10*

Corregidor was raided frequently throughout April 9 by heavy Japanese bombers. Enemy batteries in Bataan and on the south shore of Manila Bay repeatedly shelled our island forts. No material damage resulted. Our guns did not return the fire of the

enemy artillery in Bataan, because the exact position of our own troops in that area was not known and it was desired to avoid the chance of subjecting them to our own fire.

*Number 185: April 11*

Corregidor and Fort Hughes in Manila Bay were subjected to intensive air attacks during the past twenty-four hours. However our casualties were few and the damage inflicted was slight. Our fortified islands were under intermittent fire from enemy artillery in Bataan and on the south shore of the Bay. There is no communication between our troops in Bataan and those in Corregidor.

*Number 186: April 11*

Our harbor defenses in Manila Bay were repeatedly bombed today by enemy aircraft. Our guns engaged in an artillery duel with enemy batteries on the south shore of Manila Bay.

*Number 187: April 12*

Japanese planes raided Corregidor twelve times during the past twenty-four hours. The attacks were concentrated on the center of the island. Our anti-aircraft fire kept the bombers at a high altitude. As a result, the damage inflicted by the enemy was slight and only a few casualties were sustained by our troops.

*Number 188: April 13*

Fire from Corregidor and the other Manila Bay forts sank a number of small Japanese boats in Mariveles harbor and set fire to several others. There were ten Japanese air raids on Corregidor during the past twenty-four hours, making a total of twenty-two in two days. Our anti-aircraft batteries again kept hostile bombers at a high altitude. Our installations sustained only minor damage. There were some casualties.

*Number 189: April 13*

Our forts were under almost constant fire of enemy artillery on the north and south shores of Manila Bay.

*Number 190: April 14*

Corregidor was raided four times today by flights of heavy Japanese bombers. Our troops sustained some casualties, but only slight damage was inflicted on military installations. Enemy batteries shelled Corregidor and Fort Frank from positions on both sides of Manila Bay. Our guns returned the fire.

*Number 191: April 14*

Intermittent artillery duels between our forts and enemy batteries continue.

*Number 193: April 16*

There were five air raids on Corregidor during April 15. Our anti-aircraft artillery forced the enemy bombers to fly at an altitude too high for effective bombing. There have been 206 air raid alarms at Corregidor since the beginning of the war. Actually, there have

been more raids than alarms, since there have been occasions when the alarm was on for half a day during which four or five air attacks occurred. Since April 9 there have been 65 air raids on the island. Despite the almost constant bombing, the damage to military installations has been relatively slight, and the morale of the troops is unimpaired. Our forts were shelled intermittently during April 15 by enemy batteries on the north and south shores of Manila Bay. Our guns returned the fire, registering hits on troop concentrations and truck columns on Bataan. Ammunition dumps were hit and blown up and enemy casualties are believed to have been numerous.

*Number 194: April 16*

Japanese air attacks on Corregidor are continuing. An enemy bomber was hit by our anti-aircraft fire. It immediately left its formation and when last observed was rapidly losing altitude. Our big guns pounded batteries in Bataan and Cavite, resulting in a noticeable decrease in enemy artillery fire during the past thirty hours.

*Number 196: April 17*

Three enemy batteries, firing on our forts from Cavite and Bataan, were silenced by our artillery fire during the past twenty-four hours. Corregidor and Cavallo Islands were raided five times by enemy bombers, flying in formations of from two to eight planes. One Japanese bomber was hit by our anti-aircraft fire and damaged to such an extent that it is believed to have crashed, though its destruction was not confirmed.

*Number 197: April 18*

Aerial bombardment and shelling of Corregidor by enemy batteries continued throughout April 17, though with somewhat decreased intensity. Little damage was done. Guns from our forts silenced several enemy batteries and blasted roads and bridges in Bataan, disrupting communications.

*Number 199: April 19*

Our flag on Corregidor was a casualty for a few minutes yesterday. Normally the United States flag flies from a 100-foot pole at the highest point on the besieged island fortress. During an intense bombardment from an enemy battery in Bataan a shell fragment struck the pole and cut the halyard. Slowly the flag began its descent. However, before it reached the ground Captain Brewster G. Gallup, of Cornell, California, Technical Sergeant Ezra R. Smith, of Sumner, Illinois, and Honorio Punongbayen, Philippine Islands, rushed up and gathered the colors in their arms. Not content with saving their country's flag from touching the ground the group of soldiers immediately set about repairing the pole and the severed halyard. Amid the bursting shells the repairs were completed and the flag was soon waving proudly and defiantly at the top of the island, proclaiming to friend and foe that Corregidor still stands. As soon as General Wainwright learned of the incident he of-

ficially commended the trio for their gallant service to the colors.

*Number 200: April 20*

On April 19 the enemy opened an intensive artillery bombardment of our island forts from new positions in Cavite and Bataan. Corregidor was severely shelled, while Forts Hughes and Drum also drew considerable fire. Our guns returned the fire, silencing at least three enemy batteries and breaking up three truck and troop concentrations in Bataan. Five bombing raids were made on Corregidor. In addition, enemy light bombers, operating at high altitudes, made several attacks on Corregidor and Fort Hughes. One Japanese bomber was hit by our antiaircraft artillery.

*Number 201: April 20*

Heavy artillery bombardment of Corregidor from 240mm guns of the enemy in Bataan and Cavite, continued all day today. Some casualties and some damage resulted. Hostile air attacks decreased in number and intensity.

*Number 202: April 21*

The heavy artillery fire on our forts lessened somewhat late yesterday. The damage inflicted was not great. Dive bomber attacks were made by the enemy on Forts Hughes and Drum. Most of the bombs dropped harmlessly in the water. No damage or casualties were reported at either fort.

*Number 203: April 21*

National Guard units fighting in Bataan on April 9 were the 192d and the 194th Tank Battalions and the 200th Coast Artillery (AA). . . . The 200th Coast Artillery is from New Mexico. Three officers and 104 enlisted men of the 200th Coast Artillery were evacuated from Bataan and are now at Corregidor.

*Number 204: April 22*

Enemy attacks on our island forts during April 21 were limited to a few dive bomber raids on Forts Hughes and Drum.

*Number 207: April 27*

General MacArthur reports from his headquarters in Australia that the beleaguered fortress of Corregidor in the Philippines has experienced its 250th air raid alarm. Both Corregidor and Fort Hughes, as well as small harbor boats, were attacked by dive bombers. Japanese artillery shelled Corregidor heavily for four hours, from positions in Bataan and the south shore of Manila Bay. Retaliatory fire from our batteries broke up a hostile troop concentration in Bataan and set a truck park on fire.

*Number 209: April 29*

Reports from General MacArthur's headquarters in Australia indicate that Japanese air attacks on Corregidor and the other forts at the entrance to Manila Bay are lessening in intensity. Most of the attacks during the past two days were made with dive bomb-

ers. Our forts were heavily shelled by Japanese batteries located in Cavite and Bataan. Our guns returned the fire, silencing some batteries and breaking up troop concentrations. A medium-sized armed vessel operated by the enemy in Manila Bay was sunk by our guns.

*Number 214: May 4*

General Wainwright's forces defending the island forts at the entrance to Manila Bay were bombarded by enemy artillery for five hours today. Japanese batteries, including many 240mm guns, kept up a continuous shelling of all of our forts, with a particularly intense fire on Corregidor. For the third consecutive day there were thirteen separate air attacks on Corregidor. The Japanese used both light and heavy bombers in their raids.

*Number 215: May 5*

General Wainwright reports that about midnight the enemy assaulted Corregidor and that a landing attack was in progress. Earlier today and prior to the receipt of the above message the President dispatched the following message to General Wainwright:

"During recent weeks, we have been following with growing admiration the day-by-day accounts of your heroic stand against the mounting intensity of bombardment by enemy planes and heavy siege guns. In spite of all the handicaps of complete isolation, lack of food and ammunition you have given the world a shining example of patriotic fortitude and self-sacrifice. The American people ask no finer example of tenacity, resourcefulness, and steadfast courage. The calm determination of your personal leadership in a desperate situation sets a standard of duty for our soldiers throughout the world. In every camp and on every Naval vessel soldiers, sailors, and marines are inspired by the gallant struggle of their comrades in the Philippines. The workmen in our shipyards and munitions plants redouble their efforts because of your example. You and your devoted followers have become the living symbols of our war aims and the guarantee of victory."

*Number 217: May 6*

The War Department has received a message from Corregidor advising that resistance of our troops has been overcome. Fighting has ceased and terms are being arranged covering the capitulation of the island forts in Manila Bay.

*Number 218: May 6*

One of the last messages received from General Wainwright prior to the fall of Corregidor described the fighting on May 5 before the successful landing attack by the Japanese. Enemy artillery, including 240mm guns, firing from many new positions, shelled Corregidor and other island forts throughout the day. Our guns replied with counter-battery fire and shelled truck columns in Bataan. Again, for the

fourth consecutive day, there were thirteen separate air attacks on Corregidor. The artillery and air attacks were a continuation of the operations against the forts which began soon after the fall of Bataan on April 9. They increased in intensity as the Japanese installed heavy batteries on the slopes of Mount Mariveles in Bataan. The defenders were greatly handicapped in their counter-battery fire by lack of aerial observation. Beginning on April 29 the Japanese artillery fire became much heavier and from then until May 5 there was little respite from artil-

lery and air attacks. The artillery fire proved more disastrous than the aerial bombardment. During the last few days there were many casualties among our troops and the damage to military installations was severe. The landing was preceded by a heavy artillery attack on the beach defenses which swept away the barbed wire entanglements, and blasted machine gun installations, and other centers of resistance. The Japanese used a large number of steel barges in the short water trip from the tip of Bataan Peninsula to Corregidor.

## Citations

The *515th Coast Artillery, Antiaircraft, United States Army Forces in the Far East*, is cited for outstanding performance of duty in action. Constituted originally as a provisional unit on December 8, 1941, when hostilities began, it effected its organization, obtained its matériel from depot stocks, and was in position to fire by daylight of December 9, 1941. During the period from December 9, 1941, to January 6, 1941, this regiment defended initially Nichols Field and portions of the city of Manila against heavy aerial attacks, materially reducing the effectiveness of the hostile bombardment. After the evacuation of Manila, this regiment, through skillfully executed displacements, successfully covered the retirement of the ground forces into the Bataan Peninsula. Through technical skill and courage and devotion to duty, the regiment contributed in large measure to the successful execution of the difficult movement that made possible the prolonged defense of Bataan.

(G.O. 14, W.D. 9 March 1942)

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The *200th Coast Artillery, Antiaircraft, United States Army Forces in the Far East*, is cited for outstanding performance of duty in action. From December 8-22, 1941, this regiment defended Clark Field, Pampanga, Philippines, against attack by overwhelming numbers of hostile medium and dive bombers. Although it suffered heavy casualties in personnel, the regiment, through magnificent courage and devotion to duty, continued to display outstanding technical ability and exacted a heavy toll from the attacking forces, thus materially reducing the effectiveness of the hostile attack. When Clark Field was uncovered by the withdrawal of the North Luzon Force, this regiment, displacing to the rear, successfully covered the retirement in Bataan Peninsula, contributing in large measure to the successful execution of the difficult maneuver that made possible the prolonged defense of Bataan.

(G.O. 14, W.D. 9 March 1942)

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The *200th Coast Artillery, Antiaircraft, and the 515th Coast Artillery, Antiaircraft, United States Army*

*Forces in the Far East*, are cited for outstanding performance of duty in action. From January 7 to March 8, 1942, these regiments were constantly in action on the Bataan Peninsula, covering air fields and artillery and rear area installations. Under constant attack by an enemy enjoying unopposed superiority in the air, these regiments, despite heavy losses in men and matériel, maintained a magnificent defense through outstanding technical ability and courage and devotion to duty, contributing in large measure to the successful defense of the Bataan Peninsula.

(G.O. 14, W.D. 9 March 1942)

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The *Harbor Defenses of Manila and Subic Bays, United States Army Forces in the Far East*, are cited for outstanding performance of duty in action during the period from December 29, 1941, to February 28, 1942. Although subjected to terrific bombardment by enemy air echelons and prolonged fire by hostile land batteries, with heavy casualties and major damage to all utilities, this command, through outstanding courage and devotion to duty, maintained its defense at the peak of battle efficiency. Antiaircraft units surpassed all known records of accuracy of fire, taking heavy toll of the attacking hostile planes; seacoast artillery units fired with tremendous effect in support of ground forces on Bataan and on hostile batteries and troop concentrations in Cavite Province; service elements, working day and night without regard to enemy action, repaired and maintained essential installations. Through its magnificent effectiveness of the fortified island and on Bataan, the Harbor Defenses of Manila and Subic Bays wrote a brilliant page in the history of the Coast Artillery Corps.

(G.O. 14, W.D. 9 March 1942)

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The *Harbor Defenses of Manila and Subic Bays and Naval and Marine Corps units serving therein, United States Forces in the Philippines*, are cited for outstanding performance of duty in action, during the period from March 14 to April 9, 1942, inclusive.

Although subjected repeatedly to intense and prolonged artillery bombardment by concealed hostile batteries in Cavite Province and to heavy enemy aerial attacks, during the period above-mentioned, and despite numerous casualties and extensive damage inflicted on defensive installations and utilities, the morale, ingenuity, and combat efficiency of the entire command have remained at the high standard which has impressed fighting men the world over.

On March 15, approximately, 1,000 240mm projectiles were fired at Forts Frank and Drum, and large numbers of lesser caliber projectiles struck Forts Hughes and Mills. Again on March 20, over 400 240mm shells were fired at Fort Frank and a lesser number at Fort Drum, while enemy air echelons made a total of 50 attacks on Fort Mills with heavy aerial bombs.

During the entire period all units maintained their armament at a high degree of efficiency, while seaward defense elements executed effective counter battery action. Antiaircraft batteries firing at extreme ranges exacted a heavy toll of hostile attacking planes, and Naval and Marine units from exposed stations assured the defense of the beaches and approaches to the fortified islands. By unceasing labor and regardless of enemy activity, essential utilities were restored and the striking power of the command maintained unimpaired.

As a result of their splendid combined efforts, ruggedness, and devotion to duty the various units and services comprising the Harbor Defenses of Manila and Subic Bays frustrated a major hostile attempt to reduce the efficiency of the fortified islands.

Units included in above citation: 59th Coast Artillery, 60th Coast Artillery (AA), 91st Coast Artillery (PS), 92d Coast Artillery (PS), Headquarters and Headquarters Battery, Harbor Defense of Manila and Subic Bays, Medical Detachment, Ordnance Detachment, Quartermaster Detachments (American and Philippine Scouts), Finance Detachment, 1st Coast Artillery (PA), (less 2d Battalion), Company A, 803d Engineer Battalion (Aviation) (Separate), detachments DS Army Mine Planter Harrison (American and Philippine Scouts), 4th U. S. Marines, U. S. Navy Inshore Patrol, Manila Bay Area, Naval Force District Headquarters Fort Mills, Naval Forces Mariveles Area Philippine Islands, Battery D, 2d Coast Artillery (PA), 1st Platoon, Battery F, 2d Coast Artillery (AA), (PA), 2d Platoon Battery F, 2d Coast Artillery (AA), (PA).

(G.O. 21, W.D. 30 April 1942)

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As authorized by Executive Order 9075 (sec. II, Bull. 11, W.D. 1942), a citation in the name of the President of the United States, as public evidence of deserved honor and distinction, is awarded to all units of both military and naval forces of the United States and Philippine Governments engaged in the defense of the Philippines since December 7, 1941.

(G.O. 22, 30 April, 1942)

*First Lieutenant Robert F. Augur, Coast Artillery Corps:* awarded the Distinguished Service Cross, April 30 1942. The citation follows:

"During particularly heavy shelling of the island defenses of Manila Bay, several projectiles from enemy artillery landed near Lieutenant Augur's unit. Several men were wounded and a number of fires were started. Voluntarily and without hesitation, Lieutenant Augur dashed from his shelter while the heavy shelling was still in progress. He succeeded in moving the wounded to covered positions and then extinguished the fires. The unselfish courage of this intrepid officer in the face of terrific hazards resulted in saving the lives of several of his men."

