Antiaircraft JOURNAL

MARCH-APRIL, 1953

HONOR ROLL

Original Honor Roll

88th AAA Airborne Bn
Lt. Col. R. B. Barry, Jr.
228th AAA Group
Col. T. H. Pope
107th AAA AW Bn (M)
Lt. Col. E. R. McIver
305th AAA Group
Col. John S. Mayer, N. Y.

Separate Commands

Army AAA Command
Lieut. Gen. J. L. Lewis
Third Army Training Center
Brig. Gen. R. W. Mayo
East AAA Command
Brig. Gen. F. L. Hayden
Central AAA Command
Col. D. J. Bailey
West AAA Command
Brig. Gen. E. J. McGaw
Hqs. Far East AAA Spec. Sch.
Lt. Col. W. H. Nicolson

Guided Missile Dept.

AA & GM School
Col. F. M. McGoldrick
Officer Candidate School
Col. K. R. Kenerick
AAA Repl Training Center
Col. E. W. Heathcote

Electronics Dept.

AAA & GM School
Col. P. W. Shunk

Non-Resident Ins. Dept.

AAA & GM School
Col. T. H. Watkins

Brigades

34th AAA Brigade
Brig. Gen. R. W. Chrichlow
35th AAA Brigade
Col. T. V. Stayton
45th AAA Brigade
Col. F. F. Miter
47th AAA Brigade
Col. G. C. Gibbs
56th AAA Brigade
Brig. Gen. H. F. Myers
105th AAA Brigade
Brig. Gen. A. H. Doud, N. Y.
107th AAA Brigade
Brig. Gen. J. W. Squire, Va.
111th AAA Brigade
Brig. Gen. Chas. G. Sage, N. Mex.
112th AAA Brigade
Brig. Gen. J. W. Cook, Calif.
261st AAA Brigade
Brig. Gen. J. B. Moore, Del.

Groups

1st Composite Group
Col. T. H. Leary
2nd AAA Group
Col. A. S. Buynoski
4th AAA Group
Col. L. A. Bonifay
6th AAA Group
Col. A. A. Adams
7th AAA Group
Col. M. J. Martin
8th AAA Group
Col. O. H. Kyster, Jr.
11th AAA Group
Col. F. H. Shepardson
13th AAA Group
Col. W. C. Mahoney
26th AAA Group
Col. H. D. Lind
65th AAA Group
Col. B. E. Cordell
68th AAA Group
Col. W. B. Hawthorne
142d AAA Group
Col. R. Hardy, Ala.
197th AAA Group
Col. A. S. Baker, N. H.
200th AAA Group
Col. C. M. Woodbury, N. Mex.
205th AAA Group
Lt. Col. J. H. Pindell
207th AAA Group
Lt. Col. R. G. Irish, N. Y.
211th AAA Group
Col. D. MacDuff, Mass.
214th AAA Group
Col. J. G. Johnson, Ga.
218th AAA Group
Col. V. P. Lupinacci, Pa.
220th AAA Group
Col. R. H. Hopkins
224th AAA Group
Col. E. W. Thompson
227th AAA Group
Col. P. L. Wall, Fla.
233rd AAA Group
Col. W. T. Stone, Calif.
250th AAA Group

260th AAA Group
Col. G. V. Selwyn, D. C.
302nd AAA Group
Col. J. M. Welch
313th AAA Group
Col. A. F. Hoehle
326th AAA Group
Col. M. D. Meyers, Pa.
374th AAA Group
Col. T. F. Mullaney, Jr., Illinois
515th AAA Group
Col. F. G. Rowell, N. Mex.

Battalions

1st AAA Training Bn
Lt. Col. H. E. Graham
2nd AAA AW Bn
Maj. J. D. Benner
2nd AAA Training Bn
Lt. Col. J. Martinelli
3rd AAA AW Bn
Lt. Col. O. A. Moomaw
3rd AAA Tng. Bn.
Lt. Col. A. S. Naylor
4th AAA AW Bn
Lt. Col. E. O. Connor, Jr.
4th AAA Training Bn
Maj. K. L. Boullon
5th AAA Training Bn
Maj. F. R. Whitehead, Sr.
6th AAA Training Bn
Lt. Col. G. L. Crawford, Jr.
7th AAA AW Bn
Lt. Col. H. E. Michelet
8th AAA Training Bn
Maj. M. D. Kert
9th AAA Training Bn
Maj. W. E. Osburn
10th AAA Training Bn
Lt. Col. V. T. Terribile
11th AAA AW Bn
Lt. Col. J. E. Wales
11th AAA Training Bn
Lt. Col. A. O. Chittenden
12th AAA Gun Bn
Lt. Col. P. R. Cibotti, Jr.
12th AAA Training Bn
Maj. L. E. Marlowe
14th AAA Gun Bn
Maj. H. C. Lorck
15th AAA AW Bn (SP)
Lt. Col. B. H. Johnson
18th AAA AW Bn
Lt. Col. L. H. Burnham
20th AAA Gun Bn
Lt. Col. C. F. Ottenger
21st AAA AW Bn (SP)
Lt. Col. D. B. Williams
32nd AAA AW Bn
Lt. Col. E. F. Moody
34th AAA Gun Bn
Lt. Col. H. B. Reubel
36th AAA Gun Bn
Lt. Col. G. W. Best
37th AAA Gun Bn
Maj. R. G. Duncan
38th AAA Gun Bn
Lt. Col. S. R. Kelley
39th AAA AW Bn (M)
Lt. Col. P. J. Lacey, Jr.
41st AAA Gun Bn
Lt. Col. C. F. Chirico
48th AAA Gun Bn
Lt. Col. D. W. Malone
49th AAA Gun Bn
Lt. Col. G. E. Meyers
50th AAA AW Bn
Lt. Col. J. O. Hodgson
53rd AAA Gun Bn
Lt. Col. J. H. McCann, Jr.
56th AAA Gun Bn
Lt. Col. M. A. Selsor, Jr.
60th AAA AW Bn
Lt. Col. Wm. D. Ward
63rd AAA Gun Bn
Lt. Col. C. F. Coffey
64th AAA Gun Bn.
Lt. Col. D. B. Nye
65th AAA Gun Bn
Lt. Col. H. C. Brown
66th AAA Gun Bn
Lt. Col. C. M. Brown
70th AAA Gun Bn
Lt. Col. J. E. Barton
71st AAA Gun Bn
Lt. Col. B. R. Brown
73rd AAA AW Bn
Lt. Col. P. W. Pedrotti
74th AAA Gun Bn
Maj. L. A. Waple
76th AAA Gun Bn
Lt. Col D. Y. Nanney
77th AAA Gun Bn
Lt. Col. W. P. Wright, Jr.
79th AAA Gun Bn
Lt. Col. W. A. Brinkerhoff
80th AAA Airborne Bn
Lt. Col. J. Evans
82nd AAA AW Bn
Lt. Col. H. K. Clark
95th AAA Gun Bn
Lt. Col. P. E. Pique
96th AAA Gun Bn
Lt. Col. R. E. Hood
97th AAA Gun Bn
Lt. Col. W. F. Corcoran
102nd AAA Gun Bn
Maj. E. R. Welte, N. Y.
107th AAA Gun Bn
Lt. Col. F. R. McIver
120th AAA Gun Bn
Lt. Col. H. C. Gray, N. Mex.
123rd AAA Gun Bn
Lt. Col. I. E. Dominguez, P. R.
126th AAA AW Bn
Lt. Col. R. C. Carrea
127th AAA AW Bn (SP)
Lt. Col. H. G. White, N. Y.
133rd AAA AW Bn
Lt. Col. E. J. Modjeske, Illinois
137th AAA AW Bn
Maj. F. R. Nairn
140th AAA AW Bn
Lt. Col. L. H. Ripley
144th AAA AW Bn
Lt. Col. R. T. Dunn
145th AAA Gun Bn
Lt. Col. H. J. Cunningham
150th AAA Gun Bn
Lt. Col. L. O. Ellis, Jr., N. C.
243rd AAA AW Bn
Lt. Col. E. E. McMillan
259th AAA Gun Bn
Lt. Col. M. E. Chotas
271st AAA AW Bn
Lt. Col. L. C. Saylor
336th AAA Gun Bn
Lt. Col. P. A. Voyatzis
340th AAA Gun Bn
Lt. Col. R. T. Bard, D. C.
387th AAA Gun Bn
Lt. Col. R. Wetherall
443rd AAA AW Bn (SP)
Lt. Col. T. F. Gordon
450th AAA AW Bn
Lt. Col. B. N. Singleton
459th AAA AW Bn
Lt. Col. W. F. Shaver
464th AAA AW Bn
Lt. Col. R. E. Glasgow
495th AAA AW Bn
Lt. Col. G. E. Miller
501st AAA Gun Bn
Lt. Col. J. C. Parker
502nd AAA Gun Bn
Lt. Col. P. J. Maline
506th AAA AW Bn
Lt. Col. J. H. Valliere
507th AAA AW Bn
Lt. Col. J. M. Carson
518th AAA Gun Bn
Lt. Col. F. A. Werner
519th AAA Gun Bn
Lt. Col. R. E. Holt
526th AAA Gun Bn
Lt. Col. R. W. Molley
531st AAA AW Bn
Col. P. J. Gunlach
550th AAA Gun Bn
Lt. Col. N. E. Cole
552d AAA Gun Bn
Lt. Col. J. Strickland
554th AAA Gun Bn
Lt. Col. F. J. Lagosse
678th AAA AW Bn
Maj. J. B. Crayton, S. C.
697th AAA AW Bn
Maj. W. C. Thompson, N. Mex.
698th AAA Gun Bn
Lt. Col. F. Monico, Illinois
701st AAA Gun Bn
Lt. Col. F. F. Quist

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The purpose of the Association shall be to promote the efficiency of the Antiaircraft Artillery by maintaining its standards and traditions by disseminating professional knowledge, by inspiring greater effort toward the improvement of matériel 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.

The JOURNAL prints articles on subjects of professional and general interest to personnel of the Antiaircraft Artillery 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 Department of the Army.

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THE ANTIAIRCRAFT JOURNAL AND ITS PREDECESSORS . . . 1892-1953

WITH the present complexity and multiplicity of Artillery weapons and missions and the rapid development in mid Twentieth Century some of us may be inclined to conclude hastily that the bulk of artillery progress has been made in our generation; that our artillerist predecessors kept the torch burning but dimly through the long dull period between the Civil War and World War I. However, if we take but a brief time to review through the early pages of this JOURNAL the progress in our Coast Artillery we find inspiration in the thought and vision with which our forebears solved the problem at hand and marked ahead the course which has led to the progress we know.

When the JOURNAL began publishing in 1892 our nation was expanding, growing, and witnessing the early days in the development of machinery, equipment, mills, factories. Railroads and steamboat lines were reaching out to growing towns and cities.

The Army was beginning to arouse itself after a long post Civil War sleep. Congress had reduced it to a strength of 25,000. The Artillery was one arm of five regiments, each of 12 batteries, of which two in each regiment were horse or field; the rest, foot, seacoast or siege artillery. Batteries were scattered generally in small posts along the seaboard and in the interior, four artillery regiments being in the Division of the Atlantic. No regimental commander had his regiment together.

The Artillery School at Fort Monroe had been originally established in 1824, but it was not until 1881 that *The School of Application for Infantry and Cavalry* was established at Fort Leavenworth. Just after the birth of our JOURNAL, a *School of Instruction of Drill and Practice for Cavalry and Light Artillery* was opened in 1892 at Fort Riley, Kansas.

Brig. Gen. John W. Ruckman

The old muzzle-loading cannon of the Civil War era were gradually being replaced with breech-loading rifled cannon and 12-inch B. L. cast iron mortars. The recommendations of the Endicott Board (1886) for the development of our seacoast defenses were beginning to be carried out. The Crozier-Buffington disappearing carriage was being developed for seacoast cannon from 6-inch up. Smokeless powder was being introduced to completely alter the conditions of seacoast artillery firing by facilitating the continuous pointing at moving enemy ships under fire. General Ruckman summed up the general situation as follows:

> "In those days no foreign people knew that the United States had such a thing as artillery, and, our own people knowing but little more, it really would not have been safe to insist on the point too strongly. Artillery sentiment was an absent quality."

The United States Naval Institute Proceedings had begun publishing in 1874, and the *Cavalry Journal*, predecessor of *Armor*, in 1888. So our JOURNAL became the third of the family of service journals still publishing. Others were to come later: *Infantry Journal* in 1904; *Field Artillery Journal* in 1911; *Military Surgeon* in 1901; *Ordnance* and the *Military Engineer* in 1921; *Quartermaster Journal* in 1921.

Maybe our forebears were better off in some respects than they realized. Army Regulations were all contained in one small book less than one inch thick, and all the official training and administrative regulations could be carried in a large brief case. *Infantry Drill Regulations* (IDR) and *Troops in Campaign*, forerunner of *Field Service Regulations*, were in pocket manual size. Revolutionary progress was being made in the manufacture of guns, carriages, munitions and accessories, and artillerymen the world over were keenly studying and writing on the developments; however, there existed a serious dearth of published matter available on artillery matters for the ambitious officers and men. As a result of the development in the manufacturing field, the artilleryman was confronted with important problems which demanded exploration and solution. The time was ripe for the birth of the *Journal of the United States Artillery*.

THE JOURNAL was founded in 1892, and evolved from the demands of necessity," wrote the late General John W. Ruckman in the September-October 1912 issue. He was the first editor. To resume: "In the fall of 1891 active steps were taken by a few officers at Fort Monroe to produce a magazine which should satisfy the requirements of the service; and through their efforts, and favorable circumstances, the JOURNAL came to life."

The small group of officers at Fort Monroe who interested themselves in

We acknowledge the valuable assistance of Colonels Arthur Symons, USAR, and William Cooper Foote, USA, retired.

For our Golden Anniversary number in January, 1942, Colonel Symons, then associate editor, wrote the unsigned lead article, THE FIRST FIFTY YEARS, from which we have copied extensively.

From his memory and research, Colonel Foote contributed valuable help with information and suggestions.—Ed.

his project studied ways and means of production. Minimum cost was essential. This meant publishing the paper at the Artillery School, since the school had its own press. Some feared that independence of action and speech would be restricted by the school authorities, rendering the publication useless, a fear that "proved to be wholly imaginary."

Personal letters were written to individual officers stating the terms of the project and asking a contribution of $2.50. This netted subscriptions from 160 of the 288 officers then in the artillery, thereby assuring $400 for the first year. Evidently there was some opposition as well as indifference. General Ruckman continued: "With these data, Lieutenant Willcox and the writer visited the Commandant of the School, Colonel Royal T. Frank, at his house, and outlined a plan of procedure. At first he wished to call the officers together for a general discussion, but was persuaded to proceed to business. A general discussion at a meeting of officers at that time would certainly have killed the scheme and postponed action for several years. When he was informed that the manuscript for the first number was on hand, he said 'Turn it in and we will start.'"

The first issue was dated January, 1892 and distributed in February. Its table of contents:

I—Announcement.
II—The Effect of Wind on the Motion of a Projectile, by Lieutenant John W. Ruckman, 1st Artillery.
III—The Determination of the Velocities of Projectiles by Means of Sound Phenomena, by Captain Fernand Gosset, French Marine Artillery (translation).
IV—Our Artillery Organization, by Lieutenant W. A. Simpson, Adjutant, 2nd Artillery.
V—Range Tables for the 12-Inch Cast-iron B.L. Mortar, by Captain James M. Ingalls, 1st Artillery.
VI—The Chilean Navy, by Lieutenant H. C. Davis, 3rd Artillery.
VII—Book Notices—Clark's Fortifications, Maurice's War, Metcalf's Ordnance and Gunnery.
VIII—Service Periodicals.