(W.D. Communique 213, 4 May 1942)

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*Captain Arthur E. Huff, Corporal Louis A. Roark, Private First Class Roy O. Bailey, and Private Harley H. Leaird, Coast Artillery Corps:* the Silver Star for gallantry in action. Captain Huff and the three enlisted men left shelter near an antiaircraft battery and repaired the halyards of the flagpole on Corregidor, during an attack by enemy dive-bombers.

(W.D. Communique 212, 3 May 1942)

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*Major General George F. Moore, U. S. Army:* The Distinguished Service Cross for extraordinary heroism in action. General Moore displayed "great gallantry in continually visiting the most exposed elements in his command," and "repeatedly passed from one echelon to another during sustained hostile attacks, giving encouragement, directing operations, and by his courage and example inspiring the heroic efforts of his command. The splendid efficiency and dogged determination of this garrison (the Harbor Defenses of Manila and Subic Bays) was largely based on his efficiency, tenacity, and individual courage."

(From AP, Australia, 29 April 1942)

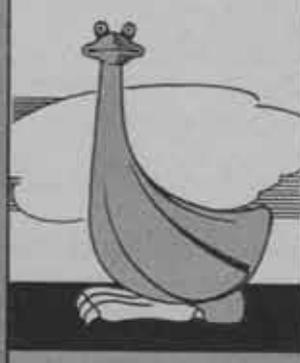
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*Captain Robert F. Campbell, Coast Artillery Corps:* awarded the Soldier's Medal "for heroism displayed in rescuing a soldier from drowning in the Rockaway Inlet, Fort Tilden, New York, on October 11, 1941. During training operations, a member of the organization, fully clothed and carrying all his equipment suddenly slipped and fell through an open section in the Quartermaster dock leading to the boat landing ramp of the dock, into deep water. Upon hearing the splash, Captain Campbell, a bystander, without hesitation or removing any portion of his uniform, jumped into the cold, swift current of the Inlet, and with great difficulty, rescued the man in distress and succeeded in keeping him afloat until help arrived to bring them to safety. The heroism displayed by Captain Campbell on this occasion reflects great credit upon himself and the military service."

(G.O. 20, W.D. 21 April 1942)



# Coast Artillery Activities



## Fort Bliss

BRIGADIER GENERAL JAMES B. CRAWFORD, *Commanding AATC*

*By Lieutenant Colonel Allison F. H. Scott*

Since Christmas Day, when Brigadier General James B. Crawford arrived from Camp Davis intensive training activities have increased in tempo as new regiments and separate organizations have been activated, and their personnel transformed from soldiers with basic training to specialists in all classes of modern AA matériel.

The training is facilitated by being situated in one of the best locations in the United States, with the climate ideal for year around training and the vast stretches of the desert offering unlimited firing facilities, under variable conditions, yet with clear atmosphere. This unusual combination permits field service conditions to prevail on the firing range. As the training of each regiment progresses, the men spend a third of their time on the desert in camp, so that they may concentrate on antiaircraft firing under all service conditions. Firing is from an elevation of 4,000 feet above sea level which plays "fancy tricks" with external ballistics, in the determination of firing data, due to the rapid and frequent changes in meteorological conditions from desert firing points surrounded by lofty mountains, plus extreme sun and wind effects. The mountains also afford opportunity for antitank and ground target firing through the ingenious use of a gravity slide for simulated tank targets. These targets come zig-zagging down dozens of curves and bends of a narrow gauge track to challenge the marksmanship of the batteries in training with automatic weapons, besides affording the gunners many thrills as hits are made. These field maneuvers have developed a very enthusiastic spirit on the part of the men, which is reflected in all of the various activities in which the organizations of the Command take part. To them, World War II has already proved the vital importance of antiaircraft defense on our far-flung battle lines. Our men are working constantly to gain the necessary knowledge and team work for them to become efficient antiaircraft gunners, and take their place on the expanding battle fronts.

Athletics and modern recreational facilities are among

the many features in the continuous development of the healthy bodies of our soldiers, as well as their taking part in such social activities as the closed dances for the various regiments at the AATC Service Club. The ladies of El Paso, through the U. S. O., have been most cooperative in furnishing dancing partners for the men and supervising the dances. Music is furnished by the AATC orchestra and band.

On Army Day, the Antiaircraft Training Center literally took over San Jacinta Plaza, in the heart of downtown El Paso. Demonstrations started immediately after the passing of a streamlined motorized parade. There were concerts by the AATC band, and various details from AA regiments put on interesting drills with the big antiaircraft guns, the automatic weapons, and the searchlights. The public was given every opportunity to see the various types of antiaircraft equipment. At 9:00 p.m., two searchlight batteries placed a ring of searchlights around the city of El Paso. This made a very striking demonstration, which included the formation of a "V" by the crossing of two of the searchlight beams, and then these beams were rotated so that the "V" could be seen from all directions throughout the El Paso area. Army Day will long be remembered by the citizens of this important border town, and our good neighbors across the Rio Grande in Juarez, Mexico.

For Mothers' Day, all members of this command are writing a letter home to mother, inclosing a special edition of the camp newspaper, setting forth in pictures various activities of the organizations and of the men. A Mothers' Day Message was delivered by General Crawford in which he expressed to the mothers of each member of this command, his fondest hope that the pain she feels at being separated from her son on Mothers' Day, is assuaged by the knowledge that her boy is playing his part in preserving this great nation and the democratic principles for which it stands.

Recently, Congress provided for the naturalization of persons who are serving in the armed forces during the

present War. About forty soldiers serving in the AATC who were foreign-born, have presented their petitions for naturalization to the local Inspector in charge of Immigration. Since these soldiers responded to the call of their adopted country before they were citizens, they will be honored by participation in a special program arranged in celebration of *I am an American Day*, to

be held on Sunday evening, May 17, 1942, in Liberty Hall, El Paso. A pageant will be presented during which General Crawford will address these newly made citizen-soldiers, along with other foreign-born nationals, who have been granted citizenship during the past year. This citizenship program will be broadcast by stations KROD and KTSM, over a national hook-up.



## New York-Philadelphia Sector

BRIGADIER GENERAL RALPH E. HAINES, *Commanding*

By Lieutenant W. F. Madison

With spring comes target practice season. Functional firings are being carried out and as this article is written the first service practice in this Sector is being conducted. General Haines has placed particular emphasis upon basic training and gunnery and in preparation for fire this year. Indications are that the many blackouts, alerts and intensive training through the winter have not been wasted. Men on battle alert with muscles and nerves tense, straining their eyes to peer through haze and fog for some sign of enemy activity, have thus far been disappointed and any opportunity to fire is welcome. Since the war began, sinkings off this coast have resulted in troops in this Sector looking forward more than ever before to service firing (even if the target is towed by their own boat). If for no other reason spring and target practice season is more welcome this year than ever.

Although we are engaged in intensive artillery training numerous schools are now being carried out in or near the battery due to the necessity of having the troops close to their battle stations at all times. Schools in chemical defense, camouflage, beach defense, loading and convoy discipline, antitank defense and other subjects which at one time were regimental projects are being conducted by individual organizations in numerous cases.

Mobile forces and Coast Artillery units have augmented the replacement centers by setting up similar organizations within the Sector. These temporary training groups have been found much more efficient for giving basic training to the large group of men who have been sent directly into trained units from the reception

centers. In this way new men do not cause a general lag in the advanced training of each unit and key non-commissioned officers are not diverted from battery duties to give recruit instruction.

In time gone by Coast Artillery was primarily interested in manning its guns, however with the assignment of mobile units for beach protection, training in tactics and movements of mobile forces as well as infantry and engineer functions have become an important part of the activities carried on throughout the Sector.

Practically every post within the Sector has presented all-soldier plays or shows which in many cases have been better received than some professional shows that have been seen. Although New York and Philadelphia are very close to most of the posts and camps and furnish almost anything that could be desired in the way of entertainment increasing interest is being shown in soldier entertainments. The players from Fort Hancock have just returned from a successful tour of several thousand miles throughout the Second Corps Area during which they staged a three-act farce entitled *Room Service*. A new type of soldier entertainment was originated and presented at the site of the alert batteries at Fort Hamilton last month. The show *Six Jerks in a Jeep*, designed to bring fun to men whose duties prevent them from seeing the ordinary camp entertainment, can be carried in a small truck and staged anywhere. The soldier audience helps the soldier entertainers make it a show which may be the reason that it is one of the best types of entertainment yet put out for those men who are on duty at their battle positions—ready for any emergency.





## The Coast Artillery School

BRIGADIER GENERAL LAWRENCE B. WEEKS, *Commandant*

The Coast Artillery School continues to be the Coast Artillery School, although the antiaircraft section has departed to another post. Our last letter mentioned only the transfer of the Officer Candidate School from Fort Monroe to Camp Davis. The reorganization of the army transferred all antiaircraft instruction to Camp Davis, and resulted in the return of the Seacoast instructors of the Officer Candidate School to Fort Monroe.

The entire month of April and a good part of May has seen the gradual departure of the antiaircraft sections from Fort Monroe to the Antiaircraft Artillery School at Davis. The largest part of the move was made by motor; only a few sections traveled by rail.

The Coast Artillery School is now settling down and devoting itself entirely to the teaching of Seacoast Artillery subjects. The School is now in the midst of considerable expansion.

The Coast Artillery Officer Candidate School has already begun its courses. In the opening address, Brigadier General Lawrence B. Weeks, Commandant of the School, stressed that the purpose of the school is to help in the transition of each man from the rank of an enlisted man to that of an officer, as well as to add to his artillery knowledge.

After outlining the operation of the school to the candidates, the Commandant added that they would be under continuous observation, not only through an examination of the academic grades made in the studies, but also from the viewpoint of responsibility, leadership, and character.

"It is necessary that the School know, insofar as possible, whether in addition to fulfilling the academic

standards required, you have the other attributes of character that are requisite for you as officers," said the Commandant.

The curriculum prescribed for the group of officer candidates will cover approximately 400 hours of rigid attendance before commissions as second lieutenants will be granted.

Very soon an increasing number of students will be accommodated until the final goal for the school is reached.

The Department of Enlisted Specialists is at the present time conducting courses as follows: Master Gunners, Electrical, Radio Communication, and Automotive.

At present there is a group of selected officers undergoing instruction in the Battery Officers Course in Seacoast Artillery. When the present group graduates a new group will be ready to take their places.

Captain John T. Kelton an instructor in the Visual Aid Section of the Department of Training Publications left April 9 for Hollywood, California to act as technical director for the production of the training film on Fire Control and Position Finding for Seacoast Artillery. This training film is now being produced by RKO Studios through cooperation of the Research Council of the Academy of Motion Picture Arts and Sciences.

Captain A. W. Adams of the 261st Coast Artillery has been detailed as technical director for the production of the training film on the 12-inch Gun, Barbette Carriage, which is being produced by the Signal Corps Training Film Production Laboratory, in the Harbor Defenses of Delaware Bay.



# PUERTO RICO



# C. A. COMMAND

COLONEL C. THOMAS-STAHLE, *Commanding*

By Lieutenant W. C. Devereaux

In numerous periodicals during the last few years, the Island of Puerto Rico has been brought to the minds of the readers by the statement that it is rapidly becoming the Gibraltar of the New World. To those who are familiar with Puerto Rican history this statement seems to leave out one word and should read, it is rapidly becoming *again* the Gibraltar of the New World. The reason for the addition of this one word, is that not so many years ago Puerto Rico had one of the most formidable defenses in this hemisphere. Those defenses had outlived their usefulness by the turn of the twentieth century due mainly to the increased power of modern weapons and not due to deterioration because of age. Today the wall and forts guarding the city and harbor of San Juan stand as historical evidence of the old Gibraltar of the New World.

It is evident from the fortification alone that the Spaniards considered the City of San Juan and its harbor valuable enough to spend great sums of money for their defense and almost from the start of Spanish control in the Caribbean Sea they began to fortify this territory. At first they constructed a small fort facing into San Juan harbor, known as La Fortaleza. This soon proved too small and they then constructed the larger fortification of El Morro to which the armed forces of Puerto Rico could retire in case of an invasion. As time went on and the population of the City of San

Juan grew, it was proved by the invasion of the Dutch in 1622, that the defenses of San Juan were inadequate to prevent the capture and sack of the city.

In order to improve the defenses it was decided to build a wall completely around the city and at the eastern end of the wall to construct a fort. This fort was known as San Cristobal and construction was started in 1631 but it was not completely finished until 1783 when the Spanish, anticipating an attack by the English, sent the famous Spanish fortification engineer, Captain Thomas O'Daly, to San Juan to improve the defenses.

By the end of the eighteenth century the Spanish had a very complete defense set up around the City of San Juan. The city, itself, was completely surrounded by walls and at the western and the eastern end of the walls there were large forts. Between these two forts and other places of importance within the city ran tunnels that were used for movement of troops during an invasion and also for the storage of ammunition. These tunnels also extended to the outer fortifications some of which were as much as one mile outside of the walls and in case of an invasion, the defenders could put up the initial fight in the outer defenses and when their positions were about to fall they could retire through the tunnels to the inner defenses of the city within the main walls. These tunnels were used for about 100 years before they became unsafe, and then were gradually filled up with debris so the ground above them could be used for additional construction.

San Juan remained a walled city for another century when again due to the increase of the population it was found necessary to expand the city limits, and with great ceremony the part of the wall running from San Cristobal to the harbor was torn down and the completely walled fortification became a thing of the past.

Of all the forts guarding the city, none has the legendary charms of Fort San Cristobal. To call all of the stories connected with San Cristobal legends is not strictly accurate, but as years go by and the stories are retold, it is perhaps best to say that most of them are legends based on true happenings to which romantic parts have been added to increase the interest in the tale.

Probably the most famous of the stories told of this



The haunted sentry box.

old fort, is the one of the "Haunted Sentry Box." The sentry box referred to juts out over the sea in a very lonely spot below the highest part of the fort. Entrance to it was secured from the ammunition tunnels. The legend is that during a dark and stormy night, some 100 years ago, the sentinel assigned to duty in this stern sentry box disappeared without warning and without cause. His uniform was left behind. The sea with its dangerous reefs made escape impossible in that direction, and no one had seen him leave by means of the tunnel. His disappearance must have been due to supernatural causes. This tale soon spread among the troops and the people of the island, and for years it was hard to get any one to man this post. Many of the natives swore that they saw a puff of smoke rise from the box the night of the disappearance and were convinced that some sinister force carried the lost sentry away. Of course the true story probably is that the lost sentry deserted, but to this day it is hard to convince some of the local people that the sentry wasn't taken by the devil or one of his minions.

One of the rooms opening off one of the many tunnels under the fort was used to confine prisoners who had been condemned to death. In this room, about ninety years ago, a Sevillano artillery captain was confined, having been sentenced to death for mutiny. While awaiting "the day," the ambitious artilleryman painted on the walls of his prison cell the likenesses of seven Spanish galleons. A small ventilating shaft at the end of the room provided the only light available for the artist which was sufficient for the purpose only during a few minutes at about sunset. These paintings are well preserved to this day and are quite creditable. Better pictures have been painted in more pleasant surroundings and under better conditions, but it is doubted that a work of art of equal value has been produced under similar circumstances.

The mutiny for which the talented Sevillano captain was confined involved the entire garrison of Fort San Cristobal. A son having been born to the King of Spain, the soldiers requested that one year of their service be remitted. While there must have been some precedent for such a petition, their request was not granted. Whereupon the entire garrison of the fort mutinied, firing on the city until their ammunition was exhausted. The Commanding General foresaw an attempt by the mutineers to replenish their supply of ammunition through the tunnel from the Escambron Polvarin. Accordingly, loyal troops were stationed at the end of the tunnel, where they captured the ammunition detail of the mutineers. Then going back through the tunnel with their prisoners they easily gained access to the fort and quickly quelled the mutiny.



Entrance to San Cristobal.

The last action that occurred around San Cristobal was during the Spanish American War, when Admiral Sampson's fleet was off San Juan and, thinking that the Spanish fleet was in San Juan Harbor, bombarded the port. The first shot in defense of the harbor was fired from San Cristobal and a rather strange story is told about an incident that occurred the night before the bombardment started. It seems that the United States fleet was drawn up off San Juan and were preparing for the bombardment. The Spanish had put some new men on guard duty to watch the action of the fleet from the tops of the walls. Suddenly one of the sentries was surrounded by what seemed a ball of fire. His fright caused him to lose balance and fall to his death over the edge of the wall; there is a vertical drop of about 100 feet. This casualty was the first of that engagement. The science of modern war had overtaken these soldiers for the ball of fire turned out to be a beam from a searchlight from one of the ships of the United States fleet.

Jumping from the past into the present the Coast Artillery troops in Puerto Rico have tackled the task assigned to them since the war started with a zest and a vigor that proves that they are playing for keeps. Even before war was declared all battle positions were manned and guns were dug in. Protection for all personnel has been built up and positions camouflaged. Since positions have been occupied, the principal training has been for perfection of gun drill and speed in manning the guns. To accomplish this end, many tracking missions have been held for both the anti-aircraft and harbor defense batteries. Preparation for target practice for 1942 began before the first of the year and target practices are being held as rapidly as possible.



# Newfoundland

By Major Robert J. Wood

The Coast Artillery units of the Newfoundland Base Command have now weathered their second "Newfie" winter. They have learned much about taking care of themselves while manning their armament twenty-four hours a day regardless of rain, hail, snow, or dark of night. Though enemy ships are not upon the horizon, or enemy aircraft in the sky, it cannot be said that the welcome prepared for them is any the less ready for delivery.

Newfoundland was the first of the off-shore bases to be garrisoned by American troops. Coast Artillery units, composed of picked details, were in that first contingent aboard an *U.S.A.T.*, and they have been here ever since that day in January, 1941, when they first stepped ashore.

There were reasons for selecting Newfoundland as the first locality to receive troops. This is a strategic island. It is the stopper to a bottle whose neck is the St. Lawrence waterway and whose base rests in the Great Lakes. An enemy force occupying Newfoundland would have a jumping off place to Canada and the Midwest. In our hands, it becomes a way-station on the convoy and ferry routes to Britain, a position for offense or defense, a strong outpost of North American hemispheric protection.

This island has many other "firsts" of which to be proud. It was England's first colony and the birthplace of the British Empire. John Cabot, in the little ship *Matthew*, sighted it as his first land in the New World, and came ashore on June 24, 1497 to name the spot St.

John's after the disciple whose feast day that was. Cyrus Field landed the first transoceanic cable in Trinity Bay, and Marconi, on what was thereafter to be called Signal Hill, near St. John's harbor, heard the first transoceanic wireless telegraph. This same hill was the last sight of land for Alcock and Brown as they made their pioneer trans-Atlantic airplane flight in 1919.

Newfoundland, with its 42,000 square miles of lakes, rivers, forests, and barren table lands, is one of the largest islands in the world. The high cliff shores form a tortuous coastline, rising from the sea in some places to a height of two thousand feet, and reminding many visitors of the fjords of Norway.

Some 1,100 miles from New York and about 2,000 to England proper, Newfoundland lies close to the sea lanes formerly travelled by the great liners. In peaceful days, the international ice patrol, organized after the *Titanic* went down not far from these shores, worked out of her harbors, warning shipping of the great icebergs which the Labrador current brings down the northern coast.

Despite her position, or perhaps because of it, Newfoundland has never been too well-known in the United States. Some sportsmen knew the country and valued it for its trout and salmon fishing, its partridge, caribou, moose and black bear hunting.

Most uninformed people consider the island a part of Canada. This has never been true. The first Governor of Newfoundland was appointed in 1729, representative government was granted in 1832, and re-



The Labrador current brings icebergs in the spring.

—Signal Corps photo



Street scene in St. Johns.

—Signal Corps photo

sponsible government in 1855. The island, with the nearby coast of Labrador included, formed the separate Dominion of Newfoundland until 1934. In that year, depression, as it did to many countries the world over, came to Newfoundland. Debts mounted, until it seemed to the local people, numbering a bare 300,000 for the entire island, that the only solution was to return to the mother country. So Newfoundland again became a colony, though with a certain measure of self-rule. A "Commission of Government" was established, consisting of six appointees of the Crown, (three from England, and three from Newfoundland). The executive power, comparable to that of the King-Emperor, whose representative he is, is wielded by a Royal Governor.

Newfoundland's economy is essentially fishing, the greatest cod grounds in the world being adjacent to her shores. Herring, salmon, haddock, halibut, turbot, squid, smelts, mackerel, tuna, swordfish, and trout round out the valuable fish of her waters. Hair seals and whales are also caught, off her Northern shores.

Pulp mills, producing newsprint, are a secondary activity in Newfoundland, but one which has grown tremendously in recent years—from zero to a production of 1,130 tons of newsprint daily.

There is some mining, iron and lead, zinc, and copper concentrates and some gold, but the ores are low-grade compared to other world deposits, and the distance from smelting facilities makes extensive mining unprofitable.

The people of Newfoundland are hospitable and friendly. The military forces, particularly those stationed in the vicinity of St. John's have not lacked female companionship. The usual ratio of two girls to one man has been increased by the departure of Newfound-

landers for service overseas to something over three to one. This seems to have some appeal to the U. S. soldier.

The natives are almost all of British descent . . . English, Irish or Scotch, with here and there a slight strain of Dutch and French. Like the British, they exhibit definite idiosyncracies in spelling and pronunciation (from the American viewpoint, of course!). It is harbour, favour, labour, armour, etc. In the United States, it is New-fun-land, in Canada, it is New-found-lun, to the American troops here, it is New-fie-land, but to the natives it is definitely New-fun-land'. Oh well, so be it.

The District Engineer, in charge of construction, is keeping a tremendous number of workmen, both American and native, busy at the new Army stations in Newfoundland. The construction is characterized as "semi-permanent," but it seems permanent enough to last for the major part of the 99-year lease, now reduced to 98 years. Barracks are built on concrete foundations and finished in asbestos shingles. Quarters are of similar construction, all buildings being characterized by the flat roofs, straight lines, and considerable window space of modern building. Heating and cooking are by modern oil furnaces and stoves.

The new posts will be self-contained. In addition to barracks and quarters, there will be motor shops, garages, hospitals, post exchanges, theaters, etc. All are beautifully located from a scenic viewpoint and when the piping days of peace come again, Newfoundland may be a popular detail.

Coast Artillery troops have had their armament in readiness for immediate fire since December 7, 1941, and have demonstrated their ability in this respect on several occasions. The rocky country, the variations in temperature, the constant moisture and the frequent winds, fog and snow, have created problems in living, in camouflage, and in maintenance of morale which only the initiative and resourcefulness of the U. S. Army



Fishermen's shacks on the Newfoundland coast.

—Signal Corps photo

could solve. Problems have been overcome however, morale is high, living comfortable, camouflage excellent.

Training schedules, as such, are a thing of the past in Newfoundland. This garrison is at the ready, trigger fingers itchy, competition keen to be the first to destroy an enemy vessel or bomber.

Time-off has not been extensive since war was declared. However, the Red Cross has been generous with recreational equipment, every unit has a day room, and mess sergeants vie with one another in the competition for the best mess in the island.

The U.S.O. has also constructed a beautiful building in St. John's which is a gathering place for troops off duty. Our allies have enlisted men's clubs—the Caribou Hut, the Red Triangle, the Knights of Columbus Hostel, and the Terra Nova Club which also pro-

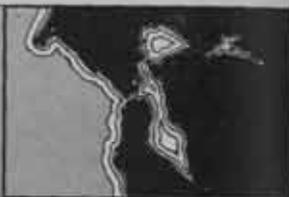
vide facilities, but the U.S.O. Club with its American soda fountain, its bowling alleys, its game rooms, its restaurant (where the *piece de resistance* is always steak) and its adequate ballroom where dances are held weekly, is the popular place.

The U.S.O. Camp Shows make trips to Newfoundland about once a month. In addition to their regular shows in post and station theaters, these shows made a great hit with the Coast Artillerymen at isolated outposts by going to those outposts and giving special performances for the men who couldn't get away to attend the regular performances.

So, spirits are high in Newfoundland, and everyone is waiting impatiently for the day when the garrison can demonstrate its efficiency in actual combat against the Axis.



## Ninth Coast Artillery District



MAJOR GENERAL WALTER K. WILSON, *Commanding*

The seaward watch along the Pacific Coast has not been relaxed but as the season advances the steady increase in training activities is unmistakably evident in all of the harbor defenses. Groups of recruits work out daily on the parades while novice gun crews, working in shifts, keep the training batteries alive with activity.

The District Plans and Training Officer has completed the intricate paper shuffle on target practice ammunition, and soon the rumble of big guns will be heard from Victoria to Tia Juana in rehearsal for a more serious concert should one be called for.

Major General Walter K. Wilson has returned to command the Ninth District and in addition, is commanding the Northern California Sector. The District Headquarters lost many of its experienced noncommissioned staff to the Officer Candidate School so office work must now be done over open school books and regulations with the zest of friendly but serious competition for the desirable ratings now vacant.

The Harbor Defenses of Puget Sound is stressing artillery training in preparation for target practices. Gunners' Instruction and marksmanship courses are almost completed.

Army Day was observed by a display of armed forces in nearby Port Townsend. Troops, both foot and motorized, paraded past the largest crowd Port Townsend has mustered in years. A Chamber of Commerce luncheon

and an evening band concert at the new USO Club further feted the Army.

The subpost near Port Angeles has been officially christened. It is now "Camp Angeles."

Major General, the Honorable W. A. Griesbach of the Canadian Army, was a visitor in the Harbor Defenses recently. Another Canadian officer, Captain J. H. O'Keefe, Royal Canadian Artillery, is assigned to the Harbor Defenses as Liaison Officer.

Fort Flagler men are jubilant over the approval and start of work on the project to remodel the old hospital into a Hostess House.

The Harbor Defenses of The Columbia—located in the Webfoot country—carries on its war mission with ever increasing vigor as the target practice season draws near. Since Pearl Harbor this Harbor Defense has been busily engaged in field fortifications, camouflage, and maintaining a high state of combat efficiency, and at the same time carrying on a full program of instructions covering the War Department Orientation Course, and the numerous information bulletins concerning enemy activity and operations.

The morale front is being reinforced by concerts, camp shows, and an occasional dance for the men in our new armory.

Coached by Major Philip I. Baker, Post Adjutant, the Post basketball team turned in a stellar performance for the season by winning the Pacific Coast Service Cham-

pionship, winning 13 of the 18 scheduled games.

Another USO unit was recently opened in Hammond, Oregon, which, with the units located in Astoria and Seaside, provides many pleasurable hours for the men stationed here. A new USO building is being built in Astoria which will compare with the best when it is completed in June.

Though no enemy fire has penetrated the Harbor Defenses of San Francisco and the waters have not brought the foe to these shores, all through these defenses there is offensive action.

Day and night a constant vigil is kept from every observing station and gun battery to warn of any suspicious action on land, sea or in the air. It is the firm determination of every man in these defenses, regardless of personal sacrifice, to allow **NO ENEMY SHIPS TO PASS THROUGH THE GOLDEN GATE.**

Rigid requirements keep the men at high working efficiency, yet there are moments of relaxation. Basketball, baseball, volleyball and bowling are chief sport interests and tournaments are conducted in all sports. The theatres on the post present the latest motion picture entertainment and special vaudeville and concert shows are put on periodically. A Red Cross truck visits far flung gun emplacements delivering cookies and excellent entertainment about once a week. Religion plays an important part in the soldier's life and conveniently located Chapels bring solace and encouragement to many. Dances are held at the various posts as often during the month as possible.

During these days letter writing becomes very important, not only to the soldier but to the folks back home. The new "Free" plan of the War Department has done much to increase the morale of the home people by inducing the soldiers to write more often.

The *Golden Gate Guardian* is the official publication of these defenses and is edited and published by soldier personnel. Local, national and international news items are presented in the newspaper besides special human interest stories and inter-battery news and pictures. Every man in the Harbor Defenses of San Francisco and associated camps receives this publication twice a month and many copies reach the homes of these men.

Firing practices take place frequently and a constant rivalry exists between all units to score the greatest number of hits. These defenses are a maze of tunnels, trenches and dugouts. For months these men have been digging themselves in and in many instances the spacious results underground are as comfortable and neat as those of barracks. Perhaps the most remarkable feature of all this, is that men, who come from so many diversified walks of life and occupations, can adapt

themselves in such a short time to realities and intelligently group themselves together as an efficient, effective fighting unit.

The Oozlefinch, legendary mascot of the Coast Artillery Corps, became the subject of an editorial controversy between Fort Rosecrans, of the Harbor Defenses of San Diego, and Camp Callan recently. The battle, centering around the sex of the Oozlefinch extended into weeks and gained nation-wide interest when John Kieran, of *Information Please* fame, gave a dissertation on Oozlefinchology that aided in the peace pact. Both sides claimed a victory. The battle subsided after the *Cannon Report* disclosed that the Oozlefinch was sexless.

A portrait photograph file of Army personnel was proposed by *The Cannon Report's* columnist, Oozlefinch. Two principal values were claimed for the system. First, relatives of casualties could be furnished good likenesses. Second, civilian morale could be aided by publication of attractive portrait photographs of active personnel.

To illustrate the first need, Oozlefinch quoted a letter from the mother of Jack B. Sniff, USMC, who died in action at Pearl Harbor. The letter, published in a daily newspaper, contained a public plea for any snapshot or other photograph of her son.

The benefit to civilian morale of a good photograph was demonstrated by the widespread publication of one of Captain Colin Kelly, according to Oozlefinch. Of the scores of soldiers who have performed great acts of bravery during the past months, Captain Kelly is one of the best known, most worshipped, because someone possessed an appealing picture of him.

A Horatio-Alger-like story of messenger-boy-to-officer was acted out in real life at Fort Rosecrans, California, recently with Horace F. Juliana, now Lieutenant Juliana, the leading character.

Juliana was one of the rare individuals who was a private in the army and a second lieutenant in the cavalry reserve. As there were no vacancies in the cavalry reserve, however, Juliana kept on being a private. The story had a happy ending for Private Juliana when his orders came recently to report to Fort MacArthur as a second lieutenant.

Colonel P. H. Ottosen, Fort Rosecrans Commanding Officer, tossed the first ball over the plate on April 11th to open officially the soft ball season on the post. Soft ball is the most extensive part of the recreational activity here, and the opening of the season was glorified by the spirited playing of the Regimental Band and the appearance of the Commanding Officer and many other post officers at the game.



# Camp Stewart



BRIGADIER GENERAL EARL H. METZGER, *Commanding AATC*

*By Lieutenant Walter H. Dustmann, Jr.*

Antiaircraft training of new units which have been activated at Camp Stewart is being intensified under the supervision of Brigadier General Earl H. Metzger, recently assigned Commanding General of this vast Antiaircraft Training Center.

General Metzger has geared the post to a smooth working training program and the antiaircraft training of all units is progressing at high speed.

Camp Stewart's training program is divided into two major departments: antiaircraft and antimechanized firing, and centralized troop schools, where select groups from each unit learn the fine points of the technical, tactical and administrative sides of AA work.

The post's four huge antiaircraft ranges are in continuous use these days as unit after unit takes its place behind the AA guns and blazes away at towed targets. Planes are loaned.