From the announcement we quote in part:

"By this, the first issue of the *Journal of the United States Artillery*, is realized, we venture to believe, a hope long-cherished by the more progressive officers of the arm. * * * In no branch of the military service is progress so rapid, development so unexpected, as in the Artillery. Almost all the arts and industries are drawn upon to furnish in greater or less degree, their share in extending its sphere, in widening its applications. War grows more and more exacting in the requirements it makes of those who make its practical study their profession. True of all arms, this remark applies with peculiar force to our own, for it is in it especially that progress opens up an increasingly widening field. For us, the development of our artillery is of especial interest. The proper organization and administration of this arm is perhaps the great purely military problem that calls for solution in our land. * * * As artillery literature is increasing day by day in volume and interest, so it will be the aim of the JOURNAL in some sort to serve as a guide to those engaged in research and investigation."

The two technical articles on projectiles by Ruckman and Gosset were scholarly pieces, each including diagrams, tables and mathematical deductions. Lieutenant Simpson's paper on artillery organization came out flat-footedly for a re-organization of the Artillery, saying:

> "Now things are changing. People are beginning to realize that our sea-ports need defending, and that adequate defense cannot be improvised at short notice. If we get these defenses we want a proper personnel. We need a corps organization, with a chief, a central head. He would be at army headquarters, with the seat of government."

Colonel Frank designated a committee of five officers to manage the JOURNAL:

1st Lt. William B. Homer, 5th Arty.
1st Lt. Henry C. Davis, 3rd Arty.
1st Lt. John W. Ruckman, 1st Arty, Treas.
1st Lt. Cornelius DeW. Willcox, 2nd Arty., Secty.
2nd Lt. Lucian G. Berry, 4th Arty.

In the second year of the publication's existence, the form of management was changed. Lt. Ruckman was given entire charge of the editorial management (editing by committee has rarely proved successful), and a committee of Direction and Publication was established. This committee consisted of:

Col. Henry W. Closssen, 4th Artillery
Capt. James M. Ingalls, 1st Artillery
Capt. Edmund Zalinski, 5th Artillery
Lt. Erasmus Weaver, 2nd Artillery
Lt. George O. Squier, 3rd Artillery

This arrangement lasted at least until the May-June issue of 1902, at which time the names of the members of the committee disappeared from the masthead. During this period, of course, the membership of the committee and the editor were changed with varying frequency.

CONTINUING with the same high standard, the JOURNAL published as a quarterly and included during the first year articles by E. M. Weaver, G. N. Whistler, and W. Walke, then lieutenants and later to become eminent artillerymen. Also included were "Field Artillery, Its Organization and Its Role," by Lt. C. D. Parkhurst and "Time Fuze and Shrapnel Fire," by Lt. A. D. Schenk. However, from the first issue it was predominantly a Coast Artillery Journal.

A "special number," No. 5, rounded out 1892, including French and German translations on the merits of "Krupp vs. Canet Guns." It was really an Ordnance number. It also included an index for the year, a financial statement, and a list of subscribers.

On that list we find Governor Levi K. Fuller of Vermont, General Faries of

Louisiana, nine Ordnance officers, and Artillery Lieutenants Arthur Murray, Tasker Bliss, M. F. Harmon, J. D. Barrette, Adelbert Cronkhite, Wm. Snow, Wm. Lassiter, and P. C. March.

In 1893 Editor Ruckman sent out a circular letter to Artillery officers outlining the scope and inviting discussion on "Coast Artillery Fire Instruction," dividing it into three periods: ballistic firing, target firing, and tactical firing. The response was a sensation. Fifteen officers submitted their organized comments to make the April, 1894 issue an instructive and fascinating issue to this day.

Lt. Geo. O. Squier orients us,

"In looking back over the past six years of practice we find:

a. Practice with the 4.5-inch muzzle-loading rifle is dangerous on account of the liability of bursting the gun.
b. The 8-inch converted rifle will shoot accurately if intelligently handled.
c. Practice with the 13-inch and 10-inch sea coast mortars is useless and in many cases detrimental, unless they are provided with suitably leveled platforms.
d. The 8-inch and 10-inch siege mortars, quite contrary to *manual,* should be pointed and elevated before loading.
e. The utmost care should be taken to insure uniform 'density of loading' with the 8-inch converted rifle.

* * *

h. The great practical value of Whistler's graphic tables of fire has been shown in the practice with the 8-inch converted rifle."

Then he gives his idea on ballistic firing:

"The few shots which were so carefully and intelligently utilized in a study of the 8-inch converted rifle at Fort Monroe gave us more real, tangible, valuable results as far as the treatment and behavior of this particular gun is concerned than all the irregular battery firing

Maj. Gen. Erasmus M. Weaver

which had been done with it up to this time. * * * Before beginning battery target practice with any gun we should know all we can learn about its performance from the most careful and intelligent ballistic firing by a competent board of artillery experts."

Lt. Willoughby Walke stressed ballistic firing:

"For years it has been difficult to impress upon those in immediate charge of target practice the importance of securing, previous to marching to the guns, the necessary ballistic data for an intelligent laying of the piece. It has been quite sufficient for all purposes if the ordnance officer or ordnance sergeant has copied from the heads of the barrels the granulation and specific gravity of the powder, and sent that information to the recorder in time to fill up the blank. In years gone by, and even now occasionally (when a lot of 1867 powder is used for 1894 practice), the valuable information, the initial velocity, determined presumably when the powder was packed and stored, is also found suitably painted in white letters on a black barrel head! The practical application of this data was given but little thought, certainly never intelligently used until Lieutenant Whistler (to whom be given all credit for the sudden awakening from our Rip Van Winkle nap) published his Graphic Tables of Fire. It is true that Captain Ingalls had already blazed a way through the hitherto unbroken wilderness, but it required too much work and worry to apply his formulae to our daily practice. Therefore it was a happy inspiration that prompted Lieutenant Whistler to reduce the results of Captain Ingalls's labors and so present it that 'he who runs may read.'"

In Lt. Weaver's comprehensive comments he refers to a practice at a moving target:

"At Fort Monroe in the summer of 1887 Captain S. M. Mills, 5th Artillery, then in charge of target practice, had a target towed across the field of fire and it was fired at from a 15-inch S. B. gun. The practice was not good. The difficulties connected with the practical problem of causing the projectile and target to meet at a guessed-at point ahead, were, I think, a revelation to most of those who were called upon to fire the gun. The experiments had to be discontinued after a few trials because of objections raised by the captain and crew of the boat."

And then upon realism in target practice:

"Whatever is done should be, in so far as possible, an exemplification of what we would have to do in action against hostile war ships. It seems that we come wide of this mark. * * * We strain after certain refinements which are possible on the proving ground and of service in determining range tables, but which cannot be put in practice in the rush and excitement of combat."

Lundeen, Whistler, Davis, and John Hamilton were also among the distinguished authors. Editor Ruckman later commented, "this number caused such interest in artillery practice that in the season of 1894 the hitting capacity of the batteries increased almost

beyond belief, and improvement continued during the successive years."

"PROFESSIONAL NOTES" was introduced as a section in the JOURNAL in the January, 1894 issue, developing into a valuable and long-continued feature. Usually included were reprints or translations of foreign and other timely material of professional interest to artillerymen. *As an example, September, 1912 issue reprinted a letter from Benjamin Franklin "Relative To The Use Of Oil For Stilling The Waves."*

Beginning with 1896 the JOURNAL became a bi-monthly publication, a basis generally maintained throughout its existence, except for a twelve-year period, May 1919 to April 1931, when it was published as a monthly. War caused a few issues to be consolidated, first in 1899, next and last in 1917 and 1918.

Lieut. John P. Wisser was assigned as editor, succeeding Lieut. Ruckman in 1896 as the result of a request "through channels," which evidently settled the question of official recognition of the JOURNAL and of its importance. Lieut. Ruckman had served as editor in addition to his official duties as police and ordnance officer. Henceforward, our periodical rated a full-time editor.

Captain Wisser continued the quality of the magazine and broadened its content, contributing himself by original writings, by compilations and by translations from the German.

His article, The Artillery in Battle, his translation of Von der Goltz's Principles of War, and his compilation of a history of the Second Boer War are notable.

The quickening interest in seacoast artillery during the Nineties is evident in the articles published in the JOURNAL. New matériel, new fire control methods, and a new outlook on the missions and capabilities of the arm brought about a wealth of searching articles by scholarly authors. Rifling of cannon, gun carriages, ballistics, notes on foreign seacoast installations, and submarine mine defenses were topics under discussion.

Advertising increased: one brand of whiskey was included.

Captain E. M. Weaver, later Chief of Coast Artillery, an able and frequent contributor, served as editor for the March-April 1902 issue. Captain John D. Barrette followed him and is shown on the masthead of the May-June, 1902 issue as editor and manager. The Editorial Committee disappeared with the same issue.

Maj. Gen. Andrew Hero, Jr.

Captain Andrew Hero, Jr., later Chief of Coast Artillery, ably guided the JOURNAL during the years 1902-1907. His article in January-February 1903, entitled *A Step Forward,* cites the benefits of the act of February 2, 1901, an act which increased and reorganized the Regular Army, discontinued the regimental organization in the artillery, and established the Artillery Corps with thirty Field Artillery batteries, 126 companies of Coast Artillery and a Chief of Artillery, with a total enlisted strength of 17,742.

Captain Frank W. Coe, also later to become Chief of Coast Artillery, developed the manning table idea for determining harbor defense personnel needs in his *Coast Artillery Organization* in same issue. And to add interest, a fine argument and plan for regimental organization in the Coast Artillery were presented by Captain Oliver L. Spaulding in the May-June 1904 issue.

The July-August 1906 number was devoted largely to *Armor and Ships,* written by Captain John W. Gulick, also later to become Chief of Coast Artillery. It was later reprinted as a text for use at The Artillery School. At this time Captain Gulick was an instructor in the School. In 1908 he reappeared in Practical Coast Artillery Gunnery, in which he stressed "hits per gun per minute" as the accurate criterion for a firing battery. He continued as a frequent contributor.

At this same time Captain Alston Hamilton also became a frequent contributor on ballistics, gunnery and armor penetration. He was acquiring fame as a successor to Ingalls as the ballistician.

The March-April, 1907 issue carried an editorial article, *Attacks Upon Fortified Harbors.* Referring to an article, same subject, in the *Proceedings of the U. S. Naval Institute,* reprinted in Artillery Notes No. 28, and to joint operations in Cuba under Sampson and Shafter, Editor Hero's sound lessons for joint operations, as well as for coast artillery, made the editorial a classic. Forty years ahead of his time, he finished his editorial on this prophetic note:

> "In selecting commanders for future joint operations, it would be wise to select generals conversant with Captain Mahan's writings, and admirals who have made a close study of wars on land."

THE JOURNAL made no mention of the separation of the Coast and Field Artillery in 1907, at which time the Chief of Artillery, General Arthur Murray, became Chief of Coast Artillery. The only evidence was the "Coast Artillery Corps" following the names of the editors and authors. The crossed cannon insignia had picked up its superimposed projectile several years before.

One outstanding virtue of the JOURNAL during the first fifteen years of its existence was the quality of its illustrations. Although engraving processes, printing paper, and photographic artistry were all at a comparatively low level in those days, the JOURNAL illustrations were remarkable for clarity and detail.

Volume 32, for 1909, included a line drawing of a woman in a nightgown (an illustration for a bedding advertisement) and more color, this time an illustration of a steam-boiler recording chart.

In 1910, Lieut. Frank S. Clark (editor later) won the prize essay competition with an essay titled, The Organization and Training of Coast Artillery

Troops, Including Reserves and Supports, Which Will Insure their Maximum Efficiency, in Time of Peace, After their Withdrawal from the Coast Fortifications. The titles of thirty years ago were documents in themselves; in 1911 Captain John S. Johnston won the competition with a piece titled, What is the Best Organization of the Coast Artillery Corps, United States Army, for Tactical Control and Administration, Including its Relation to Existing Staff Departments—Both for Peace and War? Captain Paul D. Bunker won the competition for both 1912 and 1913, the first with an article on seacoast projectiles, and the second with a piece on the mine defense of harbors.

To the beginning of the first World War, in 1914, there was little change in the magazine. An article on Gun Erosion, by Lieut. Comdr. H. E. Yarnell, U.S. Navy, gave little hint of the diplomatic capabilities this officer would exhibit in the preliminary jockeying for position in World War II, or of the accuracy of his estimate of the intentions of Japan.

In the May-June issue of 1915, Lieutenant Samuel H. McLeary had published a long article, *The Aeroplane in Coast Defense*. As might be expected, Lieut. McLeary made a number of poor guesses, but the surprising thing is that so many of his predictions were proved correct.

In the same year the second article by Lieut. Robert Arthur was published —Historical Sketch of the Coast Artillery School. His first article, Armor and its Application to Ships, had appeared a year before. Lieut. Arthur's historical research and writing have made him nationally famous. His articles on early Colonial forts, Virginia to Maine, appeared later in the JOURNAL in the nineteen twenties before he became the JOURNAL editor in 1925.

In 1915 Lt. Col. Henry D. Todd, Jr. (now Major General, retired) relieved Major Williams as editor. About the same time we note a trend away from emphasis on technical articles that are now considered the proper sphere of the Ordnance Corps.

The war in Europe influenced more attention to heavy mobile and railway artillery. The antiaircraft gun and the submarine mine also drew increased attention.

Lt. Col. Meade Wildrick won first

Maj. Gen. Henry D. Todd, Jr.

An original subscriber.

prize in the 1915 contest on the "Effect upon Measures for Coast Defense of the Development of Submarine and Aerial Attack." In 1916 he changed his subject to railway artillery and won again. Again in 1918 Lt. Col. Fred M. Green also won with a railway artillery subject.

World War I writers on antiaircraft included Major T. Q. Ashburn, the late Col. E. J. Wallace, Major Glenn P. Anderson and Oliver L. Spiller, now Brigadier General, retired.

In 1917 Col. John A. Lundeen, retired, was recalled to active duty and appointed editor in addition to his duties as harbor defense commander. Naturally, the JOURNAL publication suffered.

Only three issues were published in 1918. The pace of work at the School printing plant was the greatest obstacle to regular printing. The JOURNAL had low priority at the plant, and Sgt. Charles R. Miller, who was holding the fort while the editor devoted most of his time to his numerous other duties, got the magazine out by haunting the printing plant and pouncing when a linotype or press was momentarily not in use. This catch-as-catch-can method produced results to a marked degree. A successful attempt was made to incorporate live material in the magazine; the war was a source of inspiration for most of the articles.

In France the Coast Artillery furnished for the American Expeditionary Forces of General Pershing the artillery reserve and army artillery. It manned the 155mm guns and all heavier mo artillery. Field Artillery manned 155mm howitzers and lighter artill The Coast Artillery also furnished sonnel for trench artillery, antiairc artillery, ammunition trains, and rail artillery.

IN May, 1919, the JOURNAL becam monthly, continuing so until Ma 1931, when it returned to a bi-month status. In July, 1931 the subscripti were upped 50 cents to $3.00 and h continued the same ever since. T urgency of war was past but milit interest was still at white heat. The was off as far as secrecy was concern and the JOURNAL was packed with i formation about the war that could n be published before. Lieut. Col. Fra S. Clark relieved Colonel R. R. We himer as editor in October. The ed torials of both were strong and per nent, and are said to have had the effect in the organization of the pos war army. Much of the material in th magazine had to do with mobile lan artillery, a natural result of the Corps duties in France, where a large part o the Coast Artillery units performed a heavy land artillery.

The Beaten Zone, one of the most popular features ever to appear in the JOURNAL, began in March, 1920. The feature's purpose, as stated in the first issue in which it appeared, was "To supply a definite and progressive means of self-instruction to reserve officers, young regular officers (verily perhaps even the older regular officers), enlisted specialists and ROTC college students, who desire assistance in their effort to keep abreast of Coast Artillery tactics, techniques and administration."

The applicatory method was used. Much of the material was reminiscent of present-day extension courses, although presented with more informality. Major J. C. Haw, assistant editor at the time, did most of the spade work in the operation of the department. Colonel Clark (now Brig. Gen. Retired), the editor, took great personal interest in the feature. Many Coast Artillerymen submitted problems for consideration.

The same issue of the JOURNAL announced the cessation of paid advertising, pursuant to act of Congress. *Liaison*, a newsy little magazine published

as an adjunct of the JOURNAL for the purpose of keeping contact between the then-present members of the Corps and the wartime members, was discontinued by reason of the same law.

The December, 1921 issue was the first to be printed elsewhere than the School printing plant. An act of Congress required special authorization for publications to be printed in government printing plants, and the authorization for the JOURNAL was withheld. The magazine was printed in Hampton, Virginia, at the plant of the Houston Publishing Company. The hasty move resulted in a particularly small issue, with the Beaten Zone among the missing.

The financial blow was serious. With advertising so suddenly cut off such a short time before, this second strike might have staggered less self-reliant or less resourceful men, but the editors of the JOURNAL had no thought of retiring from the field. They tightened their belts and went after more sales in the Book Department.

The issue of January, 1922 was back in the familiar red cover. The Coast Artillery School imprint was back again—the special authorization had evidently come through. The Beaten Zone was back on deck. Almost the entire issue was devoted to the National Guard. The lead editorial was a plea to those in the regular establishment to learn more about the Guard, that the "inspiration, training, and leadership of a great citizen war army" might not be lacking.

The February issue, continuing the theme, was devoted to the ROTC.

About this time the magazine began to deviate from its preoccupation with the stories of the war, and began to concentrate on current training problems. In this year the Coast Artillery Board gave notice through the JOURNAL that the ideas of all Coast Artillerymen were desired for consideration by the Board. Coast Artillery Board Notes began as a department in the magazine.

IN July, 1922, the name was finally changed to the *Coast Artillery Journal*, a change that could have been made appropriately from the very beginning.

The JOURNAL of this period was devoting much space to the National Guard and Organized Reserve. The

Brig. Gen. Frank S. Clark

value of the civilian troops in a rapid mobilization for war was well recognized after World War I.

August, 1923 marked the disappearance of The Beaten Zone. In October of the same year there came to the JOURNAL a new editor, Major Joseph A. Green, later Chief of Coast Artillery. Advertising, too, made its reappearance with this issue, but the JOURNAL had to move from the School printing plant, this time for good. With the resumption of advertising, the quality of the paper stock took a decided lift; slick paper made the illustrations stand out.

The lead editorial, *Reason to Rejoice*, and an article, *A Regimental Organization for the Coast Artillery Corps*, by Lieut. Col. H. C. Barnes in the April, 1924 JOURNAL, announced the reorganization of troops assigned to the fixed harbor defenses into regiments, effective June 30, 1924. As the Editor said: "The organization of the Coast Defense Commands into regiments is a cause for rejoicing in the hearts of all Coast Artillerymen. It is a change in policy that meets with universal approval within the Corps."

In June, 1924, appeared the Centennial Number, in commemoration of the 100th birthday of the Coast Artillery School. In November of the same year there appeared the Summer Camps Number. The importance of the citizen army was recognized, and the Corps was making a real effort to make training thorough and practical.

The editorials of this period were strong, outspoken, and respectful. It might be said that they make the best reading in the issues of the period.

By 1926 the influence of aircraft in warfare showed its effect on the contents page. Antiaircraft was stressed, as was the role of the airplane in attack and defense of harbor defense installations. Many of the gadgets that aid and puzzle Coast Artillerymen today made their first appearance in the JOURNAL of this time.

The statement, *"The Coast Artillery Journal* pays for original articles upon publication" appeared for the first time in July, 1928, while Colonel Robert Arthur was editor.

IN April 1929, the editorial offices of the JOURNAL moved to the U. S. Infantry Association Building in Washington, D. C. The March number announced:

> "After thirty-seven years at Fort Monroe, the JOURNAL leaves that station with reluctance, but business reasons dictate the move. Closer relationship with the other service publications, with the Office of the Chief of Coast Artillery, and with the Corps seems to have become necessary and to outweigh the advantages of location at Fort Monroe."

After the move to Washington Major S. S. Giffin became editor and Staff Sergeant Charles R. Miller was carried as business manager, a position he had in fact filled untitled for many years. He was a main wheel on the staff over a period that began before WWI and which did not end until his well earned retirement after WWII.

You Tell 'Em, or letters to the editor, appeared in September of 1929, as did the Activities section. Also at this time, subscriptions hit a new low. It was too long after the first World War, and too long before the 1939 wave of preparedness. The late lamented depression of October, 1929 did the rest. By December of that year, the circulation curve was at the lowest point in the JOURNAL's recent history.

Major Stewart S. Giffin, the editor during those dark days, fought manfully to hold his circulation and to gain new subscribers. Many of us remember his

personal letters–they were masterpieces of "The JOURNAL expects every man to do his duty" type–and they must have worked. The curve began its slow upward climb.

After the move to Washington and after Major General Gulick, Chief of Coast Artillery, heard some intimation that the JOURNAL was a house organ for the Chief, he appointed an Advisory Council of three senior Coast Artillery officers in Washington, none of whom served under the Chief, to direct the JOURNAL activities. This Council consisted of:

Colonel Samuel C. Vestal
Lt. Col. William H. Wilson
Lt. Col. Frederick H. Smith

(Major General Wilson, now retired, is our senior subscriber–began in 1901.)

From this grew a committee of six officers, one the editor, which drafted in August, 1930 a constitution for the United States Coast Artillery Association. This was promulgated with ballots and an explanatory letter, mailed to officers of all components of the C.A.C. At a meeting in Washington, D. C., January 10, 1931, the proposed constitution (approved by 2,338 eligible members) was adopted and officers elected by mail ballots. General Gulick served as the first Association President.

Henceforward our magazine was published under the supervision of the United States Coast Artillery Association.

The main purpose of the Association has been to publish the JOURNAL; however, it has done much for the branch by providing trophies and awards and by its function as a rallying point for the branch leaders among the National Guard, Organized Reserve, and active duty members.

Since the war the only medal now awarded is the one presented annually to the outstanding ROTC cadet in each Senior ROTC AAA unit.

THE JOURNAL blossomed forth in its present 8½ x 11 format with the January, 1931 issue. The larger format and the higher grade paper made possible better presentation of illustrations, better page makeup, and also permitted the magazine to exchange articles in type with the *Infantry Journal* and the *Cavalry Journal*.

Maj. Gen. Joseph A. Green

In the lean depression years, this affiliation was designed to save all three of the journals from unnecessary expense by pooling hired civilian personnel, office space, machinery, and to some extent, printing costs. Articles of interest to all three branches could be printed with only one charge for typesetting and illustration.

On February 23, 1931, the President signed the military appropriation act for the next fiscal year, which once more prohibited the JOURNAL from accepting paid advertising. The Association ordered that the magazine be published bi-monthly. The book business was stressed as the only additional source of income for the JOURNAL; the amount received from subscriptions did not pay even the mechanical costs of the publication.

Maj. Gen. John W. Gulick

Lieut. Col. Eli E. Bennett took over as editor in 1933 when the Army was occupied largely with CCC matters. Soon thereafter, however, the JOURNAL reflected the increasing activity and development in antiaircraft. Articles described the Lewis Charts designed by our present Army Antiaircraft Commander for use in preparation of AA fire. Captain Robert W. Crichlow explained his slide rule designed and widely used for a similar purpose.

Captain William F. Marquat in his *Tactical Employment of Searchlights* in 1935 suggested the then radical idea of battlefield illumination for night operations, which was to be used so effectively in World War II.

Major W. W. Irvine, President of our Association a year ago, wrote a series of articles on organization and tactics for AAA in the late thirties.

In 1934 Lieutenant Paul B. Kelly, now a retired Brigadier General, wrote an entertaining and thought-provoking piece, *"I Will Gladly Pay Tuesday for a Hamburger Today,"* attacking the Army "jawbone" system then in vogue.

Major Thomas R. Phillips (now Military Analyst, *St. Louis Post Dispatch*) followed up his prize-winning article in 1923 with a strong series of articles in the thirties on air power, antiaircraft, leadership, and one debunking the principles of war.

Major Aaron Bradshaw, Jr., who recently retired in Europe as a Major General, became the editor in November 1936. His tenure saw the resurgence in military preparedness that foreshadowed WWII and an increasing interest in world events, all of which the JOURNAL presented in its articles and photographs. He placed the Association on a sound business basis with a prosperous sale of instruction books, and built up during his tenure a substantial reserve fund.

Major Generals C. E. Kilbourne, Johnson Hagood, W. K. Wilson and A. H. Sunderland, and Brig. Gen. Robert S. Abernethy continued as contributors during the period.

As the expansion activity accelerated, more attention was given to field train-

ing. Lieut. General LeRoy Lutes published his SOP for G4 in 1941 based on his experience with the Third Army in Texas and Louisiana maneuvers.

Col. Charles G. Sage wrote from Fort Bliss *Dry Land Coast Artillery* in 1941 a few months before he led the 200th CA (AA) to the Philippines and Bataan.

At the same time Lt. Col. A. C. M. Azoy was contributing his articles on *A History of the Coast Artillery Corps.*

Captain Robert J. Wood (now Brigadier General) was writing *You're In The Army Now, Call To Arms,* and more.

Colonels Robert Arthur and R. E. Turley were writing about barrage balloons in AAA.

Col. Charles Thomas-Stahle became the editor in 1940, but served only a few months. Col. W. S. Phillips followed him, and in turn was relieved by Col. Frederic A. Price in March 1942. Subject to security restrictions the Journal was aggressively reporting upon the experience and lessons from the War. The circulation continued to expand under Colonel Price to reach a peak in late '43 of almost 10,000. The Association prospered and under wise management a substantial reserve fund was tucked away for the rough days ahead.

Early in 1942 when the combat arms chiefs' offices were eliminated under the Army reorganization, Maj. Gen. Joseph A. Green, our last chief, took over the Army AA Command with headquarters in Richmond and directed the rapid expansion and training of AAA units in the states. General Green, always zealously active in the interests of the Journal, continued as the Association President until he was relieved by Lt. Gen. LeRoy Lutes in early 1945.

Meanwhile, Col. E. B. Walker relieved Colonel Price as editor in January 1944 and continued to report the war activities of the Coast Artillery Corps, through 1945.

The Special Corregidor Issue, March-April, 1945, in which Colonel Stephen M. Mellnik gave his eyewitness account of *How The Japs Took Corregidor,* was an outstanding War issue. Supplementing this is *War Damage to Corregidor* by Brigadier General Homer Case, in the May-June 1947 issue.

Lieut. Gen. LeRoy Lutes

General Case says "Without too many blank spots it was possible to disentangle the complex causes of the damage to the only large harbor defense ever reduced in battle. It is interesting to note that not one shot was ever fired by the enemy navy in the process." However, the Japs purchased it at a terrific cost. Protecting the rear and flanks of Bataan, as it did, Corregidor warded off Jap Naval interference in that epic defense and enabled Wainwright's gallant force to hold out long enough to upset completely Japan's war schedule in the Far East. Then the troops on Corregidor continued the resistance until the lack of water at Corregidor and the devastation from enemy land artillery led to the surrender.

CHIEFS OF ARTILLERY

Brig. Gen. Wallace F. Randolph 1903–1904
Brig. Gen. John P. Story 1904–1905
Brig. Gen. Samuel M. Mills 1905–1906
Brig. Gen. Arthur Murray 1906–1908

CHIEFS OF COAST ARTILLERY

Brig. Gen. Arthur Murray 1908–1911
Maj. Gen. Erasmus M. Weaver .1911–1918
Maj. Gen. Frank W. Coe 1918–1926
Maj. Gen. Andrew Hen, Jr. 1926–1930
Maj. Gen. John W. Gulick 1930–1934
Maj. Gen. William F. Hase 1934–1935
Maj. Gen. Harry L. Steele 1935–1936
Maj. Gen. A. H. Sunderland ...1936–1940
Maj. Gen. J. A. Green 1940–1944*

*General Green actually served as the Commanding General of the Antiaircraft Command during the last two years.

As the Axis air and naval forces deteriorated in 1944 and 1945, a great number of AAA and seacoast units were deactivated to provide personnel for infantry and other units. By 1946 practically all of the Coast Artillery units were either inactivated or assigned to other tasks.

When Colonel William I. Brady took over as Editor in January 1946 the Journal circulation was dropping rapidly. Decision had already been reached to do away with the harbor defenses. With only two active AAA battalions left in the United States the morale in the branch was low.

That was a time when the value of the Association came to a true light. Fortunately, General Lutes and Colonel Brady had the reserve funds which General Green and the editors from Bradshaw to Price had so wisely tucked away. These they used judiciously to maintain the high standards of the Journal.

Foreseeing a certain expansion eventually in the antiaircraft and guided missile fields, General Lutes assembled the Antiaircraft leaders from the Guard, the Reserve and the Regulars and led the movement to bolster the morale and *esprit.*

Likewise Colonel Brady called on Antiaircraft authors to spark the Journal. Among the articles published was a series of interesting articles covering the war history of the major AAA units in all theaters. Looking to the future the editor also published a series of valuable articles by our leading officers and civilian scientists in the guided missile and atomic fields. Soon he had the Journal circulation again on a steady climb. In 1948 the name was changed to The Antiaircraft Journal.

The present editor took over in June, 1950. The July-August issue summarized the Army Reorganization Act of 1950, reuniting the Artillery. It also reported the establishment of the Army Antiaircraft Command, with Major Gen. Willard W. Irvine as its first commanding general. Before that issue appeared, however, the communists had invaded South Korea.

The conflict which followed has

probably aroused and amazed our people as have few war campaigns in history. To start with, it rudely wiped out some prevalent and false ideas about push-button warfare. It also restored in some degree to its proper perspective the importance on the battlefield of the ground soldier. In those campaigns the AAA troops have been in the hottest of it, side by side with the Infantry, Armor, Artillery and have established firmly their place on the Army combat team.

With splendid help and a series of top flight articles from Major General Wm. F. Marquat, United Nations AAA Officer, the JOURNAL gave full coverage on the AAA troops in Korea. The JOURNAL brought to the AAA Troops in training the world over the stories of AAA in Korea from the colonels, the captains, and the corporals in command. We should mention a few like Colonels Hain and O'Malley; Lieut. Colonels Ackert, Cheal, Killilae, Henry and Tate; Lieutenants Robert Morrison, William Keeling, and Paul VanTure.

This brings us up to current history; however, we'll mention from last year the series of articles from Lieutenant General LeRoy Lutes' diary on some of his own practical problems and experiences in directing the supply of all our fighting forces during World War II.