One battery in recent practices with the 37mm antiaircraft gun, using central control, tore a towed target to shreds in 250 rounds of firing. Less than half of the target remained. In this portion fifteen holes were counted.

At night, numbers of antiaircraft searchlights stab the south Georgia sky in long practice sessions.

These searchlights, forming a fantastic canopy of criss-crossing "safety" that can be seen from miles around, are encouraging beacons to the citizens of Georgia, showing that Camp Stewart is forging ahead in its mission of preparing troops to defend them and their fellow citizens everywhere against attack by air.

Antimechanized firing with automatic weapons on

the new antitank range is the latest type of firing to engage Stewart antiaircraftsmen. Protracted sessions at hitting towed ground targets are making the soldiers as proficient at hitting vehicles on the ground as planes in the air.

All antiaircraft firing at present is preliminary and record firing for analysis and scoring of the batteries engaged will begin shortly.

A record target practice section has been organized to take over computation analysis and preparation of reports. Moving pictures of the targets and bursts form the basis of the reports. This will relieve battery commanders of the work and free them for full time activity with their gun and range sections.

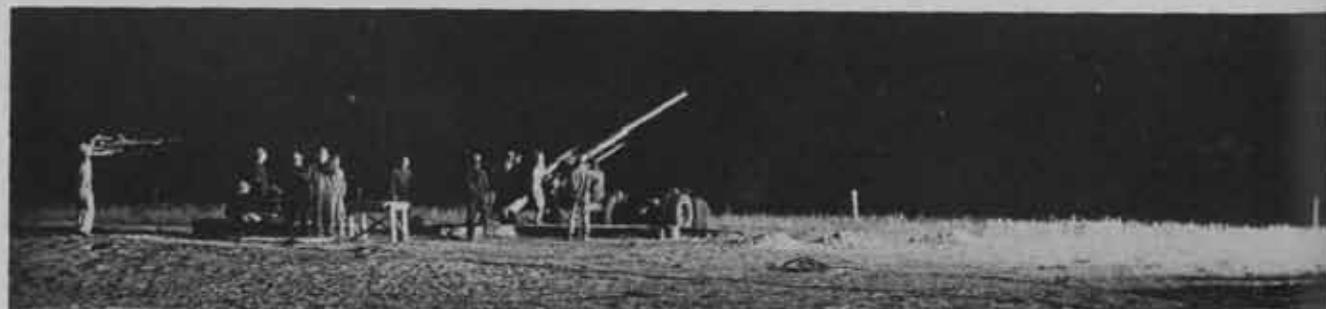
The classes in the centralized troop schools, which are utilizing a total of ten buildings, also are going apace. They are divided into two groups, officers' schools and enlisted men's schools. The enlisted men's schools have a special class of instruction for officer candidates in mathematics and AA gunnery.

Major course of instruction for officers at present is antiaircraft gunnery (automatic weapons).

Enlisted men's courses include motor maintenance, radio, wire communications and master gunnery. The men are placed on Class A special duty for the duration of the course so that they can devote their entire time to instruction. Courses run from four weeks to ten weeks.

Classes are held daily from 8 AM to 4:30 PM with study hall each night from 6:30 to 8:30.

Supplementary courses of instruction are being



Night practice at Camp Stewart. The light is from the flash of another gun.

handled through the individual units in various phases of AA training, such as concealment and camouflage, road marches and field fortifications.

Despite the rigorous training activity and the seriousness of purpose that imbues Camp Stewart's antiaircraft troops, the necessary recreational side of a soldier's life is not being neglected.

Notable recreational achievements of the past two months have been the formal opening of the Indoor Sports Arena, with four basketball courts and complete gymnasium facilities; and the construction of a huge outdoor playground at the Post Service Club, with shuffleboard, horseshoe pitching, deck tennis and darts courts.

A colorful military ball attended by approximately 2,000 enlisted men, with a grand march led by General Metzger and Miss Helen Bruce, Senior Hostess, hailed the opening of the Sports Arena. Antiaircraft searchlights at the entrance gave the gala night a Hollywood premiere touch and some 500 young ladies were imported from Savannah, Brunswick, Hinesville and other neighboring Georgia communities for the occasion.

The open air playground was laid out entirely by volunteer soldier workers from all units at the camp, working to the tunes of a composite military band drummed up for the occasion. Free refreshments were furnished the workers by the post and the entire program was sparked by a picnic spirit.

A group of the dramatically inclined soldiers devoted their spare time to the production of an all-soldier musical comedy in April which proved a huge success. Approximately eighty men and a girl took part in *The General's Daughter*, which ran for four nights at one of the Post Theaters. Written and produced entirely by the soldiers of Camp Stewart, under Private Jack Friend Noble, script writer and director, and the Post Special Services Branch, the play had eight original songs and a "one-ton p(h)ony" ballet of twelve six-foot soldiers that literally brought the house down. A group of singers from the Camp Stewart Colored Service Detachment also won warm praise.

Camp Stewart enlisted men who had been lawyers in civil life and wanted to keep in touch with their profession also banded together and organized the Post Legal Aid Clinic, which holds regular discussion groups and

performs a real service by advising soldiers on their legal problems. Numerous requests for legal advice have come in to the lawyer group and it is finding its off-duty hours well filled by dishing out free counsel.

The camp has been keeping in close touch with the communities around it and has sent several units to participate in civilian observances. On Army Day in April antiaircraft troops were sent to cities in three states. One unit went to Daytona Beach, Florida, another went to Savannah, Georgia, and a separate battalion to Charleston, South Carolina. The troops took part in the local Army Day parades, gave demonstrations to the public of antiaircraft weapons and equipment and were feted at civilian dances.

In Savannah's Memorial Day parade on April 26, more than a thousand men from two Stewart units participated.

One of the outstanding activities of the post in the past few weeks has been the start of the sale of War Bonds to the soldiers. A complete War Bond organization has been set up and sale of the bonds is progressing. Each unit has named a War Bond officer to expedite sale of the stamps and bonds. The response of the soldiers has been enthusiastic and a nearly one hundred per cent participation is indicated as the drive gets under way.

Softball and volleyball teams are being organized in many regiments and battalions as the spring season progresses; and the balmy week-ends have seen convoys of troops going to the recreational areas at nearby Savannah and Brunswick, both of which have excellent beach and other sport facilities.

Training of civilian employes on the post has not been overlooked and in the past month they were given demonstrations in the handling of incendiary bombs and also instructed in the fine art of using the gas mask. It is planned to put all of them through the Post Gas Chamber, too, in the near future.

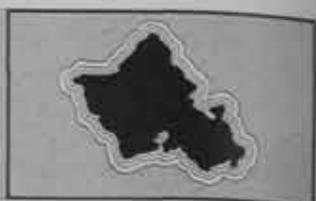
The latter part of April saw the start of a great transformation in Camp Stewart, a change from a huge tent city to an equally huge hutment city. Workmen began tearing down the tents which have served units in training here for the past year and a half and replaced them with neat and compact hutments. The tremendous conversion job, under the Camp Stewart Area Engineer, is expected to be completed within a few weeks.



Every purpose is established by counsel: and with good advice make war.—*Proverbs 21: 18.*



# Hawaii



MAJOR GENERAL HENRY T. BURGIN, *Artillery Commander*

*By Lieutenant Colonel D. D. Martin*

Many stories of the Jap blitz of December 7 on Pearl Harbor, Hickam Field, Wheeler Field, and the Kaneohe Naval Air Station have been told over and over again. Additional information would be difficult to obtain and a review of the events of that fateful Sunday morning would only be an attempt to present the details in a different way.

Certain facts were evident and manifest on blitz day. The first wave of bombers attacked at approximately 7:50 AM. The second attack came at approximately 9:00 AM. The third attack was launched at 10:50 AM. Several Jap planes of the first attack were taken under fire by Coast Artillerymen, using machine guns and automatic rifles. Antiaircraft Artillery went into action during the second and third attacks and at least seven Jap planes were shot down by men of the Hawaiian Coast Artillery Command.

Acts of heroism and gallantry by men of the armed and naval forces were numerous. Unless one has been under fire of a ruthless and vicious enemy, it is difficult to project yourself into the mental and physical frame of mind that was so real on the big day.

For instance, a driver and six men stationed several miles away were ordered to drive a truck to their base for supplies. About one mile from Camp, near the outpost guard station, the truck was attacked by enemy planes. The driver and men took cover under the truck

and returned the fire. The truck was hit several times. Four rear tires were ruined and the gas tank punctured, but the men brought the truck in and after hasty, temporary repairs, returned to their post.

A civilian employee, Captain Jack Barros, at one of the Coast Artillery posts was employed as master of the *Crosby*, a tug, used to transport troops, guns and ammunition across Pearl Channel. Captain Barros made six trips and on one crossing he was machine gunned by a diving enemy fighter plane. Although at all times in danger of strafing and bombing, he acted in a cool, calm, and efficient manner.

In view of the circumstances that Captain Barros is a seaman with no military experience, and as such not obliged to fight as a civilian employee, it is believed he acted in a manner far beyond the call of duty. For his gallantry, Captain Barros has been recommended for citation by the American Legion of Hawaii.

North from Pearl Harbor stretches the Ewa Plain where Schofield Barracks, home of Hawaiian Infantry, and Wheeler Field, home of pursuit aviation are located. Second Lieutenant Stephen G. Saltzman, and Staff Sergeant Lowell V. Klatt, both men from an AA regiment protecting Wheeler, have been cited for gallantry in action and are entitled to wear the Silver Star decoration. The citations read that Lieutenant Saltzman and Sergeant Klatt voluntarily and on their own initiative with disregard for their own safety, left the shelter of the Command Post in the face of heavy fire from two enemy airplanes. They coolly waited in an exposed position until one of the enemy airplanes approached within about one hundred yards range and then delivered aimed automatic-rifle fire on one of the two enemy airplanes, the combined fire causing it to crash and resulting in the destruction of the airplane and its crew. The cool determination and disregard for their own safety displayed by Lieutenant Saltzman and Sergeant Klatt is an inspiration to the members of their regiment.

The following named enlisted men having been wounded while performing meritorious acts of essential service during the Japanese air attack on the Island of Oahu, Territory of Hawaii, 7 December 1941, are awarded the Purple Heart:

Boventura, Joseph A., 15019524, Corporal. Residence at enlistment: 128 Sixteenth St., Wheeling, West Virginia.

Boyer, Paul R., 7022177, Private. Residence at enlistment: 311 Avenue "I," Weirton, West Virginia. (Pri-



Mrs. Miriam Hopp reads one of the citations honoring Privates Herbert McDonnell and Edward Campbell, and Corporal Joseph A. Boventura with the order of the Purple Heart. Private Campbell was the only survivor of a group of six men struck by a Japanese plane, which crashed at Fort Kamehameha, their home fort.

—Photo: Henry Slicer, Jr.

vate Boyer is now a patient at Letterman General Hospital.)

Campbell, Edward J., 12006221, Private. Residence at enlistment: 181 Powell St., Brooklyn, New York.

McDonnell, Herbert F., 34076710, Private. Residence at enlistment: 5843 Catierea St., New Orleans, Louisiana.

Reiter, Matthew P., 13013159, Private. Residence at enlistment: 402 Kingsboro St., Pittsburgh, Pennsylvania.

First Lieutenant William Grover Sylvester was killed

at Hickam Field when a bomb struck the car which he was driving. The exact time cannot be established, but it is definitely known he left Hickam Field gate at 8:00 AM. Lieutenant Sylvester had driven but a short distance and the time element could not have been more than two or three minutes when the bomb struck his car. It is reasonable to believe this happened not earlier than three minutes and not more than six minutes past 8:00 AM. Based on this assumption, Lieutenant Sylvester was the first Coast Artilleryman and probably the first American officer killed in World War II.



## Fort Eustis

BRIGADIER GENERAL FORREST E. WILLIFORD, *Commanding*

*By Lieutenant John O. Looney*



Formerly a Coast Artillery Replacement Training Center, this post was redesignated as an Antiaircraft Replacement Training Center on March 9th. The same accelerated training program that has prevailed here since the outbreak of war has continued without interruption even though some of the batteries were reorganized to do away with the heavier artillery in favor of antiaircraft weapons.

One of the highlights of this period was a three-week school in Chemical Warfare given by officers of the Chemical Warfare Service. This school was the largest of its kind for commissioned and noncommissioned officers in the Third Corps Area, and one of the largest and best equipped in the entire country.

There were fifty-five separate periods of one hour each in this school. Each period was devoted either to demonstrations in the field, illustrated and non-illustrated lectures, or to regular practice drills. Eleven different subjects were covered during this time, which gave the students a good general knowledge of Chemical Warfare work. The emphasis, however, was laid on defense against chemical attacks.

Approximately 300 slides showing actual munitions, operations, weapons, and other illustrations of the use of chemical agents, were used in the course.

In these slides was shown a complete story of the German incendiary bomb. From the time these bombs are loaded on the planes they were traced by the slides,

showing how they are transported, released from the planes, how they ignite, and the damage to the objective after it has been hit and set afire.

Actual treatments for victims of all kinds of gases were demonstrated. The medical supplies that are needed in such cases were used in the demonstrations. All lectures were illustrated with maps, pictures, and other equipment. One of the things stressed was a series of photographs on what to do and not to do in the presence of gas, and on the care of gas masks.

A total of fifty-five commissioned and eighty-three noncommissioned officers were awarded their diplomas at the close of the school. Approximately twenty-four other men who failed to complete the course due to being sent on detached service will be allowed to take their final examinations later and receive their diplomas.

Major Herbert C. Roberts, of the Chemical Warfare Service, was highly pleased with the results of the school. Due to the work of these men and those who graduated from previous schools, enlisted men who are trained at this Post receive at least sixteen times as much training in defense against gas attacks as the boys did back during 1917 and 1918, Major Roberts said.

A series of three lectures on *Protection Against Chemical Attacks* was also given for the benefit of the entire personnel of the fort. In conjunction with these lectures the personnel, including doctors and nurses, were taken through the gas chamber in order to test their masks.



The nurse seems unhappy to leave the gas chamber.

Then several bombs containing light concentrations of various forms of poisonous gases were burst so that the personnel could get a good idea of what the odors of these gases were. In the gas chamber chlorocetaphenone (tear gas to you) was used. It is the most penetrating of the gases and gives the mask a more thorough test.

Army Day was a big day at this post. Open house was held and several thousand visitors from nearby towns and communities attended the celebration which began with a wide variety of exhibits in the morning and wound up with a review of troops by Brigadier General Forrest E. Williford, that afternoon. Major General A. H. Sunderland, U.S.A. (Retired) of Hampton, Va., joined General Williford on the Reviewing Stand.

Standard barracks, recreation halls, and mess halls were open to visitors to give them a general idea how the men live—the kind of food they are served and the sort of recreational facilities that they have access to during their leisure hours.

A number of tents were put up to demonstrate the manner in which a soldier lives while in the field, and a small arms exhibit showed how the soldier is equipped for personal combat.

Searchlights and AA equipment were other features of the exhibit. The new type army gasoline field range was on display, as well as interesting exhibits by the Medical Detachment, Chemical Warfare Service, and many others.

Seventy-five men from Fort Eustis were sent out recently for training as aviation cadets (air crew). This was the largest single group to be sent from here since Fort Eustis was activated a little more than a year ago.

For the first time an athletic team representing Fort Eustis competed in a match with an outfit from another post when the Langley Field ping-pong team invaded this post for a match in Service Club No. 1. The airmen, who had shut out Fort Monroe the previous week and hadn't lost a match in this section, were rated a big favorite to trounce the new and inexperienced Fort Eustis club.

After dropping the first two singles matches decisively, the local lads rallied magnificently to take the next three singles matches and one of the two doubles encounters to clinch the team match by a score of four to three. The Langley Field team, taken back by this loss, challenged the Fort Eustis men to a return match and the two aggregations will meet again on the former's home grounds in the near future. Other requests for matches have been pouring into the Post Athletic Office and the local ping-pong men expect to have their hands full during the coming weeks.