The Journal of the United States Artillery was founded nine years before the Artillery Corps was organized in 1901, and fifteen years before the separation into the Coast Artillery Corps and the Field Artillery in 1907; however, from the beginning it was essentially the *Coast Artillery Journal*, a name it did not adopt until 1922. If the Coast Artillery interest were in Civil War Rodman or Dahlgren guns, or rifled guns and disappearing carriages, that interest was reflected in the JOURNAL.

When that interest shifted in World War I to railway, mobile, trench, and antiaircraft artilleries, the JOURNAL was in the forefront with description, discussion, study. From the telescope the range finder, to radar; from the plotting room to the director the JOURNAL was closely integrated into the life and *esprit* of the Coast Artillery. And so it continued until 1950 when the Coast Artillery Corps ceased to exist. Before that, however, the Coast Artillery people had become the Antiaircraft Artillery. So the ANTIAIRCRAFT JOURNAL marched on without any perceptible change in purpose or loss of spirit.

Lieut. Gen. John T. Lewis
President, Antiaircraft Association

EDITORS OF THE JOURNAL

Lieutenant John W. Ruckman	1893–1895
Captain John P. Wisser	1896–1902
Captain Erasmus M. Weaver	1902
Captain John D. Barrette	1902
Captain Andrew Hero, Jr.	1902–1907
Major Thomas W. Winston	1907–1912
Major James M. Williams	1912–1915
Colonel Henry D. Todd, Jr.	1915–1917
Colonel John A. Lundeen	1917–1918
Colonel Robert R. Welshmer	1919
Lt. Col. Frank S. Clark	1919–1923
Major Joseph A. Green	1923–1925
Major Robert Arthur	1925–1929
Major Stewart A. Giffin	1929–1933
Lt. Col. Eli E. Bennett	1933–1936
Major Aaron Bradshaw, Jr.	1936–1940
Colonel Chas. Thomas-Stahle	1940–1941
Colonel Wilmer S. Phillips	1941–1942
Colonel Frederick A. Price	1942–1943
Colonel Eugene B. Walker	1944–1945
Colonel William I. Brady	1946–1950
Colonel Charles S. Harris	1950-

From its inception the JOURNAL achieved distinction for its scientific explorations and development in the fields of artillery interest; first in ballistics, gunnery, ordnance matériel, and position finding; later in power, electronics, and communications. It helped to establish in the Coast Artillery a high standard in precision. And always when we have been keen enough to maintain a balance in that precision we have been on solid ground indeed.

At times the JOURNAL may have erred, but it has usually been progressive and constantly striving to find and publicize a better way to do the job next time. Whenever we learned to shoot the guns straighter, or to maintain the equipment better, or to defend the installation more effectively, or to support the Navy, the Air Force, or other Army elements better, we have gone to the JOURNAL to publish it. When our troops distinguished themselves in battle, as they have done so well in Korea, the JOURNAL took the lead in extolling their achievements. Thus the JOURNAL has contributed to the *esprit* and fighting effectiveness of the Antiaircraft Artillery.

Now as we undertake to initiate a new chapter in the life of this JOURNAL, we do so in growing strength and in full readiness to carry on. Our guiding purpose will be to continue the fine spirit and traditions of this JOURNAL since 1892.

The HISTORY OF THE FRENCH FIRST ARMY

With a preface by Gen. Eisenhower and an appreciation by Liddell Hart, Marshal de Lattre covers the war from December 1943 through to its conclusion. In his treatment of international controversies de Lattre adds stature to his book and himself with his restraint and dignity. He was an artist in warfare, but one with iron will and fierce driving power. He had deeply engrained faults, as he knew himself, but high military virtues. The story told by the commander of the French First Army is a notable one little known as yet in this country.

by Marshal de Lattre de Tassigny **$6.75**

THE SPIRIT OF THE CORPS—A GUIDE FOR THE FUTURE

By LT. COL. JOHN B. B. TRUSSELL, JR.

THE Coast Artillery Corps was established in 1907 by legislative action which recognized the functional division between field and coast artillery missions. Forty-three years later, in 1950, the Artillery was reestablished as a single arm.

Those are the bare facts. But they do not tell the story or hint at the gallant tradition of the Corps.

There are those who look upon the increasing integration of the artilleries as the death-knell of the fine traditions of the Coast Artillery. But the essence of the Coast Artillery was its spirit, and the spirit of the heavy artillerymen was always one of service. Although the very nature of the mission meant that this service was characterized more often by steadfastness than by dash, by the same token it demanded a high order of devotion. It demanded, further, a high degree of adaptability, a readiness to adjust to changing conditions and to take such action as the new situations called for.

To feel that the tradition of our gallant predecessors can be maintained only by preserving the organizational patterns of the past, regardless of the conditions of the present, is to confuse form with substance. It is to mistake the meaning of the lessons taught by the heroic achievements of the men whose names make up the long roster of the Corps.

The deeds which gave birth to our tradition give us just cause for pride, but in the story of those deeds there is also a lesson and an obligation for us today. To see that story as a whole, we must look back well before 1907 and look forward beyond 1950, for the story begins with the earliest major military operations of the infant nation, fighting for its independence, and extends through all American wars to date.

* * *

Probably the first clear-cut coastal defense operation by Americans was the defense of Charleston, S. C. against the assault of a British fleet in the summer of 1776. On the northern shore of the entrance to the harbor stood a makeshift fort improvised of available materials—sand revetted with palmetto logs. Behind these rude walls stood a motley collection of cannon, gleaned from ships and militia arsenals. But the gunners who stood by the pieces, ready to leap into action at the order of their commander, Colonel William Moultrie, made up in determination what they may have lacked in experience.

For hours the British ships stood off, pounding away at the fort with their cannon and hurling enormous explosive projectiles from the mortars on their bomb ketches. Throughout the day, the Americans fired slowly, for their powder supply was low and running lower. But slow as it was, the American fire was steady—and deadly. It raked the decks of the British men-o'-war. The Admiral was wounded; his flag-captain was killed; every officer on the flagship's quarterdeck became a casualty. Finally, goaded beyond endurance, the British commander ordered two of his vessels to run past the fort's front so as to catch it on the flank and turn its interior into a shambles with a deadly crossfire.

Fortune favored the Americans that

World War I: Coast Artillery Fires Railway Gun in France.

World War II: Self-propelled AA Weapon in the ETO.

day. The two vessels never completed their maneuver, for they ran aground in shoal water directly under the fort's guns, which immediately seized the opportunity thus offered. One of the vessels broke loose, limping back to safety, but the other lay helpless, being pounded to pieces. Finally her captain ordered his crew to abandon ship, leaving a slow match in the magazine. The British fleet, thwarted by the American defense, gave up the assault and sailed away.

* * *

IT was almost forty years later, but the enemy was again the British Navy and the determination of the gunners was unchanged when the artillery detachments under Major George Armistead stood ready in the autumn of 1814 to defend the city of Baltimore against assault. Only weeks before, the village which served the United States as a capital city had fallen to the invaders. Now the blackened ruins of its public buildings bore silent witness to the depths to which the country's fortunes had fallen.

The men who found a precarious shelter behind the masonry-faced dirt walls of Fort McHenry looked down the river toward the forest of approaching enemy masts with grim foreboding, but with no slackening in their firm intention to stand and fight and, if necessary, to die in defense of the city.

While the gun commanders were calling off the ranges to their crews, the line of British vessels was seen to halt, still out of range of the American guns. There was a flash of flame, a mushroom of smoke and then, booming dully across the water, came the report of the first British shot. Quickly other enemy vessels took up the fire. The Americans replied, only to curse as their rounds sent up splashes well short of the targets.

Desperately the gun commanders blocked up the muzzles of their pieces, trying to extend the range by increasing the elevation. But the thrust of the recoil downward instead of backward was more than the mounts could absorb and the first gun so fired was hurled off the carriage, knocking over some of its crew as it fell.

The British Admiral, watching through his telescope, sure that the time had come to move in for the kill, ordered his vessels forward. As they moved up the river into range they were met by a storm of iron. Hastily, the Admiral ordered a withdrawal. Once more, from a safe distance, the ships resumed their bombardment. The American gunners endured as best they could.

Meanwhile, a force of British soldiers was marching toward the city by land. They moved slowly, delayed by a determined rear guard of American infantrymen. As the enemy commander came into view of Baltimore he saw before him a strongly fortified height across which he must fight his way to reach the city. There was only one way, he decided: the Navy must reduce Fort McHenry, then pound the fortified height from the flank while the British infantry smashed through.

The ships made one more gallant try, and once again they could not pass the wall of fire laid down by McHenry's guns. The Admiral reluctantly sent word that he had failed. Reversing itself, the land force retraced its line of march. Baltimore was saved, and the threat of foreign attack was laid to rest.

* * *

MORE than thirty years went by before the United States was faced again with war. This time the enemy was Mexico, but Mexico had no navy and there was no requirement for coast defense of the United States. That does not mean that the heavy artillery stood idle during the campaigns south of the border. Siege artillery played a significant part in the reduction of the defenses of Monterey and in holding the center of the line at Buena Vista.

It was the fire of massive cannon which forced the surrender of Vera Cruz. True, when General Winfield Scott led his forces inland from Vera Cruz toward Mexico City, some of the heavier artillery pieces had to be left behind because of lack of horses to drag the cannon through the mountains. But the officers and cannoneers did not stay in the rear. Some of them manned captured Mexican field batteries. Notable among these men was a young lieutenant, carried on the records as Thomas J. Jackson but known to history by the sobriquet of "Stonewall."

Still other heavy artillerymen became temporary infantrymen. This was neither the first time nor by any means the last that the men of the heavy g would lay aside their rammer staffs take up rifles. And when the Americ launched the final blow against Mexican capital, the blow which wa bring the campaign to a close, they vanced under the cover of fire fr siege cannon which had been painfu and laboriously hauled from the co It was an arduous task, but it eased way for the infantry which stormed heights of Chapultepec.

* * *

The Civil War was characterized extensive maneuver on land and by Fe eral superiority at sea. Both of the characteristics tended to minimize th part which could be played by heav artillery. However, it is a frequent overlooked fact that the opening en gagement of the war, the fight for Fo Sumter, was peculiarly a coast artiller action. It is true that the cannoneer who manned the guns behind Fort Sum ter's brick walls were finally forced b the tremendous, pounding punishmen of the fire of an overwhelmingly supe rior number of cannon to lower thei flag in surrender. But it is also true tha the steadfastness of their defense wa one of the significant turning points o the war.

The garrison's commander, Major Robert Anderson, was an artilleryman who already had a distinguished career behind him. His orders were ambiguous, leaving to him the option between resistance, which would almost certainly lead to war, and surrender without a fight. It should not be forgotten that the newly inaugurated administration of Abraham Lincoln was not backed by a majority of public opinion.

There was a substantial body of sentiment throughout the country for acceptance of Southern secession. But Anderson courageously chose the hard and dangerous course, with results which electrified the nation. By forcing the Confederates to strike the first blow, he united the country overnight in a passionate support of the President's policy. The battle of Fort Sumter was a tactical defeat; but without any question it was a moral and strategic victory.

* * *

ON the Confederate side, heavy artillery did its part in many a hard-

fought battle. When, in 1862, a Union army was in the very outskirts of Richmond and a naval flotilla was sent up the James River with orders to "shell the city to surrender," it was the heavy artillery at Drewry's Bluff which drove the Federal ships, reeling, back the way they had come. The cannon had served eloquent warning that the river route to Richmond was barred.

Confederate cannon forced the Federal army attacking Vicksburg in 1863 to resort to a wide maneuver which consumed months and involved heavy casualties. Passage of the Mississippi River was denied to the Union by the cannon which frowned down from the bluffs. Only by bloody frontal assaults from the landward side of the town was Grant finally able to take his objective.

Again, a Federal joint amphibious task force moving toward invasion of Texas through Beaumont was turned aside by the fire of the gallant Company F, First Texas Heavy Artillery—the "Davis Guards." The task force was driven back, but before the ships could extricate themselves from the trap into which they had fallen, two of the four escorting gunboats had lowered their ensigns in surrender, and Texas was freed for many months from the threat of serious attack.

* * *

It was during the three decades after 1865 that the Army reached the lowest point in its history. In the interests of economy it was repeatedly reduced in strength and pay and rank. The Army found little opportunity in its lengthy series of skirmishes with the Indians for professional and technical development. Although the artillery could not escape all the effects of this period, substantial and significant progress was made nevertheless in heavy artillery armament.

By 1890, the development of coastal cannon had approximated its highest point. The establishment of up-to-date defenses came none too soon, for although the fear that Admiral Cervera's Spanish fleet would strike the Atlantic coast in 1898 proved to be unfounded, the threat was real enough at the time.

* * *

The Army's professional stultification between 1865 and 1898 was the direct cause of the ineptness so typical of the conduct of the Spanish-American War. But the blunders brought out by the war led directly to extensive reforms, among which was the formalization of the separation of Coast and Field Artillery. Technological developments had taken the techniques of the two artilleries far apart and had required extensive specialization. It was in tactics rather than technique, however, that the two types of artillery differed most sharply. The Field Artillery accompanied and supported the field army and was directly involved in the infantry effort. The Coast Artillery, however, was in a sense a closer adjunct of the Navy than of the Army, due to its mission of protecting the country against attack from the sea.

The beginnings of a change in this situation came when the First World War provided new missions for the Coast Artillery. As before, it was charged with coastal defense. As before, also, it provided heavy siege guns to accompany the field army. But beginning in 1917 it took over the service of trench mortars and, more significantly with respect to the history of the Corps, of antiaircraft artillery.

Antiaircraft was a crude art in those days, notwithstanding the relatively slow and fragile targets provided by aircraft of the time. It is interesting and a cause for considerable pride that, despite its lack of experience in this new field, the American antiaircraft in the A.E.F. chalked up a record which compared favorably with the records of our more experienced allies. The Americans' score in 1918 was one German plane destroyed for each 1,050 rounds fired. The rapidity with which the Americans developed a professional competence in antiaircraft fire is testimony to the Coast Artillery's technical ability and its willingness to master new tasks.

* * *

The Coast Artillery lost trench mortars after 1918 but kept antiaircraft. The twenty-odd years between the two World Wars were marked with tremendous development in the gunnery and technique of antiaircraft fire. How well the new lessons were learned and applied was spectacularly demonstrated in one of the first great battles of World War II, the defense of Corregidor. This epic struggle was peculiarly the Coast Artillery's own. There is no need to tell again the details of the gallantry of the men on "The Rock" who for weeks repulsed the enemy's heaviest assaults from the sea and from the air. The steadfastness and heroism of the cannoneers of Corregidor was in the most brilliant tradition of the Corps.

As the war progressed, the seacoast mission was increasingly overshadowed by the evolving antiaircraft. In this newer function, the Corps showed its mettle at Anzio, at Omaha and Utah beaches, at Buna and Hollandia and Biak, in the Ardennes—in fact, at every scene of major ground action throughout the war. In time, the growth of American air power gave the United States substantial control of the air, with a corresponding decline of targets for antiaircraft artillerymen. Once more batteries were formed as rifle companies. But many kept their cannon and, lacking targets in the air, trained their sights with deadly effectiveness upon targets on the ground. From being the heaviest artillery the Corps suddenly found itself the lightest; but the gallantry, the spirit and the determined sense of duty remained unchanged.

* * *

It is only natural that a change such as the end of the Coast Artillery's existence as an organizational entity should have been accompanied by nostalgia. But nostalgia should not become regret. The theme running throughout all the heavy artillery's existence, before and during and since its existence as a separate Corps, is service, unflinching devotion to duty.