The enlisted men have been going in for softball in a big way. At present there is an average of 5,000 or more men participating in the game three afternoons a week. The Post Athletic Department is making plans for numerous leagues to be formed, with winners of each to meet at the end of the summer in an elimination tournament for the post title.



**Buy War Bonds and Stamps!**

Camp



Haan

BRIGADIER GENERAL R. TOWNSEND, *Commanding AATC*

*By Lieutenant Guy M. Sheridan*

Brigadier General James R. Townsend arrived at Camp Haan shortly after the middle of April to take command of the recently reactivated Antiaircraft Artillery Training Center. General Townsend came to Camp Haan from Washington, D. C., where he was serving on the general staff.

The AAATC was reactivated on February 24, 1942, after having suspended operations on December 20, 1941. The reactivation was effected under the command of Colonel John H. Lindt, CAC, who came to

Camp Haan after three years in Hawaii. He was stationed there during the attack on Pearl Harbor.

Helpful in antiaircraft training, as well as in the training of other troops, is Camp Haan's proximity to air fields and factories, which enables the men to learn identification of their own planes for future combat service.

Former units trained at Camp Haan received special commendation from Lieutenant General John L. DeWitt, commanding general of the Western Defense



Command and Fourth Army, for alertness and quick response to orders during recent blackouts in Southern California.

The antiaircraft artillery firing range is located on the Mojave desert. It was not idle even during the period in which Camp Haan was not an antiaircraft artillery training center. The climatic conditions of the desert, even during the winter, have proved to be excellent for the towing of targets, and also, of course, for firing and tracking. The range there is particularly good because of the opportunity for a full 360-degree traverse without any possibility of injury to persons or damage to property.

Camp Haan recently was the scene of three major network broadcasts. Bob Hope, Bob Crosby and Horace Heidt have all broadcast their shows from the War Department theater—which now boasts a permanent radio control booth next to the stage. Other stars appearing at Camp Haan were George Burns and Gracie Allen; Red Skelton, Hoagy Carmichael, Skinny Ennis, Harpo Marx, Robert Armbruster and Jack Benny and troupe.

The rifle range at Camp Haan is completed. With its sixty-four targets, it is in full use by units stationed not

only at Camp Haan but within a twenty-five mile radius. The range was designed by Lieutenant Colonel Paul B. Nelson, recently promoted from major.

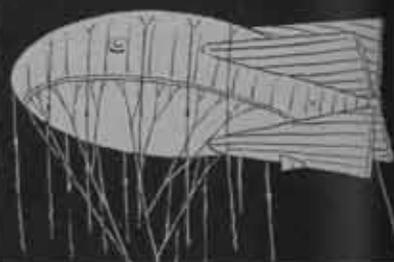
The camp has undergone a gutter and curbing project. Black-top sidewalks have been installed around the headquarters area. The camp also is undergoing an extensive beauty treatment—thanks to nearby nurserymen. Coulter pines, fan palms, Monterey pines, incense cedar and rose bushes are only a few of the flora which have been, or are being planted. Donations have resulted in a planting program involving approximately 10,000 trees and hundreds of plants and shrubs.

The prize pet at Camp Haan is a mechanical cow which gives gasoline instead of milk. It came into being to solve a problem—that of speedily refueling trucks on the long grind to the Mojave firing range. Ordinarily it took five hours to gas 140 trucks. The cow can refuel eight trucks in 27 seconds from its twelve spigots.

It consists of a long pipe with twelve branching pipes, a gas-driven pump and an air eliminator pump. The long pipe is built in sections and can be transported with its pumps in a two-and-one-half ton truck, to the refueling point.



## Camp Tyson



BRIGADIER GENERAL JOHN B. MAYNARD, *Commanding  
Barrage Balloon Training Center*

With the advent of good weather and the progress with the beautification and sodding project, Camp Tyson is gradually emerging from the mud and assuming the appearance of a permanent camp.

The Barrage Balloon Training Center is in full stride with its training program. The Barrage Balloon Board and the Barrage Balloon School with its School Detachment are the permanent installations. There is also a Barrage Balloon demonstration battalion on the post.

Several new battalions are now undergoing training. Each battalion has its full complement of officers and enlisted men. All the enlisted men have completed their basic training and are now undergoing an intensive course in balloon operating training. One battalion has now completed six weeks of balloon operating training, others have completed five weeks of their training program, and another only recently activated, is now ready to proceed with its balloon training program.

Sixty-four balloon sites have been completed on the reservation and access roads completed to each site.

Eighteen are non-flying sites on which the crews are trained in maneuvering the balloons on the ground and instructed in winch operation and the correct method of bedding down the barrage balloons.

Of the present balloons, approximately half are hydrogen-filled and half are helium-filled. Only the helium-filled balloons are bedded or maneuvered in the vicinity of the areas near buildings, while both the helium-filled and hydrogen-filled balloons are maneuvered and flown from the more remote flying sites.

On March 28th, General Maynard delivered the graduation address to the first class of officers to graduate from the Barrage Balloon School at Camp Tyson. A preceding class of enlisted technicians graduated from the School on March 21st.

These graduates were immediately assigned to new battalions, forming cadres to organize and train the new units. The battalions were then filled with men from the Replacement Training Centers at Camp Wallace and Fort Eustis.



Another class, formed mostly from Reserve officers recently ordered to active duty and selected enlisted men were in camp, ready to enroll in the School immediately upon graduation of the previous class. This class, composed of both officers and enlisted men will graduate on May 2d and at that time will be assigned to new battalions.

This cycle of training of officers and men concurrent with the activation of new battalions assures the greatest possible saving of time and utilizes to the fullest the training facilities here.

Each battalion is so organized for administration and supply and so trained for independent missions, that when ordered to a defense area no time is lost in readjustment of those functions. By that means a battalion can accomplish its tactical mission immediately upon arrival at its combat station.

The barrage balloons attracted more than 10,000 visitors from a hundred or more miles around, to the Camp Tyson Army Day program on April 6th. Each battalion showed a different phase of army life from pup tent pitching to flying a barrage balloon. Naturally

it was the maneuvering and flying of the balloons that attracted the greatest amount of interest.

Major General Joseph A. Green, the Commanding General of the Antiaircraft Command, made a visit to Camp Tyson on April 14th and 15th. He inspected all the training activities, particularly the Barrage Balloon School and the balloon flying sites. After spending a day here, General Green proceeded to New Orleans to make other inspections. He was accompanied by Brigadier General John B. Maynard and Lieutenant Colonel William H. Kendall, Plans and Training Officer of the Barrage Balloon Training Center.

Camp Tyson came out with the first issue of its camp newspaper, *The Gas Bag*, on April 22d. This newspaper will be published weekly and consists of only four pages at present, but we must remember that even acorns grow.

The first musical salute from Camp Tyson went on the air over Station WMC at Memphis, Tennessee on Sunday, April 26th. The Barrage Balloon Training Center Band under the direction of Warrant Officer Thorvald Haaning presented the program from the auditorium of the Camp Tyson Service Club.





# Chesapeake Bay Sector



BRIGADIER GENERAL ROLLIN L. TILTON, *Commanding*

*By Major Franklin W. Reese*

News flowing into the Public Relations Office of the Chesapeake Bay Sector during the past two months from key points of this coastal defense command has been indicative of new highs in training and combat efficiency.

Colonel Wilmer S. Phillips, formerly editor of the *COAST ARTILLERY JOURNAL*, has been named commander of the veteran Fort Monroe seacoast artillery regiment whose designation is known to all. Colonel Phillips succeeded Colonel F. L. Christian, now executive officer of the Chesapeake Bay Sector.

On March 17 the chemical warfare officer of the Chesapeake Bay Sector and his crew of officers and men set off more than 40 smoke pots placed to simulate a wide scale gas attack from enemy planes, theoretically directed against the gun positions of the seacoast regiment.

Response of the soldiers was immediate and effective. Gas masks were broken out with a speed equal to that of a surprise attack and the regiment manned its guns, ready for action.

Other highlights in the training of the regiment during March and April include the training of new selectees and the firing of three batteries.

On March 9 Gates fired its postponed 1941 record target practice. March 14, witnessed the functional firing of Lee and on April 14 Parrott held its functional firing. Officers indicated the results of these firings revealed a high state of efficiency.

Entertainment and recreation activities provided by both the post and neighboring civilian organizations have been well received. Headquarters Battery is still a strong sports outfit, leading the post basketball league at this date.

American ingenuity and inventiveness came to the fore recently when Captain Gilbert Key's battery was ordered, along with other coast artillery and antiaircraft units, to practice training and firing against mechanized and mobile units, such as tanks, armored cars, etc.

Using an improvised tank, towed by a truck, and locally designed sights, Captain Key's battery blasted the target to bits and established a record for accuracy.

The main shop of the Ordnance Company would delight the eye of an expert machinist and lover of precision machine work. Orderly rows of machinery, including lathes, shapers, planers, milling machines, welding units and drill presses turn out daily work that rivals the best in comparable civilian shops.

Fort Monroe's guns, large and small, have been

checked throughout. The small arms detail of the company is handling repairs of all weapons in this class on the post.

The Ordnance Company recently received two railway machine shop cars, first of their kind to be placed in service by the army.

Self-contained in every respect, these railway machine shops house their own power plants, thousands of precision instruments, tools, gauges, micrometers, a huge milling machine, shaper, complete blacksmith and welding units, grinders, drill presses, fifty-ton jacks, speed instruments—in fact everything needed to service and repair anything from a .45 calibre pistol to huge defense guns.

First Sergeant A. A. Ricciardi, member of the Ordnance Company, recently laid claim to being the army's shortest top-kick. The story and his picture appeared in many papers and promise interesting results as the challenge is taken up in other parts of the country.

As a result of plans announced by the War Department that the federal government would repossess rifles from civilians and state guards for use by troops of the United Nations, the ordnance office at Fort Monroe received its first rifle April 20 from a collector.

Steps to expand the coastal defense area of Fort Story were taken April 19 with the filing of papers in the Federal District Court at Norfolk by the United States Government preparatory to taking over 965 acres of the land lying near the original reservation.

The numerous activities at Fort Story during the past



Camp Pendleton collects presents for Hirohito.

sixty days have been highlighted by arrivals of visiting officers from the Eastern Defense Command and Washington—all interested in the defenses of Chesapeake Bay.

The Orientation Course, introductory phase, has been completed with outside lecturers speaking on the following subjects: *American-Canadian Relations*, *Financing the War*, *War Psychologies-Axis vs. Allies*, and *How to Lose a War*, and other topics.

The twenty-four hour alert status is being carried out by the officers and men under direction of Brigadier General David P. Hardy, the commanding officer. The program of instruction and progressive training of troops is carried on, in addition to keeping the armament ready for action. The problem of keeping the armament manned constantly for twenty-four hours a day and providing instruction was partially solved by the quartering of personnel near the armament. Training films and strips are used extensively in the instruction and schools for officers are held in the afternoons. The men have adapted themselves to their new homes, and the post recreation and theater officers have revised schedules to give the men relaxation when they are off duty.

The Fort Story basketball team won the championship of the Naval YMCA Service League conducted in Norfolk, Va.

The following U.S.O. shows have been presented and enjoyed:

*Razzle-Dazzle* starring Ann Rutherford on March 5th.

*Follow the Crowd* starring Dennie Ross, Maxine Stone and Jack Pearl (Baron Munchausen) on March 24th.

*Harlem on Parade* with an all-colored cast produced by Noble Sissle on April 21st.

Beginning on the 16th of April the U.S.O., using portable equipment, carried movies to the men.

On April 16th-17th a training exercise was conducted under direction of Colonel W. S. Phillips as chief umpire. Brigadier General Rollin L. Tilton, Sector Commander, followed the action closely, and other commanders participated in the exercise. The purpose of the exercise was to test the local land defenses, communications and staff work. The opposing forces, represented by the engineers and some Sector Coast Artillery troop Commandos performed ably. Improvements and better coordination have been assured as a result of the exercises.

Battery A of the former Virginia National Guard regiment finished third in the post basketball tournament. The Fort Story basketball team won the service championship of Tidewater Virginia. Horseshoes, volleyball, and soft ball equipment have been issued to

the batteries and two additional tennis courts are planned.

Plenty of entertainment has been made available to the men. The service club averages a show every other night. In the past sixty days there have been three dances, three visiting orchestras, 4 band concerts, an amateur production, two trouper stage shows, eight musical shows and various dance groups. Ping-pong and checker tournaments have also been featured.

Troops have become accomplished both as engineers and as infantry. Men spend a large portion of their time building trenches and emplacements that will enable them to function as any tactical situation may require. It is expected that target practice will begin in the next thirty days. All batteries are preparing for this firing.

Camp Pendleton played host to more than 400 civilians at an Army Day open house April 6. The visitors viewed displays of guns of all types, a huge sea-coast searchlight, motor vehicles of every type, a field kitchen, a demolition set and an antiaircraft range finder.

One of the most popular items on the afternoon's program was the bantam "bugs" which took the visitors for rides around camp.

Climaxing the open house was a review at which representative troops of the camp drew up in a solid front to stand retreat and then swung past the crowd and the reviewing stand behind the band.

A new camp weekly newspaper, the *G. I. Gazette*, made its appearance as a printed publication March 20. It replaced a mimeographed weekly formerly put out in camp. The *Gazette* is published with the cooperation of the Virginia Beach U.S.O. Club, which pays a major share of publishing expenses. One copy is given free to each two men in camp, and it is written and edited by and for the personnel of the camp. With its third issue, the *Gazette* doubled its size.

A most successful method of keeping the men aware of all-out effort of War Industry has been the Jap Traps. These big wooden boxes have been placed around camp with bins for the collection of scrap metal and rubber. Several truck-loads of scrap already have been collected from the boxes.

New records of Chapel attendance were set Easter Day when more than 1,000 men filled Catholic mass at the War Department Theater and additional hundreds packed the Chapel for Protestant and Hebrew services.

Upon receipt of more than 5,000 books of all descriptions from the Third Corps Area Special Services Office and arrival of a librarian, Camp Pendleton prepared to open a library in the reception hall by early May.

Two large oil color murals, depicting sea-coast artillery and antiaircraft batteries in action, were completed by two prize-winning soldier artists and will hang in the War Department Theater.



## Camp Callan

BRIGADIER GENERAL F. P. HARDAWAY, *Commanding AARTC*

*By Captain W. J. Hauser*

The rapid planning for converting Camp Callan from the former Coast Artillery Replacement Training Center of the west coast to make it an Antiaircraft Replacement Training Center, provided by the Army reorganization under the new Antiaircraft Command of the Ground Forces, rapidly is materializing into reality.

Along with these plans came the directions for training not only antiaircraft replacement troops, but also the selection of all possible qualified men for Officer Candidate School. Results show that the men detailed for officer training from Camp Callan by a very careful selection system of qualified candidates, produce a high



Brigadier General F. P. Hardaway and Lieutenant Colonel J. G. Scrugham inspect an AA gun.

percentage of graduates. Out of 64 previously selected, 59 have now graduated and are commissioned Second Lieutenants in the Army of the United States.

Many men have been selected for details at the Enlisted Specialist Schools, as Air Corps Cadets, and for key positions in new organizations as they are activated. Now, in addition to furnishing these various classes of specially selected men from soldiers undergoing their short period of basic training, a new duty has been imposed which will entail the training of cadremen for more new organizations. As time marches on, strength increases and duties become more varied in the plan of converting the new men from civilian life and habits to trained soldiers, qualified to fit in the several types of assignments required to fill the ever-increasing demands.

During the past few months, some outstanding things have occurred. We may mention as one of these, the growing of grass on the parade ground. The extensive activities at Camp Callan have made it necessary to have an adequate parade ground. To the amazement of several thousand new soldiers, cadremen, and officers from the middle west, grass seed was planted in October, which resulted in a green parade ground before Christmas; already many ceremonies have been held on the new grass cover which adds so much to the attractiveness of the camp.

Lieutenant Colonel J. G. Scrugham, CA-Res., Representative of United States Congress for the State of Nevada, was ordered to duty for two weeks on inactive status this spring at Camp Callan, and during his tour of duty, received the parade of the troops.

As a Replacement Training Center, Camp Callan has not only been furnishing enlisted men as replacements, but in addition has furnished many officer replacements for field forces and higher staff duties, as well as instructor personnel for the various service schools. At times these requirements seem very great and many times replacements are difficult or almost impossible to get, so—through it all, those remaining are doing their best to keep up the high standards previously attained.

Frequent reports are received from men who have been transferred out after completing their basic training at Camp Callan. It was interesting to learn that

Private Herbert McDonnell, who came to Callan on June 9, 1941, and was trained and transferred out, went to the island of Oahu in a Coast Artillery outfit, and on December 7, was wounded with shrapnel while performing meritorious acts of essential services during the Japanese air attack. Private McDonnell received the award of Purple Heart for his bravery under fire.

A few milestones since the last news story should not pass unmentioned. The long-sought main camp entrance, which necessitated an underpass of the heavily traveled major coast highway, will soon be a reality. Construction of the underpass has started and is progressing rapidly. Plans for hospital expansion now have the official O.K., and best sources of information indicate that before long construction should be underway to greatly increase the present hospital capacity.

The Camp Callan Service Club recently celebrated its first year of service to the trainees who pass through this Replacement Training Center. A large group of attractive girls from the San Diego District participated in the 53rd weekly dance which included the cutting of a huge birthday cake with its burning candle. The *Oozlefinch* made its appearance in the form of a pictorial review of fifty-two pages. Pictures of the various activities of the first year of Camp Callan were portrayed in the magazine, named after the nightmarish bird generally recognized as the mascot of the Coast Artillery Corps. Members of the command have mailed several thousand of these booklets to the four corners of the United States, and no doubt beyond our continental boundaries.

As we start another training cycle the camp is quite different in its appearance than it was on March 6, 1941, when the initial trainees arrived. In March, 1941, construction was progressing rapidly toward completion and original plans for training facilities, roads, and things in general were being made.

At this time, landscaping, roads, and erosion control measures have transformed the then form of mild chaos into a most attractive training center. However, the peace time outward appearance has faded away with the conventional paint covering. The whole atmosphere has experienced a great change of seriousness brought about by the fact that we have a war to win, which requires the whole-hearted cooperation of all concerned.



The only business that counts is the business of waging war.—HONORABLE ROBERT P. PATTERSON.



## Camp Wallace

BRIGADIER GENERAL G. DE L. CARRINGTON, *Commanding AARTC*

A new camp commander, redesignation as an anti-aircraft replacement training center, artillery and small arms records, and the entertainment of distinguished visitors have featured activities at Camp Wallace since its last appearance in the pages of the JOURNAL. Brigadier General G. de L. Carrington assumed command on February 17th, shortly after the departure of Brigadier General John B. Maynard, "founder" of the post to assume command at Camp Tyson, Tennessee. Colonel Coburn L. Berry has been named as executive officer of the Antiaircraft Replacement Training Center.

Three camp records have been shattered. Battery A of the 34th Coast Artillery Training Battalion made a score of 92.2 in its record practice with 155mm guns. The target was towed at a range of 8,000 yards. The

battery made a direct hit on the pyramidal target and all but one round would have been a broadside hit on any ship the size of a transport or warship. On the small arms range, Private Rex Wilson made a score of 148 out of a possible 150, while Private Ben Banks of the 33rd Coast Artillery Training Battalion, colored, hit the bull's eye 30 times out of 30 rounds and made a total score of 192 out of a possible 200.

In sports, the Camp Wallace basketball team took top honors in the State Amateur Athletic Federation Tournament held at Dallas after going through league competition in Houston undefeated in regular season play. In the same sport, the 33rd Coast Artillery Training Battalion, colored, was named champion in the USO-High School Basketball League.



The color guard at Camp Wallace, Army Day.

Trainees are taking advantage of instruction in the art of jiu-jitsu as taught by Corporal Carl Rosenstein, known professionally as Carl Gray, who has been assisted by various professional wrestlers when they appear in neighboring cities. Corporal Rosenstein conducts daily classes.

Civilian notables who visited Camp Wallace included: Bing Crosby and Bob Hope, Johnnie Weissmuller, Jimmy Demaret, nationally known golfer, glamorous Rosalind Russell, the movie star, and over 5,000 plain citizens who came to call on Army Day. The program for Army Day visitors gave them a close-up of their new army; it included inspection of various training activities, open house, and antiaircraft gun demonstration, and a review of all troops in camp. Each car was provided with a trainee who conducted the group through all of the events of the day. Each visitor thus saw the Camp Wallace part of Army life through the eyes of a man who was but a few weeks removed from the home town doings. Men from the Camp also participated in an Army Day parade in Galveston, providing a provisional regiment of 1,200 men and a band.

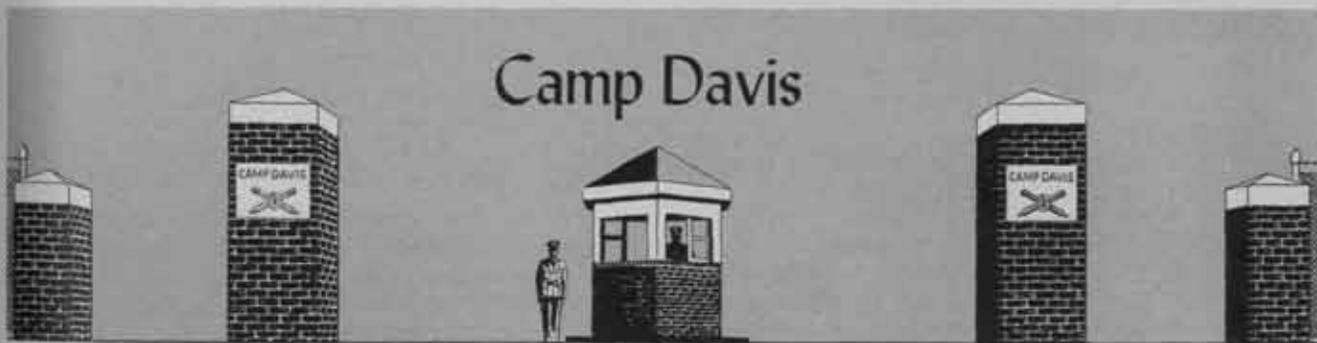
Recent Army visitors were Major General Joseph A. Green, Commanding General, Antiaircraft Command,

and Brigadier General Dale D. Hinman. Both generals reviewed the troops.

Two stand-out sports stars have been in training in Camp Wallace recently. One is Private Norman Standlee, better known to football fans as "Big Norm," the outstanding fullback in the National Professional Football League last season, playing with the Chicago Bears. The other is Private Freddie Miller, the leading pitcher in the Texas League last season.

On the artistic side, Camp Wallace boasts Technician 5th Grade O. L. Dudley, staff artist of the Public Relations Office. Prior to his induction into the army, Dudley was an artist for Paramount Studios in Hollywood where his work in set designing was well known. He was responsible for much of the work in a current attraction, *Reap The Wild Wind*, and has made many drawings for the *Keep Your Lip Zipped* campaign which has appeared in papers throughout the country.

*Private-ly Speaking*, a musical revue, presented by an all-soldier cast of more than eighty Camp Wallace men, was recently staged in the Music Hall Theatre in Houston. A capacity crowd gave it an enthusiastic reception. The revue was sponsored by the Houston Lions Club and all proceeds donated to the Army Relief Society.



MAJOR GENERAL FREDERIC H. SMITH, *Commanding*

*By Lieutenant L. B. Wantuck*

April saw Camp Davis, antiaircraft training center, observe its first birthday. Cake and candle were lacking and there was no let-up in military activities, but both officers and enlisted men followed a tendency to look back over and take stock of the first year, which for our purposes began April 10, 1941, when the first contingent of officers and men, 250 in all, arrived at Camp Davis for duty. Frankly, the camp wasn't much to look at that first month. There just wasn't any grass, nor were there sidewalks. Each draft of wind from the Atlantic sent dust swirling through the air. The theaters weren't completed; finishing touches were being put in the service clubs. It might be said that only the essential accommodations were available to the new personnel when they reported. All the more reason for the "veterans" now to appreciate the vast changes which have

taken place in one year. Entering Camp Davis today, visitors will find it hard to realize the establishment is not considerably older. It took scientific coaxing to grow grass, shrubbery and saplings in the rather unproductive filled-in earth, but the landscape is now well developed. The building program was completed during the late spring of 1941. Briefly, Camp Davis now combines the goodness of newness with the experience of age.

Although physical aspects of the camp have changed, the change in personnel and type of organization in the span of a year has been even more pronounced. Command of the camp was transferred from Brigadier General James B. Crawford to Major General Frederic H. Smith. There was a complete turnover of staff officers, S-1, S-2, S-3 and S-4, and the officer personnel in



Searchlight control station.

general underwent a change. The biggest transfer (out) was effected by the Barrage Balloon Training Center and School, which left early in 1942 for a new base in Tennessee, Camp Tyson, and the most important transfer (in) involved the Antiaircraft Artillery Officer Candidate School and the Enlisted Section, Antiaircraft School both of which came to Davis from Fort Monroe. Entrance of the United States into the war had a profound effect on Camp Davis and certainly increased its military importance, for the antiaircraft forces are experiencing a growth second only to that of the Air Corps.

The training program has been intensified since Pearl Harbor and naturally the officers and men are more determined than ever before as they go about the important business of preparing for jousts with enemy planes. Fort Fisher and Sears Landing, the camp's ultra-modern firing points, have been of inestimable value.

One battery of a local Coast Artillery regiment spoke its piece in a practical way on April 20, Hitler's birthday, by ripping an aerial sleeve target to shreds with sixteen rounds of 90mm ammunition. Gun crews are becoming really proficient with the 90's. The first year also saw the development of an educational program, known as the Orientation Series, designed to give officers and men a more thorough understanding of the background for war and the objectives of the United States in this war. Lectures were presented by Camp Davis officers and by visiting civilians who were especially qualified to speak on phases of international relations. As one officer remarked, "It's infinitely simpler to teach a man how to fight when he has an understanding of what he's going to fight for."

A coordinated athletic program helped greatly to keep the men occupied in off-duty hours. Baseball, football and basketball were the major sports, but such games as badminton and volley ball were popular too. Center of sports activity was Farnsworth Hall, one of the last large buildings to be completed at Camp Davis. The sports arena has also been used for orientation lectures; it can accommodate more troops than any other building on the post. The Special Services office kept the ball rolling in the entertainment field with regular programs in the service clubs. Along this line special mention must be made of the contribution of USO Camp Shows, whose offerings always attracted capacity audiences. The nearby city of Wilmington, North Carolina, has been "all-out" for Camp Davis. Civic leaders there cooperated closely with the USO while that agency formulated its Wilmington program. There are now three USO club buildings in the city. The young ladies of Wilmington are doing their part in behalf of Camp Davis soldiers and they helped make life enjoyable for camp personnel during the year, turning out en masse for dances in camp or in Wilmington. Residents of Wilmington and other nearby communities have been gracious hosts to soldiers on week-ends.

Housing for officers and noncommissioned officers and their families presented a problem from the start, but considerable progress was made in this respect during the first year. A housing project was established by picturesque Greenfield Lake and is now known as Lake Forest. The commanding general requested an additional housing project for Holly Ridge, right across U. S. Highway 17 from Camp Davis. Lake Forest is in Wilmington, and another housing project, closer by, would be welcomed by the camp.





BOOK

REVIEWS

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## The Armed Forces

### Encyclopedia of Arms and Tactics

THE TOOLS OF WAR. By James R. Newman. New York: Doubleday, Doran and Company, 1942. 363 Pages; Index; Notes; Illustrated. \$5.00.

James R. Newman, co-author of *Mathematics and the Imagination*, and now in the Office of the Under Secretary of War, has written a superb condensed encyclopedia of weapons and tactics, past and present. This is not a technical work; there is no reference to headspaces or obturators, but even a lay reader of ordinary intelligence can get a fair idea of how the weapons work and why they are used. The illustrations, especially the line drawings, are particularly inspired. When they indicate the relationships between weapons and tactics, the drawings fulfill their purpose with crystal clarity.

Mr. Newman seems to belabor the point in his criticisms of the "backwardness" and conservatism of the high-ranking military. It would be hardly worth while to point out in this review that even though the military in peace may be often ultra-conservative, each war has brought forth new, more effective weapons for both offense and defense, and the military has developed them and adopted them, and changed tactics to conform. All this ground has been covered before, but Mr. Newman's facts and most of his conclusions are exceptionally well-presented in this volume.

The author has gone to widely varied sources for his material. He has read wisely and well; his many quotations fit into his text so aptly that the reader would not be aware, except for the quotation marks, that they did not come from Mr. Newman himself.

It would be a thankless task to attempt to present the usual summary of the book in this review because the book itself covers so much ground and wastes so few words that it is a summary in itself.

For the soldier who wants to know more about the tools of the war, and for the civilian who is not content with the patter of the newspaper tacticians, strategists and sensationalists, *The Tools of War* should be close to the top in any list of books to be read for an understanding of warfare.

## The Old Reliable

OFFICERS' GUIDE (Eighth Edition). Harrisburg: The Military Service Publishing Company, 1942. 476 Pages; Illustrated; Index. \$2.50.

In the last issue of the JOURNAL we reviewed the seventh edition of *Officers' Guide*. The marvel of this eighth edition is not that it has followed so closely on the heels of the seventh edition, but that the changes and improvements are so many and so up-to-date. This new edition has, among other late changes, the charts and much text material on the March 9 reorganization of the Army. It has the war message of the President, several thousand words on the duties of the Public Relations Officer, and dozens of new, up-to-the-minute pictures.

*Officers' Guide* has been the standard work of its kind for many a year. When we say this latest edition is the most complete, the newest, and the best of them all, we have said about all that can be said.

♦ ♦ ♦

## The Military Guidebook

ARMY POSTS AND TOWNS. By Charles J. Sullivan. Los Angeles: Haynes Corporation, 1942. 190 Pages; Index. \$3.00.

The third edition of this standard army reference work is just off the press. Popular in 1926, when it was first published, the 1935 edition reflected the increased tempo of the preparedness program. The present, 1942 edition is as up-to-date as a publication of this type can be without giving information to the enemy.

For those not familiar with *Army Posts and Towns*, it is a complete guide of posts, camps, and stations in Continental United States and Alaska, with information on transportation facilities, post towns, quarters, need for private automobiles, nearby hotels and schools, climate, clothing, and general remarks. Well-indexed, it is but the matter of a moment to find the information on your next post, or the post where your friends are located.

The war has caused deletion of information concerning troop units and other material, but with the scenes shifting as rapidly as they do in wartime, it is probably just as well that this was left out.



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### For Recruits Only

**HOW TO GET ALONG IN THE ARMY.** By "Old Sarge." New York: D. Appleton-Century Company, 1942. 168 Pages; Illustrated. \$1.50.

The reviewer has been impressed with Old Sarge's answers to his soldier correspondents in *Liberty Magazine*. Most of us know that much of a soldier's value to the army and to himself is the result of his attitude toward the army; Old Sarge is an expert in helping his correspondents attain the proper attitude.

This book is the same thing, only more so. I would recommend that every prospective recruit get a copy of this volume several months before he enlists or is inducted. It tells the same things the experienced noncoms and officers tell the newly enlisted man, and it tells them very well. Besides, it carries the authority of disinterest. When the lieutenant tells the soldier what is good for him, the soldier is apt to believe that the officer is motivated by selfishness or something deeper. When Old Sarge tells him the same things, he is more prone to believe them.