Today, the characteristics of the conduct of war have changed in many vital respects. Coasts are no longer defended with cannon, but with aircraft operating far beyond the range of the heaviest gun. The most threatening attacks are not to be anticipated from the sea but from the air.

What remained of the Coast Artillery Corps in 1950 was almost all antiaircraft. While antiaircraft has an important role in the defense of the homeland, it has an equally important role to play with the field army. It is a part of the ground combat team, with a distinctive contribution of its own to make to the support of the infantry on the line of contact. This contribution has been made with conspicuous effectiveness in Korea.

Abandoning a purely defensive status, the antiaircraft artilleryman has taken his place beside the doughboy, filling a special niche between the infantry's heavy weapons and the field artillery's light howitzers. Thus, while organizational separation of the artilleries made tactical sense at the turn of the century, it does not make sense today.

In essence, we who were Coast Artillerymen have acquired since early in World War II a distinctly new mission, a mission which is something like that of the "flying" horse artillery of a century ago, enabled by light and mobile equipment to throw the weight of our metal into the thick of the fight. In a sense, this is a new mission, but the successful discharge of new missions is nothing novel for our arm.

We can take pride in the service of our predecessors, and for guidance today we can look to the precedents they set, not only when they fought their primary weapons but when they fought as infantry and as field artillery, when they manned mine planters and searchlights as well as cannon, when they made their versatility their trademark. The advent of new conditions and new weapons obligates us to carry on that versatility.

The future holds no curtailment the contribution we can make; indeed through the amalgamation of the artilleries and in the introduction of revolutionary new weapons it promises an opportunity for marked extension and expansion of the service we can render. When we adapt ourselves to the conditions which exist today, and to the favorable developments of tomorrow, we do not betray the gallant tradition of the Coast Artillery. We merely live up to that tradition. It is in this sense that the spirit of the Corps is truly a guide for the future.

DEFENDERS OF JAPAN

By LIEUTENANT CARL M. GUELZO

A hair-splitting argument as to whether the National Safety Force is an army or a police organization featured the Diet session yesterday—**Nippon Times, Friday, 5 December 1952.**

NO extended period of residence in Japan is required to mark the numerous and varied contrasts in Japanese life, the spotless cleanliness and cordial courtesy in the Japanese home compared with the shabbiness of public buildings, and in particular, the efforts of the Japanese Government to maintain a means of internal defense without giving offense to a highly critical public or violating the national constitution tend to confuse the casual observer.

An ancient culture forced to taste the bitter fruits of defeat looks with something more than mere apprehension on the re-activation of any group that may revive the former nation-wide power of a military clique.

Historically, the military have always been strong in Japan and the experience of Japan in the ways of democracy has been too brief to provide much of a bulwark against the forces of a determined resurgence of military power. The former military leaders, now removed from public life, who promised Japan the world and gave it the gall of defeat instead, have made the military suspect in the eyes of the people, and to a nation as prideful as Japan, the loss of prestige attendant upon military defeat is just as undesirable as the loss of the democratic privileges so briefly enjoyed.

The newspapers report frequent arguments in the Diet for, but especially against, appropriations for the NSF lest a revived army grow from the nucleus represented by the police organization. Again and again, Dietmen are asked the same question: "What is the National Safety Force: Army or police?" But the question is not without relevance.

Famous Article 9 of the Japanese Constitution, reputedly written by General MacArthur himself, forbids war or possession of the means of waging war. Legally, an armed force for the purpose of aggression outside the geographical limits of Japan is not possible; but a police force for the purpose of internal defense is not prohibited. The amount of money and the general nature of the NSF activities and appropriations lead many Japanese to fear a revival of the old Imperial Army and compel the Government to issue repeated reassurances that the NSF is neither an army nor ever destined for use outside Japan.

The unassuming name National Safety Forces, has only served to increase the suspicion of those who recall the omniscient power of the old Imperial Army. The NSF began as the National Police Reserve; but under the pressure of adverse public opinion, the name was soon changed to the present title of National Safety Force. In the same fashion, the Maritime Safety Board supplants the old Imperial Navy. The use of many trained officers of the Imperial Army, although none who were held guilty of political or military crimes, has served to restore the shadow but not the substance of the former military grandeur of Japan.

The reason for the existence of the NSF is obvious as long as Japan is to be without a means of protecting herself from the attacks, both outside and within her borders, of the advocates of world communism. Japan, not unlike her international neighbors, also must protect herself but, in so doing, prefers the passive means of the NSF.

The organizational structure of the NSF is a strangely conglomerate mixture. It is a joining, but neither a union nor a blending, of elements of the U. S.

Army and the old Imperial Japanese Army and retains readily distinguishable characteristics of both.

The severe discipline and the almost religious awe in which authority was held in the Imperial Army are absent and replaced by a type of discipline based on understanding and respect for the individual and authority more closely allied to the American model.

THE uniforms are distinctly American in style and are a far cry from the choke collar and wrap puttees of World War II. Close scrutiny of the uniform reveals an OD wool "Ike" jacket but of a much looser fit than the original American model, and somewhat baggy wool OD trousers, with the entire outfit topped off by the common, garden variety of billed service cap. The cotton khakis of the summer uniform are similar to but lack much of the trimness of American summer uniforms. Generally, the items of uniform are neither castoffs nor surplus of the American Forces, but are manufactured specifically for the NSF.

THE pay is a definite step upward on the financial scale for the majority of Japanese who join the NSF. The policy of utilizing trained officers insofar as possible frequently results in officers who, although schooled in the best pre-war Japanese Army military colleges, never climbed higher than first lieutenant, find themselves catapulted into captaincies and majorities in their new duties. The use of these men reduces the training burden considerably. The Chinese Communists have long memories and there is reason to suspect that qualified Japanese, trapped in Red China, are being employed in their military specialties.

Titles of rank follow those of the usual Japanese police organization, but insignia of rank are patterned after those of the Imperial Army. A rectangular badge approximately 1½" x 2" of black felt pinned to the right breast indicates the rank with a system of horizontal gold stripes and chrysanthemum-shaped silver pips. Almost every other type of civil department, from policemen and firemen to customs officials, has adopted a similar system of indicating rank.

Highest ranking official of the NSF is senior superintendent, corresponding with the U. S. grade of major general. The pay scale is between 39 and 60 thousand yen per month (U. S. equivalent: $108.30 to $166.80). There are seven commissioned grades below the top. A senior inspector ranking with a U. S. captain at $37.50 to $47.40 monthly, while the senior patrolman, corresponding to our master sergeant, draws $24.90 to $31.80; the lowest grade, patrolman, receives between $14.10 and $16.20. A two-year longevity increase is provided for.

Allowances are limited at best. The equivalent enlisted grades, of course, receive rations and uniforms in kind, and a daily allowance of 70 yen is provided for the enlisted mess for each man. Officers are given an initial issue of uniforms in kind, but receive no other uniform allowance. The charge in the officers' mess is 80 yen a day, but this must be paid by the individual officers since no ration allowance is provided.

Pay, although not particularly generous, is a vast improvement over that of the Imperial Army which allowed little more than pocket money. The national average individual monthly income of ten thousand yen is more than amply met by pay and other benefits to be derived from service in the NSF. Those who are careful of their pay find their savings at the end of a two-year enlistment enough to establish themselves in a small business, marry, or otherwise get started in some civilian occupation.

THE regular pay added to the bonus paid upon discharge has provided a powerful economic incentive to enlistments. The first group of two-year enlistees received a mustering out bonus of fifty thousand yen that was, however, considerably reduced in subsequent years. The high discharge bonus and the adequate salary are both a help and a hindrance in recruiting. Enlistment quotas are usually heavily oversubscribed, with a ratio of applicants to openings of thirty to one not uncommon; but the high MOP also discourages reenlistment since the average oriental is a firm believer in the old bird-in-hand adage. Because of these economic factors, the NSF experiences a relatively low re-enlistment rate.

A good example of the attractiveness of life in the NSF lies in the recent recruiting campaign for nurses, as reported in the 6 December edition of the *Nippon Times*. A quota of 62 nurses was authorized in the grades of cadet (about equal to Senior Patrolman in pay) through major, but 800 applications were received: about thirteen applicants to each opening. Contrast this with the fact that a nurse in the old Imperial Army could never rise higher than the NCO grades.

The Government spent 30,000 yen for uniforms in addition to those normally provided for each of the women finally selected and also was compelled to exercise additional caution in keeping the rank and file away from the new enlistees. The interest in the new nurses evidenced by their compatriots may be due to the fact that their ages range from 23 to 42 and, in the words of one patrolman, "They're much younger than we expected, and good-looking too." All of the nurses were unmarried and, at the time of enlistment, were strictly forbidden to hang their washing in the open, to avoid provoking "incidents."

The pay, although a strong incentive, is not the only attraction. In the days of the Imperial Army, the average farm boy accepted for enlistment took a step upward on the social scale. Living conditions, even as scanty and primitive as they were in the army, were a vast improvement over civilian life; and food in the army encampment was both more plentiful and of better quality than that to which the average recruit was accustomed. The college or university graduate was virtually forced to attend advanced military schools to become an officer and thereby raise himself even higher on the social scale.

In spite of their apparent harshness, the officers of the Imperial Army took a rather paternalistic attitude towards their men, especially since the quality of their performance determined the amount of prestige each officer had with his superiors and, indirectly, their chances for promotion.

Despite the hardships of military life, many preferred the security and prestige offered by the service to the uncertainty in ordinary civil life. The fairness of treatment, the much improved rations, and the economic improvement offered by the NSF serve to magnify the ad-

vantages inherent in modern military life.

OTHER than the economic and personal advantages, a third factor enters into the attractiveness of military life: social prestige. Traditionally, the military man has ranked high in the Japanese social order. The traditional classes of society in Japan—royalty, *samurai* (soldier), farmer, and merchant (even today movie stars, despite their income, rank fairly low on the social scale)—graded more according to importance to the nation than according to wealth or affluence, placed the military relatively high. The professional officer, more closely allied to the feudal *samurai* than the ordinary soldier, who was more often than not drawn from the peasantry, was highly revered and respected for both his military prowess and his status as a servant of the government. The soldiers of peasant birth never lost their social status as farmers, but as military men were far more highly regarded than the brothers who remained on the farm. Even to this day, the descendants of the old *samurai* families, although no longer engaged in military affairs, carry the social rank and status of their forebears.

Much of this traditional respect, deeply ingrained by centuries of high social rank and special privilege accorded the military, has been carried over into modern life. True, the modern counterpart of the feudal *samurai* no longer has the authority to put to death the unwary commoner who gives offense by laughing or crying at inopportune moments, but habits and attitudes with centuries of tradition behind them do not die easily.

The Japanese people do not have to be enjoined by PIO's to respect the status and the profession of the soldier; they have been doing just that since the beginnings of their national existence. In the same fashion, the individual member of the NSF need not be reminded of his duties and responsibilities as a public servant; he, himself, his parents, grandparents, and ancestors since time immemorial have always been deeply conscious of the honored status of the public official and envious of those able to secure positions in the government service.

DUTY in the NSF is much easier than was life in the Imperial Army. The patrolman's day begins at 0600. Reveille is held at 0700 and work begins at 0800. After an hour for lunch, work or training continues until retreat at 1700. The patrolman may do whatever he wishes with his time between 1700 and 2100; but by 2100 he is required to be in bed. And today the NSF patrolman sleeps on a cot or bed instead of the bare floor, ground, or straw mat provided by the Imperial Army.

Absence from any of the required formations formerly carried the death penalty or at least severe corporal punishment; the disciplinary code of the NSF is not nearly so strict. A first offense, if properly and logically explainable, is dismissed with a reprimand; a second offense costs the guilty patrolman his pass; a third offense brings a court-martial and, if convicted, a fine; while repeated offenses carry dismissal as the highest penalty.

The story is told of one NSF sentry on guard in a motor pool on a bitterly cold, snowy night. The rear of a nearby truck provided a convenient shelter from the chill dampness typical of Japanese winters and, unfortunately, a hand place to sleep. The sergeant of the guar awakened the sentry, who explaine that he had crawled into the truck t see the time. Mutely, the sergean pointed to the fresh, unmarked snow around the truck. Instead of being sum marily shot, the sentry was restricted t the post.

Married officers and patrolmen ar permitted to live off post, but little ad vantage derives therefrom since the gen eral policy is to keep encampment inconspicuous and away from metropoli tan areas.

Training is semi-military in nature American advisers, once fairly numer ous, have been steadily reduced in pas months until their numbers are now highly limited and restricted to the high er echelons. Squads, platoons, compa nies, battalions, regiments, and divisions are patterned generally after the organizational structure of the American Army. The NSF division has its quartermaster, transportation, and other service elements; the special service to operate the Post Exchange; but engineers and artillery, instead of being integral parts of the organization, are attached to divisions as special troops. Armament is limited and includes no armor or heavy artillery.

The lack of weapons and equipment for modern warfare emphasizes the assurances of the Japanese Government that the National Safety Force is primarily a police organization for the internal defense of the nation. The NSF has never been used except in the suppression of local riots and other civil disturbances. The NSF is not yet an army, nor is it yet able to accomplish its mission to defend Japan against foreign aggressors.

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BY MAJOR A. M. CHESTER

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The Missions of "Quad Lightning"

By LT. COL. DANIEL B. WILLIAMS

THE Quad Lightning designation for the 21st AAA AW Bn (SP) is indicative of the equipment within the battalion, its organization for combat and its current assignment. The battalion moved overseas in late 1950 from Fort Bliss, Texas equipped with M16's and M15A1's as principal fire units. While processing in Japan in preparation for commitment in Korea, M16's were substituted for the M15A1's, giving the battalion for its major fire power capability a total of sixty-four M16's and the designation as a "Quad Fifty" unit. After arrival in Korea on January 10, 1951, the battalion was assigned to the 25th Infantry Division. This assignment to the famous "Lightning" Division paved the way for the designation as the "Quad Lightning" Battalion.

The battalion has remained with the 25th Infantry Division as its organic AAA AW unit throughout the six major campaigns in Korea since 10 January 1951. In addition three light field artillery battalions and one medium field artillery battalion make up the major units of 25th Division Artillery. As a result of the campaigns in Korea and the lessons learned, the battalion has assumed an organization for combat which prescribes that each of three batteries provide one platoon in the antiaircraft artillery role for protection of a light field artillery battalion and one platoon for support of an infantry regiment committed in combat. The fourth battery is used to provide AAA protection for critical installations, defiles and bridges within the division sector and for special missions. When an infantry regiment is in reserve, the "Quad Fifty" platoon normally allocated to provide direct fire for that unit is used for AAA protection of the medium field artillery battalion, thus adhering to the basic principle of not having any element of the artillery in reserve when it can be logically employed.

AAA protection for the three light field artillery and one medium field artillery battalions is provided on orders from Division Artillery Hq. to the "Quad Lightning" Battalion, which provides for the AAA defense of these battalions at all times. The AAA battery given this mission assumes responsibility for the defense and its coordination with the field artillery battalion commander.

The fire support for infantry regiments by antiaircraft artillery fire units is provided for in orders given from the Division Headquarters through the Division Artillery command channel and usually provides that one platoon of AAA AW is attached for operations to each committed infantry regiment. The battery commander who has the AAA protection responsibility for the direct fire support field artillery battalion of an infantry regiment is given the further responsibility of providing that regiment's direct fire support platoon.

The technique of providing fire support for infantry regiments, developed from combat experience, has provided an SOP that two or three of the "Quad Fifties" be placed in direct fire support for each committed infantry battalion. The remaining fire units are emplaced in positions one thousand to fifteen hundred meters behind the MLR and are available for indirect fire support. For offensive operations this organization for combat gives each forward moving battalion augmented "Quad Fifty" fires and leaves the infantry regimental commander with additional fire support which he may allocate to either of the forward battalions or which he may commit with his reserve to carry through the impetus of an attack to the final objective. In defensive operations the same distribution of fire power is made; however the fire units emplaced to the rear of the MLR are used for delivery of indirect fire. This indirect fire is used during hours of darkness for supporting patrols and for harassing and interdiction fires. In recent months techniques have been developed for the use of the indirect fire to effect mortar suppression.

INDIRECT fires are delivered from a defiladed position with registrations being fired by normal field artillery means. The adjustments are made by forward observers of the field artillery battalions or in some cases the AAA platoon commander will fire the registrations and make fire adjustments. This type fire has been made more effective by stripping the tracer element from APIT ammunition and using the flash of the exploding incendiary round to adjust by. The lethal effects of this type fire are attributed to the fact that the enemy cannot hear the approaching round and even at long ranges, the fifty caliber projectile remains effective for plunging fire. These fires are delivered dependent upon wind and temperature for maximum ranges up to seven thousand yards, giving effective fires from two thousand to five thousand yards in front of the MLR.

As a matter of interest in the organization for combat, it is to be noted that in early 1952 on the recommendation of combat commanders in Korea, the theater authorized augmentation of each infantry division with twelve M16's to increase fire power. These M16s have been handled in varying ways. Some divisions have allocated them direct to the infantry units who have in turn passed them to tank companies or heavy weapons companies. The 25th Division gave this authorization for augmentation in equipment to the 21st AAA AW (SP) Bn and continued to provide "Quad Fifties" for support of infantry regiments by attaching fire units of the 21st to the regiments for operations. The augmentation provides a base of equip-

Lt. Col. Daniel B. Williams, commanding the 21st AAA AW Bn (SP), has had active experience with AAA units during WW II. Since, he served as an instructor at the AA & GM Branch, TAS, in the Department of Gunnery. He is a graduate of the Advance Course, The Armored School and the Regular Course of the Command and General Staff School.

Brig. Gen. Louis E. Heath, Commanding General, 25th Division Artillery, inspects Quad 50, C Battery. Cpl. Phillip F. Hoenkica, and PFC Robert S. Blair.

Lt. Col. D. B. Williams, congratulates Captains Elmer T. Wilkins (right) and Edward C. Maxwell (center), during presentation of the Bronze Star.

ment to support tactical needs and carry out required maintenance.

Since the latter part of 1952 the battalion has been assigned the responsibility for 90mm direct fire sector weapons, which were assigned to the division. These weapons have been manned by personnel from the battery which did not have an infantry direct support mission and which in general were used to protect division installations, critical defiles and bridges. These guns have been fired principally from the MLR against bunkers and cave type artillery positions. In some cases they have been used for augmentation of the long range harassing and interdiction fires of the field artillery battalions during hours of darkness.

With the increase of the communist air capability, more and more emphasis has been placed on the "Quad Lightning" AAA role. Preparations to more effectively carry out this hole have included comprehensive training under static combat conditions. This training has been effected by the conduct of officer refresher courses, NCO refresher courses and the institution of a realistic training program for all units not committed directly on the MLR in support of infantry operations. The program includes AAA range practice for all fire units of the battalion on a rotation basis using four fire units at a time, which are relieved from their primary missions and sent to an AAA firing range. To enable all fire units of the battalion to complete this training program, blocks of four weeks of training have been provided. At the completion of a four week cycle by platoons in the AAA role, a relief of the MLR platoons is effected and those platoons complete the four week cycle. Thus within a period of four months all fire units have completed the eight weeks training program.

The battalion has proven itself to be an effective part of the ground combat team in Korea. By proper coordination and control this battalion provides AAA protection for the critical target areas within the division sector and at the same time a heavy augmentation in the fire power of infantry units committed in combat. During periods of static defense, it is desirable, both from a training and morale standpoint, to rotate the AAA platoons between their AAA mission and their direct fire support of infantry. The organization for combat whereby the battalion remains essentially under the commanding general of the division Artillery for effective centralized operational control is considered desirable. The basic principles of technique and tactical doctrine currently published in Department of the Army publications and taught by the service schools have been proven fundamentally sound.

Summary Of Decorations
21st AAA AW BN (SP)
In Korea

Individual Awards	
Silver Star	**20**
Soldiers Medal	**2**
Bronze Star for Valor	**54**
Bronze Star for Merit	**61**
Commendation Ribbon	**4**
Purple Heart	**159**
Distinguished Unit Citations	
1st Platoon Battery "B"	
2nd Platoon Battery "B"	
Campaign Stars	
CCF Intervention	
First UN Counteroffensive	
CCF Spring Offensive	
UN Summer—Fall Offensive	
Second Korean Winter	
Korean Summer—Fall	

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OPERATION DEVIL DOG

AAA In The Surface Role In Support Of The 1st Marine Division

By MAJOR BERKELEY S. GILLESPIE

68th AAA Gun Battalion

and MAJOR FRANK HAWTHORNE, JR.

S3 10th AAA Group

Non-divisional AAA units of the 10th AAA Group in Korea, consisting of the 68th AAA Gun Battalion (90mm), 78th AAA Gun Battalion (90mm), 50th AAA AW Battalion (SP), and 865th AAA AW Battalion (SP), recently participated in Operation Devil Dog. This culminated an extensive FA training program conducted at AAA defended installations, with the firing of indirect and direct FA missions in support of the 1st Marine Division. During the action described by this article, the 10th AAA Group was commanded by Col. George R. Carey, who has since been reassigned to G3 section, Eighth Army. Col. Charles G. Dunn now commands the group.

In August and September of 1952 plans were formulated whereby elements of the non-divisional AAA units would move to forward positions to be employed in their secondary mission—the surface role. Both light and medium AA weapons were to be used, the medium for long range, indirect fire and the light for direct fire against bunkers, communications trenches, caves, and other close in targets.

Additional 90mm weapons were drawn from Ordnance for this purpose. The plan was to have one of the medium battalions man the medium battery in the forward position and to have two sections of automatic weapons attached to that battalion to provide AA protection to the provisional gun battery while in position and to move to the MSR to previously prepared positions for direct fire missions. Upon approval by EUSAK, a ground reconnaissance was made in the area selected for this firing. The ground reconnaissance party was composed of the following persons: Major Frank Hawthorne, Major John W. Milke, Major Dale Watson, Major Berkeley S. Gillespie, Jr. and Capt. Leonard B. Main. This AA party was assisted by personnel from the 1st Marine Division, and both primary and alternate gun positions were selected for the MAA and LAA weapons. The Marine personnel gave invaluable assistance and their interest and cooperation was outstanding throughout the entire operation. Colonel Richard H. Crockett, Lt. Col. William S. McLaughlin, Lt. Col. Henry G. Lawrence, Major Tom S. Parker, and Major James L. Jones were always willing to devote time and effort on our behalf.

One round on the way!

In anticipation of the operation each of the AAA battalions involved stressed Field Artillery Techniques in the training schedules. Principles as outlined in FM 6-40, FM 6-140 and ST 44-4-3 were followed in this training. Battalion CPX's were conducted in order to coordinate the training of the gun crews, the FO's and the FDC personnel. FDC personnel were drawn from the operations sections of the battalions; and since two missions were being conducted simultaneously, the personnel worked long hard hours. FO Teams were also placed on TDY with front line Marine units for periods up to seven days to receive practical training as forward observers.

While this training was going on in the rear areas, the final selection of positions had been made and personnel and equipment from the battalions which were to participate in the operation were moved to the forward areas to begin the pick and shovel work on the gun positions. This phase of the operation turned out to be a very difficult one since it was decided to construct one primary gun position with AW sites which would be complete with gun revetments, bunkers and communications prior to the movement of the weapons to position. This entailed the setting up of a field mess, an aid station, and all other facilities necessary for field living. The men of the 68th AAA Gun Bn. and the other battalions, too, just pitched in to get the job done. The Marines also furnished personnel from their shore party battalions to assist in the construction of the bunkers at this position. The personnel bunkers were constructed to accommodate twelve men and were built from 12″ x 12″ timbers for uprights, 6″ x 8″ timbers for stringers, and 4″ x 12″ timbers for roofs; then covered with from four to six feet of earth. The same type of construction was employed in the ammunition bunkers and the FDC bunkers. All bunkers were provided with Yukon type stoves and even in severe cold proved to be very comfortable. All communications were installed prior to the movement of any units to the forward position. Some sixty miles of wire was laid, all of which was tied in with the Marine nets. All wire lines were laid in duplicate with one line being laid on an alternate route. Parallel radio nets were established again netted with existing Marine nets. In addition to the permanent or primary battery position, two alternate positions were selected to which one or more guns could be moved. Construction of these positions was completed with bulldozers

since no revetments or bunkers were built there. These positions were utilized with two ideas in mind; first, to enable us to hit targets which could not be reached from the primary position; and second, to provide fires from different locations for tactical reasons.

The positions were completed, the necessary operations orders published and the first provisional gun battery with two AW sections attached, moved to the forward positions on the night of 19 November 1952, ready to fire on the morning of 20 November 1952.

The first fire mission, a precision registration, was conducted at 1000 hours on 20 November 1952. During this registration several factors came to light which proved beneficial to future firing. Firing at chart ranges in mountainous Korean terrain it was at times very difficult to observe the burst. The registration point, a Korean hut, was located in a draw with numerous ridges and hills surrounding it. A round slightly over would be lost as would be one which had a small deflection error. Added to this was the dispersion factor which increased the difficulty. It was finally solved by a creeping adjustment which violated the Artillery School doctrine, "Be Bold" but which we found necessary in order to obtain the desired results. This held true only where the terrain dictated such tactics, in subsequent firings; using an air observer at ranges where the guns were firing into flatter terrain bold corrections were used and results were excellent.

A point of discussion prior to the shoot was whether or not Section II of FT 90 AA-B-3 actually reflected the weapon's capabilities when employed in the ground role. On 24 November this question again arose when the Marine aerial observer requested a precision mission. Inspection of the firing chart established the range at 20,150 yards. Even though the range was beyond firing table capabilities it was decided to fire the mission anyway and fire was commenced. At an elevation of 811 mils the observer called for fire for effect. Three rounds were fired resulting in one over, one short and one lost. At this time the mission was cancelled by higher headquarters, the reason being that, at this range, the fire was approaching a Corps no fire line. The S1 on this fire mission was a plus nine mils.

The maximum range the 90mm gun is supposed to shoot is 19,560 yards at 812.6 mils elevation. The current opinion here is that, with new guns, effective fire can be delivered up to 20,000 yards.

During the fifteen day firing period the results obtained from the 90mm shoot and the automatic weapons fully justified the mission. A summary of operations reports for the period shows that the 90mm fired seventy-three concentrations and 295 H&I missions.

The results obtained were:

Buildings destroyed and damaged	80
Automatic weapons positions neutralized	7
Bunker and caves destroyed	22
Secondary Fires and Explosions	10
Enemy casualties	42

The automatic weapons during the same period fired both direct and indirect fire. Firing across the river down draw into villages, caves and bunkers resulted in a total of: 29 buildings destroyed and damaged with additional claim of four AW positions neutralized, nine caves and bunkers destroyed or damaged, three secondary fires and explosions.

These results were obtained firing a total of 3378 rds of 90mm consisting of HE, WP and VT 97. The automatic weapons fired during the same period a total of 2608 rounds of 40mm and 64,650 rounds of 50 caliber.

The results obtained were highly gratifying and the mission proved very beneficial to all concerned in proving again the versatility of the 90mm gun and the AA automatic weapons. From a morale viewpoint it proved most satisfactory, installing in the AA artilleryman the knowledge that when the need arises he can perform in either of his missions, ground or air.

UP FRONT WITH THE 3rd AAA

By LT. COL. O. A. MOOMAW

FEW are the men in the 3d Infantry Division who do not know the meaning of the 3AA on the front of each M16 or M19 passing on the road, occupying a firing position on or near the MLR, defending the Division Artillery, air strip or other important installations. The firing of the quad fifties and twin 40mm cannon have been such sweet music to the doughboy's ear that it has been difficult to keep from putting the entire battalion on the MLR; so great has been the requests originating with the infantry regiments on the line.

At this date, 25 February 1953, there is one full platoon with each regiment on the MLR. First Platoon, Battery B is supporting the 65th Infantry Regiment. Four squads Btry A and four squads Btry D are supporting the 15th Infantry Regiment and the Greek Battalion in their sectors. Prepared positions are utilized for the weapons; dug in three to four feet and sandbagged around three sides. Some positions have overhead cover to provide protection against light mortar fire and artillery shell fragments. Personnel live in bunkers constructed of logs, railroad rails, ties and sandbags. Gun positions are located on the MLR and 300 to 500 yards behind the MLR depending upon the availability of a suitable field of fire. Resupply of ammunition, food, and water is effected just after first darkness

To the Editor:

The operations here in Korea are very similar to the operations in World War I in France where miles of trenches and bunkers were built. Here most positions are on high ground, mountain tops and ridges. The engagements are more like Indian warfare than anything else I have read about.

My present assignment with the 3d Infantry Division is the best I have ever had. There is real team work here.

Korea
25 Feb. 1953

O. A. Moomaw,
Lt. Col., Arty.

in most cases. Some positions can be reached without coming under enemy observation—these are resupplied during daylight hours. Emergency repair to vehicles and guns is performed at the position. Scheduled maintenance is performed at the battery, battalion and ordnance motor shops as the echelon of maintenance requires.

Personnel in general prefer direct support missions to other type missions. The bonus of four constructive months service for one calendar month and the $45.00 combat pay are big factors. However the chief factor is the fact that the gun crews get an opportunity to fire their weapons at hostile targets and perform a visible useful duty. The casualties sustained on this duty have been relatively light considering their proximinity to the enemy and the fact that most of the ammunition contains a tracer which marks the position of the weapon.

Tactics utilized are relatively simple but at the present time it is believed best not to publish due to the benefit they may be to the enemy. Control of weapons is by wire communications as primary means, radio secondary. Both methods work well; wire being the easiest to operate and affords better security but more difficult to maintain on or near the MLR.

At the present time the 3d AAA AW Bn (SP) has 32 M19s and 32 M16s, 14 armored utility vehicles M39 and five M3A1 half track vehicles.

Approximately 75 per cent of the battalion and battery commanders' effort is required to maintain the tracked, half track and wheeled vehicles. This is due chiefly to: (1) inexperienced replacements, officers and enlisted men; (2) shortage of parts, chiefly due to long supply line (90 to 120 days required to fill some requisitions, six months not being uncommon). Old vehicles in which the metal has crystallized due to fatigue stresses and rough roads account for a large per cent of broken springs, shock absorber assemblies, support rollers, fenders and bodies.

In closing I would like to state that the antiaircraft role has not been forgotten by the 3d AAA. Approximately 70 per cent of the battalion's weapons are in positions to provide antiaircraft protection for the divisional zone against low flying enemy aircraft.

The battalion operates the AAAIS OPs and a battalion OR. Within seven days the battalion will have completed it's 3d annual service firing practice at the 8th Army AA Range near Inchon, Korea. Each squad has been taught air craft recognition and has on hand the latest charts showing the features and characteristics of the newest aircraft, be they friendly F94s or enemy MIG 15s or IL 28s.