In his foreword the author writes "This is not a textbook on how to be a soldier. No soldier ever learned to be one from a book. . . . What I propose is to tell you how to do your stint so that you will not only have more fun while doing it but, also, you will come out of the Army better equipped for the battle of life."

Old Sarge writes in a conversational manner—and he's interesting. After sixteen years of military training, the reviewer read this one from cover to cover, something he rarely has time to do in these days of high pressure.



### Horses and Tanks

**MECHANIZED MIGHT.** By Major Paul C. Raborg. New York: Whittlesey House, 1942. 284 Pages; Illustrated; Index. \$2.50.

Although his title does not indicate it, Major Raborg covers a lot of territory in this book. There is more about horse cavalry and field artillery, and motorization, than there is about mechanization. The author tries, rather unsuccessfully, to cover almost the entire field of the new United States Army, as well as the history and development of foreign tanks.

The reviewer cannot go along the whole way with Major Raborg in his analysis of mechanized action. The author reiterates that the tank is the legitimate descendant of the horse on the battlefield, and by a rather tenuous thread of reasoning, insists that "Horse cavalry training of the past is the ideal background of experience for the armored service officer of today, for it instilled the will to go through, to go over." It is feared that the soldiers of many branches will take issue with that statement and its implications. With no desire to fan an inter-branch argument, it is submitted that every arm of our Army has this "will to go through, to go over."

Although there is much that is good in this effort, *Mechanized Might* seems to be more than slightly biased in its approach, poorly organized in its material, and studded with statements that do not seem always to bear up under the scrutiny of experience or reason.

## Engineers and Air Forces

**WHAT THE CITIZEN SHOULD KNOW ABOUT THE ARMY ENGINEERS.** By Lt. Col. Paul W. Thompson. New York: W. W. Norton and Company, Inc., 1942. 204 Pages; Illustrated; Index. \$2.50.

**WHAT THE CITIZEN SHOULD KNOW ABOUT THE AIR FORCES.** By Lt. Col. Harold E. Hartney. New York: W. W. Norton and Company, Inc., 1942. 218 Pages; Illustrated; Index. \$2.50.

These two welcome additions to the series of *What the Citizen Should Know* books are as up-to-date as the latest training circular. Colonel Thompson has done a superb job in explaining how the Corps of Engineers fits into the Army as a whole, as well as in describing all the specialized Engineer units. Examples from action in the present war, from training doctrines, and from the author's experience combine to keep the book far above the level of a dry table-of-organization type of work. The illustrations and charts are particularly well done.

Colonel Hartney, with a larger and faster-changing picture to paint, has covered both the Army and Naval Air Forces. Remembering always that he is writing primarily for civilians, he has been wise in his choice of material, stopping short of technical discussions, although often he explains a broad principle with a well-conceived picture.



## Encyclopedia

**WHAT THE CITIZEN SHOULD KNOW ABOUT MODERN WAR.** By Fletcher Pratt. New York: W. W. Norton and Company, 1942. 184 Pages; Illustrated. \$2.50.

Fletcher Pratt, the soldier's choice for popular "military expert," has written a short encyclopedia of military terms. The citizen who reads the book will find logically-written and well-chosen definitions and descriptions, and many illustrations that do much to make the book understandable.

Mr. Pratt, in writing of barrage balloons, says "Even when the plane is some distance above the balloon the latter forms a valuable point of reference in the sky and facilitates range finding." In another place he defines "S.O.P." as "Senior Officer Present." These two "near misses," for Coast Artillery purposes at least, are more than overbalanced by the wealth of good live material, including descriptions of naval and land tactics that are done more clearly than in any other source the reviewer has been able to find.



## Picture Book

**ELMER SQUEE.** By Ensign R. L. Brooks, U. S. Naval Reserve. New York: The Macmillan Company, 1942. 90 Pages; Illustrated. \$1.00.

Ninety wash drawings and ninety-three couplets tell the story of a navy boot, from the first flash of war news to the live-happily-ever-after stage, arm-in-arm with the Boatswains Mate.

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## Plane Facts

WINGS OF DEFENSE. By Captain Burr W. Leyson. New York: E. P. Dutton and Company, 1942. 210 Pages; Illustrated. \$2.50.

Captain Leyson gives us a short survey course in military aviation. He has succeeded in setting forth his information in popular language without writing down to the reader. It will be the exceptional ground officer and only the occasional citizen who will not find in this book much that he does not know.

This is one of the few books on the subject that is written in a restrained style. Captain Leyson does not wax hysterical in an attempt to impress the reader with the possibilities and capabilities of military aviation. He points out the limitations of the airplane as well as its advantages; he does a particularly good job of exploding some of the extreme ideas the aviation fanatics have been spreading for years. The author pooh-poohs the story of the bomb-sight that will enable the bombardier to drop his egg into a barrel from 10,000 feet—something every antiaircraft knows is impossible.



## The Home Front

### The U. S. and Geo-Politics

AMERICA'S STRATEGY IN WORLD POLITICS. By Nicholas John Spykman. New York: Harcourt, Brace and Company, 1942. 493 Pages; Bibliography; Appendices; Index. \$3.75.

This book is almost a liberal education in one volume. It sketches a great part of our diplomatic history. It surveys in detail not only the geography of the United States, but also covers the salient points of global geography as well. It scrutinizes the status of the United States with regard to strategic resources, proving, that despite certain advantages, we are far from self-sufficient in resources for war. Estimates of the power potential of the chief nations of the world are provided. Time and space factors in strategy are illuminated by maps based on azimuthal equidistant projection. Facts and figures on the economics of the Western Hemisphere are tabulated.

Nicholas John Spykman, formerly director of the Yale Institute of International Studies, and now Professor of International Relations at Yale University, has made admirable use of the facilities which that organization affords in presenting a most comprehensive picture of our place in world power politics. His book is meaty with information and his statements are convincing both as to historical logic and as to expression. He has a peculiar facility for comparison which is strikingly employed to accentuate geographic relations and historic precedents.

The burden of the discussion deals with the position of Latin America in our pattern of world strategy. The treatment of this point is detailed. The author finds the proposition, that our defense can be based on this hemisphere alone, to be inadequate. He bases this finding on lack of inherent and actual military potential, cultural and political incompatibility, competing economics, and geographic remoteness. "There is no safe defensive position on this

side of the ocean. Hemisphere defense is no defense at all. The Second World War will be won or lost in Europe and Asia. The strategic picture demands that we conduct our military operations in the form of a great offensive across the oceans. If our allies in the Old World are defeated, we cannot hold South America; if we defeat the German-Japanese Alliance abroad, our good neighbors will need no protection." Quarter-sphere defense, from the bulge of Brazil north, he finds more practicable, but not satisfactory because of the lack of military potential in that area itself.

The real thesis of the book is that the United States has developed during periods when other great nations have been held in a balance of power. Our response to the upsetting of this balance has always been to act in restoring it. There is no way in which we can withdraw to our Continental limits or even to this hemisphere when the balance of power is disturbed; isolation from Europe has been, and from Asia now is, impossible.

\* \* \*

### What It Takes

**AMERICA ORGANIZES TO WIN THE WAR.** New York: Harcourt, Brace and Company, 1942. 380 Pages; Illustrated; Index. \$2.00.

Twenty chapters, by twenty different experts and leaders in oddly assorted fields, fit together to make a many-faceted picture of what it takes to win a war. President Roosevelt, David Cushman Coyle, Vice-President Wallace, Claude Wickard, Winston Churchill, the president of the American Management Association, the assistant to the president of the United Aircraft Corporation, Paul de Kruif and other top-notchers in varied fields have contributed to this book.

The value of the volume is the over-all picture it gives of America's war effort. The smug individual who believes the war will be won by the Army, or the Navy, or by Labor, or by the censors, will find that every person in America has a duty and a responsibility in the task before us.

Mr. Coyle's chapter on *How Can We Pay for the War?* and Waldemar Kaempffert's chapter on *What Are the Scientists Doing?* are standout portions of this united effort. The people who are holding back in their purchase of war bonds, or who are prone to point to the non-payment of debts incurred in the war, will profit by reading Mr. Coyle's chapter, as will the rest of us who still waste and spend because it is our fancied right.

This is the most restrained, soundest, and most complete survey of America's war effort the reviewer has seen to date.

\* \* \*

### Unity of Effort

**CIVILIAN DEFENSE OF THE UNITED STATES.** By Colonel R. Ernest Dupuy and Lieutenant Hodding Carter. New York: Farrar and Rinehart, Inc., 1942. 276 Pages; Appendix; Bibliography; Index. \$2.50.

Here is the answer for the civilian, male or female, who adopts a wistful expression and sighs, "I wish I could help, but I haven't been able to find a spot where my capabilities would fit." The book itself covers practically the entire

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field of the civilian defense effort (or war effort, as we should call it); and the appendix lists page after page of ways to serve.

For the soldier whose duties or whose curiosity demand a picture of the over-all war effort, this is a valuable handbook. If the authors have missed any part of the civilian war picture, it must be very unimportant.

Let's have no more of the "There's nothing I can do," attitude. There is plenty to do for every American above the habe-in-arms stage. This book should help get it done.

\* \* \*

## The Pacific Theater

### New China and Old Japan

AMERICA IN THE NEW PACIFIC. By George E. Taylor. New York: The Macmillan Company, 1942. 156 Pages; Index. \$1.75.

Mr. Taylor, head of the Far Eastern Department of the University of Washington, now with the Institute of Pacific Relations, gives us much to think about in his estimate of the war in the Pacific. He feels that the war was inevitable, that American enlightenment for China did not work into the plans of an authoritarian Japan, and that as far as Japan is concerned, a free China would be a dangerous threat to Japan.

Japan is built upon a system of power for the few and obedience combined with sacrifice for the many. China's old system made the landlord and tax collector powerful, the peasant pitiful. As American thought and culture permeated into China, she began to become strong and integrated as a political unit, and potentially more able to shake off the exploiting powers. Japan's attacks on China were designed to keep her weak as well as to provide wealth for the conqueror—they were the beginning of Japan's New Order, which was to bring all Asia under the control of Japan and to remove the western influence.

Even today China is torn between the western ideas of democracy, the Communistic principles, and the comparative few who have been sold on the "Asia for the Asiatics" idea by the Japanese, who know the phrase really means "Asia for the Japanese." Mr. Taylor insists that imperialism is a loose term, but that our particular brand of imperialism has been the least objectionable to China; therefore we are in a better position than any country to provide the leadership (in an ideological sense as well as in military ways) that China needs to keep up the fight. As the author sees it, we must press aid to China, keep our hands clean from the taints that have made other white countries less acceptable, and take the leadership after the war in helping to create a democratic China—otherwise we will have the job to do all over again.

\* \* \*

### A Standard Work

INSIDE ASIA (1942 War Edition). By John Gunther. New York: Harper and Brothers, 1942. 605 Pages; Map; Index. \$3.50.

Since this book was first published, in 1938, it has been considered a standard work on Asiatic life and politics. John

Gunther, primarily a keen reporter, has made 5,000 textual changes and added 30,000 words to the 1938 version of his important book—revisions that bring us practically up-to-date on the changes that December 7 and the dark days following have brought.

The impressive thing about *Inside Asia* is the down-to-earth quality of Mr. Gunther's reporting. There is no need to fill in the gaps between the things he observes and his conclusions because there are no gaps; Gunther sees the small things as well as the large and obvious things, and writes of them in an informal manner that makes for easy reading and facile retention of information.

Right now, with the fate of India in the balance, the nine chapters on India provide a fine understanding of what is happening, and why it happens, in that great and unhappy country.

\* \* \*

### Blueprint of Asia

AN ATLAS OF FAR EASTERN POLITICS. By G. F. Hudson, Marthe Rajchman, and G. E. Taylor. New York: The John Day Company, 1942. 201 Pages; Illustrated; Index. \$2.50.

With more text material than we are accustomed to have associated with the word "atlas," this book portrays a clear picture of the economics and politics of Far Eastern affairs, especially as related to the territory's geography. The volume is issued under the auspices of The Institute of Pacific Relations. The three authors are all leaders in the field of Far Eastern study, and Marthe Rajchman (who drew the maps) is the author of *A New Atlas of China*.

\* \* \*

### Our Watchful Ally

RUSSIA AND JAPAN. By Maurice Hindus. New York: Doubleday, Doran and Company, 1942. 254 Pages; \$2.00.

When the reviewer wrote his review of Hindus' *H Hitler Cannot Conquer Russia* (Nov.-Dec. 1941, JOURNAL) it was done with the hope that Mr. Hindus was correct in all his estimates. So far Mr. Hindus has been right; he knows the Russians and their capabilities.

In this new book, Mr. Hindus insists that war between Russia and Japan is inevitable, and that each nation is waiting until it thinks the other is at a disadvantage before the swift, smashing attack is made. This view is based upon the very real conflicts in interests in Japan's corner of the Pacific, on the "feeler" clashes that have occurred at the Manchukuo-Siberian border over a period of years, on the enmities engendered by the Russo-Japanese war and the Japanese occupation of Siberia after the World War, and on Germany's salesmanship.

The author gives Russia a better than even chance when the clash does occur, even with Germany still smashing at Russia's other front. Hindus has great faith in Russia's industry, her armies, her strategic location, and most important, the will-to-win of the citizens of the Soviet Republics.

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## Dissecting Mr. Moro

OUR ENEMY JAPAN. By Wilfrid Fleisher. New York: Doubleday, Doran and Company, 1942. 236 Pages; Appendices. \$2.00.

Wilfrid Fleisher has spent most of his life in Japan, where he worked as correspondent for American newspapers, and as editor of the *Japan Advertiser*. He knows Japan and the Japanese as do few Americans.

Mr. Fleisher gives us here a well-organized "estimate of the situation" as regards one of our enemies. He takes up in turn a bit of Japanese history, the tie-up with Germany, Japan's own leaders, the Japanese Army and Navy, Japan's economic position, and the Washington negotiations that preceded (and even overlapped for a few minutes) the unforgettable attack on Pearl Harbor.

The author is a newspaper man, and he wrote this book for the mass of people who read newspapers. There is an absolute lack of high-flown language, involved economics, or high-brow political verbiage. A high-school student can understand what Mr. Fleisher has to say about Japan, and any reader can understand a little better what led Japan into suicide, and why it is suicide.

✓ ✓ ✓

## An Unsentimental Journey

RAMPARTS OF THE PACIFIC. By Hallet Abend. New York: Doubleday, Doran and Company, 1942. 322 Pages; Illustrated; Index. \$3.50.

All through this book there is an undertone of the inevitability of our war with Japan. Hallet Abend, the *New York Times'* Far East man for many years, took a quick trip by air to the Far East, returning to this country a month before Pearl Harbor. The things he saw in that two-month swing, interpreted in the light of his long experience in the Orient, are eye-openers for those of us who were complacent.

Abend admires the Australians and the Dutch, both for their perspicacity and their bravery. He touches very lightly on the Philippines, probably because he spent little time there. He cannot even make a guess at what happened at Pearl Harbor—what he saw a short time before December 7 indicated that no military rampart was ever more alert.

An interesting anecdote concerns his flight in a Japanese plane, with the express purpose of observing a Chinese and an American flag from a height of several thousand feet. According to Abend he could not tell the difference—the white and red stripes of the American flag looked like the red of the Chinese, and our field of stars was indistinguishable from the single star of the Chinese. But Abend warns his readers to draw no conclusions, that the Japanese have bombed American installations and property on purpose, not once, but many times. As for the *Panay*, he insists that the Japanese had orders to bomb anything on the river that moved, and the *Panay* moved.

The author states that the last voyage of the *Bismarck* was not a raiding foray, but a trip to the Pacific for the purpose of backing up the Japs in their attack on the United States.

For the first time in modern books, General MacArthur is criticized, though mildly, for underestimating the Jap-

ness strength available for the attack on the Philippines. Sir Robert Brooke-Popham, the much-abused British commander in Malaya, is defended by Abend as a man who knew what he needed, but could not get it.