We have been supporting the 1st ROK Inf. Div., 2nd ROK Inf. Div., 9th ROK Inf. Div. and 3d U. S. Infantry Div. since June '52 at various points on the West and Central Korean Front. The Battalion supported operations durthe O. P. Kelly, Little Nori, Big Nori, Triangle Hill, Finger Ridge and Sniper Ridge engagements with the C.C.F. (Chinese Communist Forces).

THE VETERAN AND SOCIAL SECURITY

By COL. WILLIAM H. DUNHAM, JR. (Ret.)

YOU may not realize it but every person on active duty in the Armed Forces today is receiving wage credits of $160.00 per month under existing Social Security laws. Lack of knowledge of this fact could be expensive, particularly to the dependents of young personnel who die after they have become fully covered. The purpose of this article is to make the reader aware of an asset given service personnel which if they become casualties, could greatly affect the future of their dependents—and if they live may affect their own future as well.

Social Security has been set up to ease the shock life gives to some individuals because of conditions over which they may have no control. Though not designed originally to provide credit for service in the armed forces, subsequent legislation grants wage credits in the amount of $160.00 per month for service after September 15, 1940, and before January 1, 1954. Unless the situation in Korea ends this year the latter date may be further extended by Congress which at this time is making a study of Social Security Laws.

What does this mean to the veteran? The two groups of veterans most vitally concerned with this question are the young married personnel with children and the older group who retire before reaching the age of sixty-five years. For this reason the benefits to these groups will be discussed in more detail and examples of benefits will be cited.

First consider the young father with dependents. All veterans who have approximately eighteen months service, i.e., six quarters of coverage, became fully insured under Social Security and remain covered until they no longer have one-half as many quarters of coverage (both civilian and military) as there are quarters elapsing after 1950. A person in the service now who dies after continuous service since January 1, 1951, has an average wage credit of $160.00 per month. Suppose he has a dependent wife and a child under eighteen years of age. The widow will receive $96.00 a month from Social Security each month until the child becomes eighteen years old. If the child should die or marry before reaching the age of eighteen years the payments would stop until the widow reaches age sixty-five when, if she has not remarried, she will start receiving forty-eight dollars a month. A lump sum of approximately $192.00 will be paid to the widow in the example cited. Applications for Social Security monthly payments should be filed promptly as no more than six months back payments may be made and applications for lump sum payments must be made within two years of the death of the serviceman or the benefit is lost.

If the serviceman's widow and child are eligible for veterans' pensions they may receive up to $121.00 per month until the child is eighteen years old or

if it is still being educated this pension will be continued until the child is twenty-one years of age. This pension is based on a widow's portion of $75.00 a month and the child's portion of $46.00 per month. If the widow dies or is remarried the rate of pension to the child will change, and the monthly payments under Social Security will also change. The pension plus Social Security payments may provide to this widow a total of *two hundred and seventeen dollars per month* exclusive of any benefits received from Government Life Insurance and any income received from commercial insurance. This is a far cry from the amount the widow with one child would have received fifteen years ago. If you need a further indication of the magnitude of these benefits consider the fact that while the child is under eighteen years old the total of pension and Social Security payments could amount to $44,268.00 at current rates. Pension payments to the widow after the child is eighteen and the Social Security payments she may receive after age sixty-five would greatly increase the total amount the Government has paid because of service in the Armed Forces.

Remember this—the widow will lose her portion of the pension and Social Security if she remarries. She will also lose her Social Security benefits for any period in which she earns more than seventy-five dollars a month in covered employment.

The preceding discussion has dealt with the situation of the young widow left with a one year old child to support. Now let us consider personnel with many years of service who retire because of age, length of service, or physical disability. The first blow to these individuals is an immediate reduction in pay. Then in case of death their dependents lose the benefit of the six months gratuity pay given when a service person dies while on active duty. If the retired person dies of a cause not resulting from a service connected disability, the pension to his widow will be less than the $75.00 per month maximum widow's pension. What can Social Security do for this retired person?

Before I answer this question I want to call attention to the fact that military wage credits may not be counted toward Social Security benefits if monthly benefits based in whole or in part on the same period of military service are determined to be payable by the Army, Navy, Air Force, Civil Service, or other Federal retirement systems. Wage credits are not affected by compensation or pensions payable by the Veterans' Administration. This means that most of the personnel who retire will be unable to count their military wage credits. They can, however, establish non-military wage credits if they accept covered employment after retirement.

Suppose a service person retires now at age sixty. He has five years to go before he will be sixty-five years old. Two and a fraction years have already passed since January 1, 1951. There is still ample time for him to build up new wage credits for more than half the quarters between January 1, 1951, and the time he will reach age sixty-five. He can also earn wage credits after he is 65. He can do this either as an employee or as a self employed person. A self employed person can earn wage credit for four quarters in any calendar year in which he earns a net profit of at least $400. If he lives he will be eligible for Social Security benefits at age sixty-five if he has met the "number of quarters" requirement. When his wife reaches age sixty-five an additional benefit will be paid for her. If he dies while fully covered his wife will receive Social Security benefits when she is sixty-five even though he may have died before he reached sixty-five. If they have a child under eighteen years old she would receive the benefits immediately.

While the person used as an example above would not have to work in covered employment right up to the time he will be sixty-five, it must be remembered that not more than $3600 may be counted as wages in any one calendar year. The greater the number of years he works the higher will be his "average" monthly earnings since December 31, 1950. This will affect the benefits paid to him and to his wife. This person would not receive the maximum monthly payments as he has already lost some of the quarters of coverage since December 31, 1950. Therefore the payments to him would be less than $85.00 a month and those to his wife would be one-half as much as his.

Colonel Joe Blow retired in December, 1952, at the age of 60, and took a job covered by Social Security.

By the end of 1957 he will be 65. A that time seven years, or 28 quarte will have elapsed since January 1, 195 Therefore, to be eligible to collect Soci Security benefits, he must have estab lished wage credits for at least 14 qua ters. If he works steadily for the fiv years with an earned income of $360 or more per year, his total income computed to be $18,000 (count no mor than $3600 for any year). His averag monthly income is determined by divid ing $18,000 by 84 (number of months since January 1951). This gives $214.2 per month. His Social Security monthly payment is computed by taking 55 per cent of the first $100 plus 15 per cent of the balance. In this case $55.00 plus $17.15 rounds to $72.20. His wife upon reaching 65 would get one half that amount, $36.10 and in case of Colonel Blow's death she would get $54.20 per month after she reaches 65.

Now here is one for the bachelors and unmarried female members of the service. If a fully insured individual dies and does not leave a widow, widower, or child eligible for benefits, each natural or adoptive parent or step-parent of such individual who was dependent upon the insured for at least one-half of his or her support is entitled to monthly survivor benefits upon reaching age sixty-five if not remarried since the insured individual's death. If the average monthly earnings is the $160.00 used for computing where there has been continuous service in the Armed Forces, and no other credits, the monthly payment to a dependent parent could be $48.00 per month.

Remember this—the only restriction placed on any person entitled to receive Social Security benefits is that such person may not *earn* by working in covered employment more than $75.00 per month unless he or she is over age seventy-five at which time the limit on earned income is removed. Earned income does not include annuity payments, dividends on stocks, interest on any kind of bonds, savings accounts, etc. Now let me remind you again that all the months after December 31, 1950, must be counted in computing your average wage, and that you must be covered for half the quarters from that date to the time of your claim. Remember also that if you may have a claim, the first thing to do is see your local Social Security representative.

DISTINCTIVE UNIT INSIGNIA

By CAPT. RUSSELL P. MAHON

FOR many years various units of the United States Army have been wearing what official parlance refers to as "distinctive unit insignia." In all likelihood, all but a few of the readers of this article have at one time or another in their army careers been in a unit that was authorized to wear these bits of metal.

To the initiated, the unit insignia is a gold mine of information, but to the person who is uninformed, they mean nothing, other than as an ornament. In recent years, fewer persons understand the full meaning of the unit insignia, the information pictured thereon, the manner of designing, and the steps necessary before an insignia is approved for use by the unit.

In this article, some of the more salient facts about insignia, a little of their derivation and ancient history, and a smattering of heraldry will be covered in an effort to help military personnel understand the insignia of their unit.

As a beginning, let's take a glance at the history of identifying symbols and insignia. In early historic days, ancient man identified himself with the desirable qualities of different members of the animal kingdom and used characterizations of the animal he particularly admired, on his home, his body, and, as he started indulging in the civilized pastime of military operations, his shield.

This practice of using identifying symbols continued on through the ages, and, in the heyday of the Roman empire, we find Caesar's legions marching under the sign of the eagle, indicating majestic might and ferocity in battle.

As history moved into the period of chivalry, when "knighthood was in flower," the wearing of such symbols continued and grew so widespread that many of the symbols were conventionalized. Naturally, the spreading use of such symbols resulted in numerous claims to the same symbol by different families, and the rival claimants grew heated over the merits of their respective claims.

To settle these claims, many European countries formed boards, or Colleges of Heralds, whose duties were to investigate the claims of the various disputants and decide which was to be awarded the symbol in question. These decisions were made on the basis of previous usage and the history of the claimants concerned. In the course of their deliberations, the boards developed the system of heraldry into an exact science governed by a set of rules and laws as rigid as the criminal code.

These laws are applied at any time that a coat of arms is to be developed for an individual even today, and are followed as closely as possible in the design of military coats of arms.

In medieval days, it was customary for knights to wear sweaters or jerseys with their personal symbols embroidered or woven on them. These sweaters eventually became known as coats of

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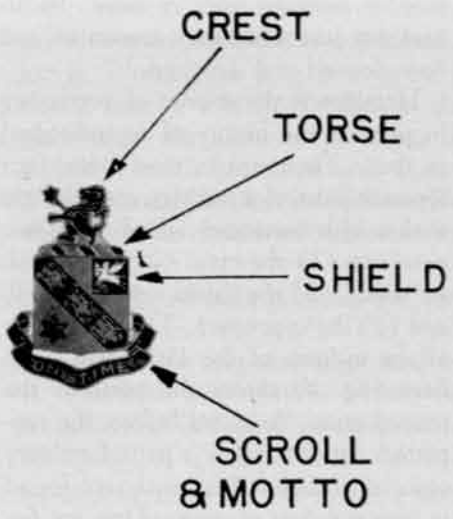


Figure 1. Parts of a coat of arms.

Figure 2. Combinations of parts of the coat of arms.

1 - DEXTER CHIEF POINT
2 - MIDDLE CHIEF POINT
3 - SINISTER CHIEF POINT
4 - HONOUR POINT
5 - FESS POINT
6 - NOMBRIL POINT
7 - DEXTER BASE POINT
8 - MIDDLE BASE POINT
9 - SINISTER BASE POINT

Figure 3. Named locations on the shield.

arms, and in time the term was corrupted to mean the symbols themselves.

Badges and coats of arms were adopted by many units at almost the very inception of our Army; however, these were made up as a result of unit initiative and had little or no official sanction. The first instance in which these badges were authorized was during the Civil War. Some of the units started wearing badges to designate the corps to which they belonged, and, as commanders realized the morale value of these badges, the practice was sanctioned and encouraged.

The common practice at that time was to develop a badge for a corps and have it made in different colors to identify the divisions within the corps.

Many references to these badges may be found in books covering this period, and individuals usually mention the pride with which they wore these badges.

Notable among the badges used were the 3-leafed clover of 2d Corps, the plan view of a five-sided fort of 5th Corps, the acorn of 14th Corps, the cartridge pouch with the words "Forty Rounds" on it of 15th Corps, the broad arrow of the 17th Corps, and the star of the 20th Corps. Many of these badges have been incorporated in the coats of arms of present-day units descended from those organization.

Some regiments had individual badges. One is the red apple with a numeral 2 on it which was the unit badge of the 2d New York Infantry "Apple Knockers." This badge has been incorporated in the current coat of arms of the 105th Infantry.

The wearing of these badges became more widespread after the Civil War, and eventually the War Department took official cognizance of the morale value of such identifying badges and established the Heraldic Branch of the Office of the Quartermaster General, Department of the Army, with duties roughly parallel to those of the Colleges of Heralds in foreign countries.

With a brief background of the history of military coats of arms, let us find out just what they consist of and how derived and designed.

Heraldry is the science of portraying in pictures the history of an individual or unit. There are in most cases, four separate parts of a military coat of arms with a fifth sometimes added. The five parts are; (1) the crest, (2) the wreath or "torse," (3) the shield, (4) the scroll, and (5) the supporters. The illustration of the insignia of the 11th Field Artilliery (fig. 1) shows the parts of the coat of arms. As stated before, the supporters are not usually a part of military coats of arms but frequently are found in personal coat of arms. They are figures that stand beside the shield, and seemingly support it.

Distinctive unit insignia may be a combination of any or all parts of the coat of arms of the unit, and figure 2 shows some of the possible combinations that are now in use.

Now, we can see why the term crest or shield is incorrect in many cases when we are referring to the unit insignia. It is safer to call them insignia.

Here are a few of the more basic heraldic rules which apply to the design of military coats of arms.

To begin with, various geographical locations on the shield have been given specific names, and these points are always referred to, heraldically speaking, by those names. Figure 3 shows the locations on the shield that are most commonly used in military coats of arms.

In addition to this, heraldic use specifies that the shield should be partitioned in certain arbitrary divisions. These partitions and their names are given in figure 4.

In the science of heraldry, the colors with which we are familiar have different names. The following list shows a comparison of our common colors with the heraldic names for these colors.

Common name	*Heraldic name*
Red	Gules
Blue	Azure
Black	Sable
Purple	Purpure
Maroon	Sanguine
Green	Vert

Two other colors commonly seen on coats of arms are considered by heralds to be metals. These are gold, which is called "or," and silver or white, which is called "argent." The most important thing to remember about the colors and metals in heraldry, is that a color is never placed on a color, nor a metal on a metal, unless they are separated by an edging, or fimbriation.

As was shown earlier, the topmost part of the coat of arms is the crest, or helme. Originally the crest was a representation of the crests worn by knights on their helmets. Heraldic practice soon corrupted this to show an entire helmet, hence the heraldic name of helme. In military heraldry we have kept closely to the original usage.

Immediately below the crest is the torse or wreath. This is supposedly a representation of the scarves given to knights as good-luck charms by their

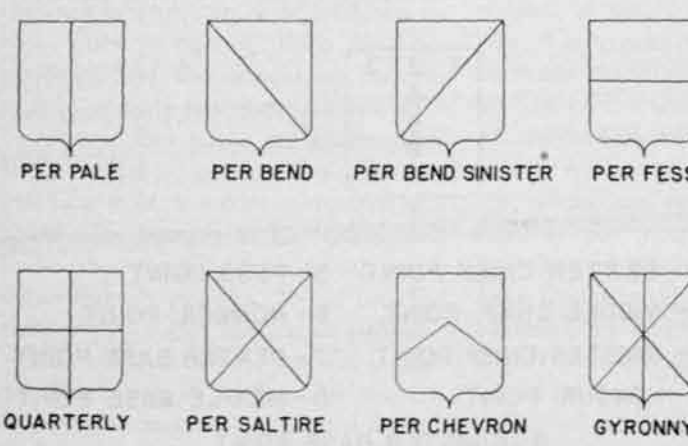


Figure 4. Heraldic division of the shield.