### Paranoia Nipponica

**JAPAN: A WORLD PROBLEM.** By H. J. Timperley. New York: The John Day Company, 1942. 140 Pages; Appendices; Reference Notes; Index. \$1.75.

The burden of Mr. Timperley's book seems to indicate that the Japanese out-Nazi the Nazis in all the things that gick in the craw of lovers of liberty, and that the sons of heaven have followed the Nazi (or totalitarian) ideals, if they may be called ideals, since the beginnings of Japanese history. The author takes the reasons and excuses for Japan's course of eruption and demolishes them one by one.

From this book, documented as it is with quotations and excerpts from experts on Japan and the Japanese themselves, we can understand how the ruling classes of the island empire have had centuries to mold the populace to a belief that their only excuse for existence on earth is to bow to the wishes, and add to the riches, of the rulers. What we call Japanese fanaticism is merely the result of century after century of propaganda and laws that make the feeble efforts of a Goebbels look like the dabbings of an amateur.

"Paranoia Nipponica" is a serious disease, that will rage until checked by outside means. It seems to be our destiny to wipe out the disease.

### Blueprint

**VICTORY IN THE PACIFIC: HOW WE MUST DEFEAT JAPAN.** By Alexander Kiralfy. New York: The John Day Company, 1942. 283 Pages. \$2.75.

This is an attempt at scientific appraisal of the Pacific theatre of war, and appraisal without the error-inducing emotional feelings of "one American can lick ten Japs" or "Japs can't fly" or "The Nips are over-extended and now we can lick 'em."

Mr. Kiralfy has placed himself in the position of the Japanese military, and then planned their campaign for them. With the advantage of hindsight, the author has done a good job. Then he has placed himself in the position of the American and allied commanders, and offers the solution to the problem. In its essentials, Mr. Kiralfy urges a quick, scientifically-planned offensive now with what we have, not next year with what we will have.

### The Rest of the World

#### France in Miniature

**THE LAST TIME I SAW PARIS.** By Elliot Paul. New York: Random House, 1942. 421 Pages. \$2.75.

Elliot Paul, author of *The Life and Death of a Spanish Town*, chose two blocks of a Paris street as his cross-section of the France that sickened between the two World

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wars and died in 1940. Through the medium of the breakdown in the social relations among the once-happy inhabitants of the Rue de la Huchette, the poverty, the jealousies, the exploitation, the disloyalty, and all the rest of the qualities and conditions that weakened France are reflected by an author who makes the reader realize that the Rue Huchette was France in miniature.

Reds and Nazis, selfish merchants who did not know they were selfish, government clerks and bureaucrats, honest workmen and petty racketeers, patriots and subverters, all lived in peace and amity in the first years after the Armistice. But the franc went down, people became desperate, strikes were organized and crushed, Stavisky and his associates damaged France's financial integrity, a series of politicians ruined her governmental integrity, and when the Nazi attack came, a France that should have been prepared and united was unprepared and divided.

Americans might find it hard to understand how a proud nation can become so thoroughly undermined and demoralized. It is easier to understand, as we live with Elliot Paul in this little backwater section of Paris, and watch the seemingly remote processes of government and economies affect the lives of the little people.

\*\*\*

## Half-Tracks and Champagne

WAR HAS SEVEN FACES. By Frank Gervasi. New York: Doubleday, Doran and Company, 1942. 296 Pages. \$2.50.

Frank Gervasi, roving correspondent for *Collier's*, recounts the more important details of his trip around the world through the war zones, a trip that has just ended. To those of us who have been reading his articles in *Collier's*, this book is particularly interesting because he tells the things that couldn't get by the censors while he was in the war zones.

The entire book seems to be a plea against complacency. Gervasi wants every democratic nation to cast out the last vestiges of the business as usual complex and go to work to beat the axis. He tells of Cairo, Hong Kong and Singapore where the champagne flowed freely and defeat was in the air—and of London, Tobruk, Bataan, and Crete, where the democracies were magnificent even in defeat. He admires the spirit of the men of many nations who fought, muscles against tanks; he contrasts these situations with those in which elegant staff officers and beautifully-gowned ladies fought their war from 9:00 A.M. to 4:30 P.M.

About *Corregidor* he writes, "While the diplomats talked, the soldiers and sailors were busy in the Philippines. They were busy arming the island fortress of Corregidor, at the entrance of Manila Bay, to make it what it was the day the Jap bombers came—the most powerful fortress in the Far East. It'll take some taking, Corregidor."

Again, "where I've found prostitutes and champagne, good and abundant food, rumbas and waltzes, cocktails and caviar, there disaster has struck. I've followed this war along the champagne and caviar trail from Amsterdam to Paris, to Budapest, and Athens and Beyrouth, in Syria. One by one those cities fell. I followed the sound of the pop of corks from Cairo to Calcutta to Singapore, Bangkok and Manila. It was when the merriment died down in Cairo that the Middle East really buckled down to the business of fighting a war."

Based on the things he saw in his travels, Gervasi says we will win, but that the war will be longer than it needed to be because of complacency in every democratic country, and will be longer still unless we get rid of that complacency faster and more ruthlessly than we are doing it.

\* \* \*

### We Must Hurry!

**TIME RUNS OUT.** By Henry J. Taylor. New York: Doubleday, Doran and Company, 1942. 315 Pages; Index. \$3.00.

If the reviewer were asked to recommend one book, and only one book, on the broad political and economic picture of the present war, this would be it. The presses are turning out hundreds of books on the war each month, but *Time Runs Out* is outstanding.

Henry J. Taylor is a down-to-earth economist, a clear forceful writer, an observant reporter. Probably the last American to cover England, Sweden, Finland, German, Vichy France, Spain and Portugal in one hurried trip, he has been able to get a larger part of the European picture than most experts.

The author's case against the Germans is airtight. According to Taylor, even the period of inflation that makes many of us shake our heads and feel sorry for the Germans was controlled and staged by the big, industrial interests, and later by Hitler himself, to consolidate their own position, and Germany's, in world trade. It is hard to see how an isolationist could remain sympathetic to Germany after reading Taylor's measured indictment of the Nazi roots, the Nazi present and immediate past, and the Nazi plans for the future.

It is the author's main point that *time is running out*, that any delay in scotching the Nazi reacts to Hitler's favor, and that anything that reacts to Hitler's favor is that much more danger for the world. Mr. Taylor's conclusions are drawn from reasoning, rather than from emotion.

For the Coast Artilleryman, the description of Gibraltar is most interesting. The estimate of the German military forces, and the mystery of what happened to the *Luftwaffe*, give us new trends of thought in our endeavor to understand what is happening in spite of the veil of secrecy. Finland's stand and Vichy's vacillations are treated sympathetically, but logically. Spain's internal conditions and foreign relations, as viewed by Mr. Taylor, are vastly different from our ideas of them as gleaned from the daily papers.

Mr. Taylor sees a long war ahead, and a war that can end only with the destruction of Hitler and what he stands for.

\* \* \*

### "We Germans Are Not Always Loved"

**UNDERGROUND EUROPE.** By Curt Reiss. New York: The Dial Press, 1942. 325 Pages. \$3.00.

If the thousands upon thousands of incidents of sabotage, espionage, and guerrilla warfare in Occupied Europe have occurred as Curt Reiss tells them, our Nazi opponents have taken upon themselves an overload of headaches. We read in the daily papers of a small number of inci-

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dents in the occupied countries, but Curt Reiss recounts them in hundreds to the dailies' one.

The theme throughout the whole book is that the Germans are experts in military matters but fumbling when it comes to psychology. The very measures they take to restrict sabotage of all forms makes the saboteurs more willing to take the chances that underground warfare requires.

One particularly effective form of sabotage is the slowdown—a form that not even the Gestapo can halt, with an agent to each five workers. A workman drops a screw—it rolls under his machine—he stoops to retrieve it—thirty seconds are lost. If every workman turning out war materials under German compulsion loses thirty seconds several times each day, the cumulative loss in productive time is fantastic. Papers are lost, materials misrouted, orders misunderstood—the slowdown is effective.

From Norway to Greece, there are organizations and individuals who do all they can to hinder the Nazi war effort, to kill Nazi soldiers, and to treat the Nazis to a taste of their own invention, the war of nerves. Quislings in Norway find that street cars empty miraculously as soon as they come aboard. In Holland the very children have become experts in making the occupying soldiers understand that they are hated without being feared. The Poles are still killing Nazis in ones and tens, and the Czechs are masters of the slowdown. In Yugoslavia the Chetniks are giving the Nazis a taste of real wholesale warfare, complete with airplanes which have come from goodness knows where.

*Underground Europe* is a catalogue of courage and of the love of liberty. Perhaps if Hitler's famous intuition had foreseen the things this book describes, he would not have brought this war to the world.

### Our Opponents

**THE FOE WE FACE.** By Pierre J. Huss. New York: Doubleday, Doran and Company, 1942. 300 Pages. \$3.00.

There are few, if any, of us who have difficulty in detesting the Nazis and what they stand for. This series of character sketches of leading Nazis should resolve the doubts of the few, and add fuel to the flames of loathing of the many.

Pierre Huss was chief of the INS bureau in Berlin, and it was his job to know the Nazis. From his eight years of association with the leaders of the Nazi movement, he has been able to give us vivid pen-pictures of the unsavory crew who have set the world on fire.

Mr. Huss knew the Nazis well, and liked them not at all. He depicts them as a bloodthirsty, arrogant, self-centered gang who exist by the grace of one man, Hitler, and whose snarling, wolf-pack characters are held in check by Hitler alone. Hitler himself, according to Huss, has capabilities that are as dangerous as they are unique. He is a marvelous pistol shot, a master of intrigue, and an expert in gaining personal loyalty from his associates. Goebbels, Goering, Ribbentrop, Bormann (Hess' successor) and other little-known but important Nazis are loyal only to Hitler and their own ambitions.

The author makes a case for the contention that the Japanese smash at Pearl Harbor and the strategy since then were made in Germany. He talked to Hitler in November, and his impression at that time was that Hitler

fears one man above all others—that man is Franklin D. Roosevelt, the man who could be neither intimidated nor fooled. The frequent blasts of the Nazis against our President were not only frenzied retorts to a potential enemy who knows the answers, but part of a deep-laid and long-existent plan to prepare the German people for the entry of the United States into the war—the one enemy they really fear.

### Tricolor in the Dust

**UNCENSORED FRANCE.** By Roy P. Porter. New York: The Dial Press, 1942. 305 Pages. \$2.75.

Roy Porter, Chief of the Associated Press Paris Bureau, left France just before our war with Germany. He has lived in occupied France, and has written about what he saw and did under German rule.

The noteworthy thing about this book is Porter's attitude toward and estimate of Marshal Petain. Porter sees him as the best man for France in these times, as a man who has been trading with the Nazis for France's good and winning a fair percentage of the trades, and as a realist who is faced with the difficult problem of saving his country's life and honor at the same time. The book was written before Laval's return to power (at least, to open power). It might be interesting to hear Mr. Porter's comments on this latest development.

The author tells us of the poverty, the lack of food, the trading in the black market, and the graft and corruption that taints both Frenchman and German. Through it all, Mr. Porter loves the France that was, and insists that ninety per cent of the French people still dream of liberty, liberty without the shadow of a powerful Germany to dull its light.

### The Mediterranean

**SEA OF MEMORIES.** By Charles Moran. New York: Charles Scribner's Sons, 1942. 307 Pages; Illustrated; Index. \$3.50.

"A busy crossroad by which throughout the ages many people have passed, jostling and elbowing each other as they hurry in pursuit of their goal; a restless region despite the serenity of its coast line, the scene of countless bitter struggles often waged amid incredibly beautiful surroundings; a sea along which merchant and soldier have alternated, where men have battled and died for gain, for glory or for their God, where adventure soon turns into tragedy: the Mediterranean!"

This quotation, the first paragraph of the epilogue, describes very well the content of the book. Commander Moran (U.S.N.R. Ret.), has written an episodic history of the entire Mediterranean area, treating events from the earliest dawn of recorded history to December 1, 1941. The roots of the present world-wide war stem in large part from the shores of this inland sea; today's struggle grows from the bases of the long series of wars that have disturbed Mediterranean peace through the centuries.

We cannot have a full understanding of World War II unless we understand the part the Mediterranean has played in the history of the European and Asiatic world. In a scholarly (perhaps too scholarly in parts) but humanly written history, Commander Moran traces the shifting scenes that have been part of most of the world's strife

### Broken Fasces

AGENT IN ITALY. By S. K. New York: Doubleday, Doran and Company, 1942. 331 Pages. \$3.00.

S. K. was invited to leave Germany by the Gestapo because of his activities in interceding for people the secret police arrested. Arriving in Italy, where he had business connections, S. K. identified himself with the anti-Fascist underground. Among other things calculated to hurt the Axis, he supplied information to an unnamed colonel, who is obviously American although the author does not identify him definitely.

If we can believe S. K., the underground in Italy is quite active, although divided into two groups. Even many of the top-flight Fascists are Fascists as a matter of convenience only, and would welcome the overthrow of Mussolini and all his works. Several of them give active aid to the underground groups, and others aid this subversive activity through the age-old expedient of looking the other way.

### The Thawing North

CANADA MOVES NORTH. By Richard Finnie. New York: The Macmillan Company, 1942. 214 Pages; Index; Illustrated. \$3.50.

Mr. Finnie's main premise is that the "frozen, inhospitable North" is not nearly so cold or inhospitable as missionaries, journalists, and even the school geographies would have us believe. According to the author, the legend of the forbidding Arctic is a compound of the imaginations

of missionaries soliciting funds, journalistic "experts" who write books after short stays in easily accessible places, and of explorers who wish to impress the public with their fortitude.

Mr. Finnie insists that food can be raised, minerals extracted from the earth, and a reasonable degree of comfort as we know it found in many places near or within the Arctic Circle. He deplores the form of civilization that is being brought to the natives, Indians and Eskimos alike, by the Hudson's Bay Company, the missionaries, and governmental indifference. The author believes that these agencies, with every opportunity to make the native a self-respecting, valued and self-reliant human, are bringing little more than debt, health-wrecking customs, and in short, the disadvantages of civilization without the corresponding gains.

The airplane, economic necessity, and the pioneering spirit are developing northern Canada. Mr. Finnie insists that it should be done faster, and could be done better.

### Tropical Vermin

THE NAZI UNDERGROUND IN SOUTH AMERICA. By Hugo Fernandez Artucio. New York: Farrar and Rinehart, Inc., 1942. 304 Pages; Index. \$3.00.

Dr. Artucio takes each South American country in turn and explains the Nazi fifth column setup most dispassionately. He names names and quotes figures, diagrams are used in many cases. The book presents a clear analysis of Nazi activities to undermine the political economy of foreign nations.

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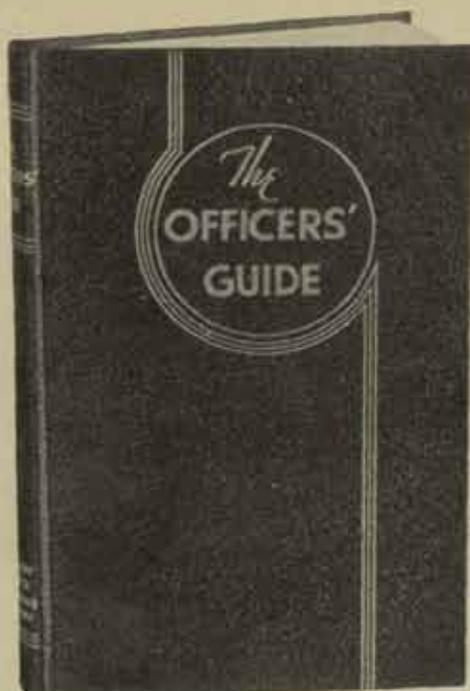
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