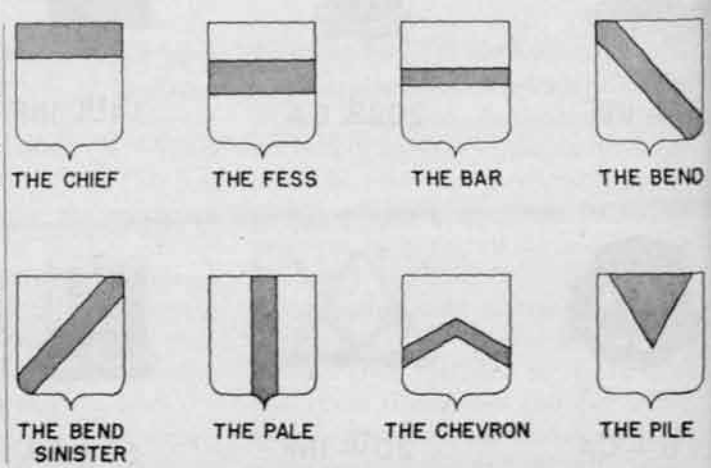


Figure 5. Ordinaries commonly used in military shields.

ladies, and the torse does resemble a cloth. In military coats of arms, the torse always has six folds and is usually colored alternately with one of the heraldic metals and the color of the branch of service of the unit.

The next lower part of the coat of arms is the shield. On the shield will be found most of the history of the unit, and in order to condense this information we have borrowed for our use some heraldic devices called the ordinaries. Some of the more common of the ordinaries we use are shown in figure 5.

Two more heraldic devices used frequently on our shields are the cross and the saltire. The cross is made in different ways, some of which are shown in figure 6 along with the saltire.

In designing the coats of arms of military units, certain symbols have come to represent service in a particular war. Some of the more common of these are; for the War of 1812, the Cross of St. George; for the Indian Wars, Indian arrows or tepees; for the Mexican War, a scaling ladder; for the Civil War, a crescent (from the coat of arms of General McClellan), a five-sided fort or a fishhook (from the shape of the Union line at Gettysburg); for the Spanish-American War, a ruined tower, a sheathed sword (if the unit did not leave the United States). A Kataipunan sun, a bolo, a kris, or a kampilan, may depict service in the Philippines during the Philippine Insurrection and for service in World War I, a fleur-de-lis, a ruined steeple, a blasted bridge, or devices from the arms of provinces of France in which the unit served. Figure 7 shows some of the common combat representations found on unit coats of arms.

At the bottommost point on the coat of arms we find the scroll. The scroll usually has the unit motto inscribed on it. The scroll itself may be as fancy as we wish and will cause no difficulty in the design of a coat of arms, but the motto will probably cause much head scratching before a suitable one is adopted. As a general rule, some saying that has been uttered by a member of the unit during the heat of battle will make a good motto. Mottoes may be in any language; French, Latin, English, Hawaiian, Indian, Greek, and Filipino have been used.

In many units, particularly in the infantry, we find the saltire used in the shield. In many cases it is used to represent the crossed belts of the old-time infantryman. Sometimes the saltire will be in blue, sometimes in white, and, in the case of those units with Civil War service, the crossed belts may be in gray. In shields which show a bend, that is from dexter chief point to sinister base point, the bends sometimes represent a river that has figured prominently in the unit's history.

Designs for unit insignia are drawn by the Heraldic Branch, Office of the Quartermaster General, based upon the history of the unit as outlined by the Historical Division, Department of the Army. When an appropriate design has been completed, it is forwarded to the unit commander for approval and, if accepted, authorization is granted to have the insignia manufactured and distributed.

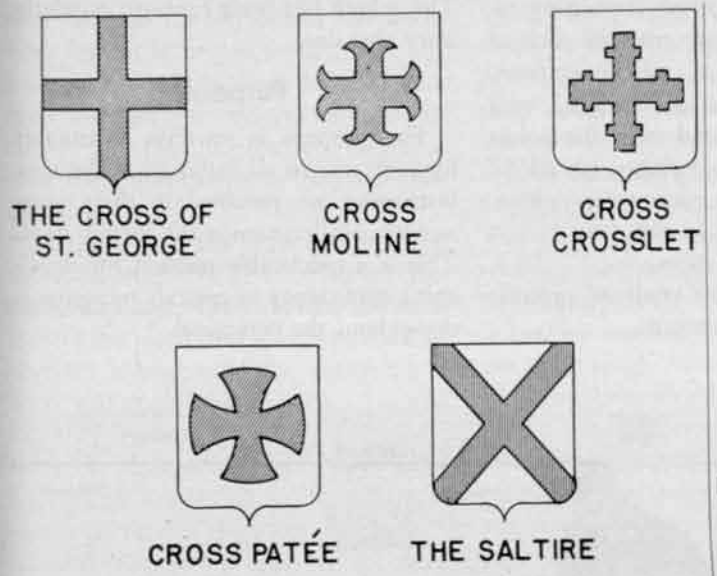


Figure 6. Types of crosses and saltire.

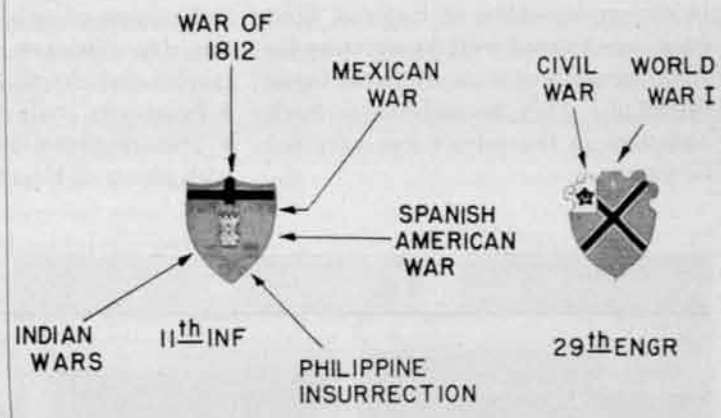


Figure 7. Combat representation on shields.

Know Your Aircraft and the Enemy's

By CAPT. MARVIN D. YARBOROUGH and MAJOR WILLIAM J. LOGAN

In the forty-nine years since the Wright brothers first left ground at Kitty Hawk, over twenty-five thousand different types of aircraft have flown. Of those in the air today a good proportion are military. How many can you identify and recognize?

In the first days of battle confusion is rife. A few untrained antiaircraft gunners can shoot down a friendly pilot and thereby demoralize the air defense and weaken all confidence in the antiaircraft artillery. Both fire discipline and the ability to distinguish friend from foe are absolutely indispensable.

The 32nd AAA Brigade in England has recognized the need for effective aircraft recognition skill and made a start in producing artillerymen who will *know* which planes are enemy and which are friendly.

Aircraft recognition is not such a difficult subject to teach, but there are several forms of useless instruction extant in our service. Here in England, however, they learned well the necessity for sharp recognition of aircraft in the Battle of Britain. They learned how to teach and train in the subject and have not forgotten.

This command obtained quotas from the Central School of Aircraft Recognition, British Fighter Command, and key personnel from this brigade were selected to attend. This is an excellent school and our own was set up on a similar plan, with the helpful advice and aid of the British instructors. The students who successfully completed the British course for instructors were naturally called upon to take up the job of planning and forming the 32nd AAA Brigade School of Aircraft Recognition.

A small building was made available at the Brigade Artillery School Center. The preparation resulted in the following layout:

- *A medium sized classroom,* capable of handling fifteen students.
- *An information room* containing tables, chairs, and study material such as aircraft journals, aircraft magazines, official publications on aircraft, wall charts, models painted with the colors and insignia of actual planes, aircraft of the day silhouette, numerous photographs, and aircraft in the news.
- *Instructors' study room.*
- *Sketching room* for students' practice with plenty of blackboards.
- A small room for private consultation with individual students. There were no training aids or equipment available through normal Army supply channels so a request was made to Headquarters, United States Army Europe for training funds sufficient to purchase from British military sources. Items such as Balopticons were improvised by building homemade shadowgraphs. Since many training aids were necessary much improvisation was done by the instructor personnel. About eight hundred to one thousand photographs are needed to teach a three week course. The preparation takes a great deal of effort.

A three week course for instructors was begun on 17 March 1952. There were fifteen students in the first course. The school has been running regularly since that date.

Purpose

The purpose is to train instructors for each unit in all battalions. The new instructors are returned to their units to teach artillerymen at the battery level. This is a practicable method for developing proficiency in aircraft recognition throughout the command.

Sgt. Edward J. Weisenburger, Battery A, 60th AAA Bn, instructs NCO's on the recognition of a jet silhouette.

Students study plane silhouettes as part of their "homework."

In addressing the first class, Colonel Metticus W. May, Jr., brigade commander, stressed the importance of both aircraft recognition and fire discipline.

Training Methods

There is much more to recognition instruction than a knowledge of a number of shapes. The instructor must possess that extra information and personal interest that enables him to answer awkward questions. This knowledge will also add to the color and interest that can be put into what otherwise may be a flat silhouette. Once the interest of the class has been aroused, the aircraft then becomes real and recognition will follow more easily.

Although a good background knowledge is essential, the instructor need not be a super-spotter. In fact if he is not, he may more readily appreciate the beginner's point of view and his instruction may be considerably more effective.

The art of recognition has been practiced in all walks of life throughout history. One lesson stands out above all others; there is no short cut to efficient recognition. When you see an aircraft flash through the sky either you know what kind it is, or you do not. Ask any really good spotter how long he has been interested in recognition and his answer will provide effective proof that good recognition requires long and continued study.

Methods used ten years ago included the code word "WEFT" (Wings, Engines, Fuselage, Tail). While useful to remind the pupil to check all parts of an aircraft's silhouette in the classroom, it never was practicable for spotting actual aircraft. Today with the high speeds achieved by small aircraft "WEFT" is literally an impossibility. The observer cannot methodically go through the recognition features. He must be capable of instantly recognizing the whole bulk of an aircraft. To sum up, the aim of aircraft recognition training is *Instantaneous Bulk Recognition.*

Background Knowledge

This is valuable for the instructor and student alike.

It is given to the student by means of organized interest lectures on such subjects as Principles of Flight, High Speed Flight, History of Aviation, and so on. Once again, the aim is to interest the pupil in aircraft and give him enough knowledge to realize, for example, why some aircraft have narrow thin wings and others have thick wide wings.

An instructor should use a Balopticon. The chief purpose of this instrument is to project photographs with which to illustrate talks or to give spotting tests. Photographs should be carefully collected and include shots of interest as well as of recognition value. Spotting shots should be divided into three groups:

- Elementary
- Intermediate
- Difficult

Distance is not the only deciding factor in separating photographs into these three groups. Clarity, viewpoint, and background must also be considered. Trouble is often experienced when pupils develop "Photograph Recognition" that is to say, a "shot" will be identified by a mark or blot on the photograph, not by the aircraft itself. The ideal solution to this is to have so great a number of photographs that they need never be repeated. Since this is impossible, it is recommended that instructors try altering photographs. One easy way is to shade in the photographs with colored pencil, or to cut out the aircraft and paste it on a new background. Such alterations are surprisingly effective.

It is essential that the subject matter be presented in a logical manner. The chart below conveys the idea of teaching easy things first and gradually building up to the more difficult items.

Let us assume that twelve aircraft are to be taught to a certain group and they have been sorted out into six groups of two aircraft each. This means that in an hour's lecture, after a pair of aircraft has been taught, twenty minutes will remain for spotting practice of these two aircraft, and of others previously taught.

The chart shows that at all times during the program, emphasis is placed on review, while variety is added with synthetics. Note the synthetics are to be used only for advanced training and that for the class to fully realize their value, they must first have a grounding in the aircraft concerned. Synthetics referred to here are such things as games, training films, flash trainer, etc.

Planning A Schedule

When planning a schedule it must be decided wherein to include background knowledge talks. The first step is to be sure that the class is familiar with aircraft description. This will avoid much confusion and misunderstanding. Periods used largely for recognition should be interspersed with other types of classes to prevent the monotony of one continuous type of training.

The official training list designates what aircraft to teach. The first aircraft to cover are those to be seen locally. This should apply both in peace and war, and enables the pupil to put into practice without delay what he has learned in the classroom.

Bear in mind that although all recognition is the subconscious comparison of different shapes, the instructor must not be too comparison conscious. To the beginner, comparisons may be very confusing. Psychologically it is better at the earlier stages to concentrate on the differences rather than on the similarities of aircraft. Teach the beginner about a dozen aircraft that cannot be confused. Once he knows these thoroughly a few confusable types may be introduced. More than two aircraft should never be compared at any one time.

Testing

Repeated spotting practice is an essential part of recognition training but it must be carried out properly if full value is to be obtained. The pupils should be placed so that they can all see the screen easily and are not at such an angle that distortion of the picture will occur. For obvious reasons the class members should not be too close to each other. If the period is to be of any train-

Recognition Period No.	*Aircraft Group*	*Silhouette work (Basic teaching)*	*Test Photographs* "A"	"B"	"C"	*Synthetics*
1	1	1	1			
2	2	2	2	1		
3	3	3	3	2		
4	4	4	4	3	2	1
5	5	5	5	4	3	2
6	6	6	6	5	4	3

ing value the test must be reshown at the same time as the answers are given enabling the individual to learn by his errors.

Spotting practice should not be confused with testing in the examination sense. In spotting practices variety is of value and almost any method within reason may be used. For examination purposes where results must be compared, the instructor should use the Balopticon only. Copies of examinations and of results must be kept by the instructor to aid him in planning future tests and in determining the progress of the class. These points plus the necessity at times of several classes being given the same test on different occasions show that the Balopticon must be used for examinations.

It is said that variety is the spice of life. It is certainly the secret of an interested recognition class. Below are some of the ways of injecting it into the training.

- Organize an information room and assemble a reference library on old and new aircraft.
- Arrange visits to local airfields and aircraft factories.
- Encourage sketching and model making.
- Arrange for outside lecturers to talk not only on recognition but also on general aviation subjects.
- Keep an Aircraft of the Day board.
- Build up a healthy competitive spirit by running spotting competitions within the unit and with other units. Also by playing recognition games, such as Bingo, Twenty Questions, One Minute Please, etc.
- Have a small recognition bulletin board in a conspicuous place displaying recent articles from newspapers and magazines, of aircraft in the news.

Finally in the teaching of aircraft recognition there are four things that should be remembered.

No short cuts.
Bulk recognition.
Progressive training.
Variety in training.

Testing and Inspecting

As important as any other phase of recognition training is the testing and inspecting of all units of the command. In this brigade each battalion is inspected and tested quarterly to discover:

- Training progress.
- Any deficiencies in the success of the training so that efforts can be made toward correction.
- Any new training aids and ways of injecting variety into the training so that others in the command may benefit.

IT is suggested that a lecture on a single aircraft be presented in from fifteen to twenty minutes, as follows:

a. Introduction (approximately three minutes). A few interesting facts about the construction and performance of the aircraft, to arouse interest.

b. Silhouette study (eight minutes). This is a detailed study of the large three places silhouette having as much class participation as possible.

c. Balopticon work (four minutes). This is a brief study of photographs to show the aircraft as it really appears, including angle shots to show the effects of perspective. It is suggested that five photographs to be used here would include: one head on view, one side view, one plan view, one interest shot and one three quarter view.

d. Recognition features (five minutes). This is a review by short descriptions of the recognition features that have already been covered. This is broken down into three main parts: wings, fuselage, and tail.

e. A suggested blackboard layout is shown in Figure 1. Stress clarity and neatness, plus the added advantages of standardization and uniformity.

The name of the aircraft to be studied must be written in large letters at the top of the blackboard. This will help the students to associate the name of the aircraft with silhouette. This will also help eliminate the well known phrase in aircraft recognition "I know the aircraft, but just can't remember the name."

At the bottom it is well to write the span and length. This will be of interest to the class and will give them an idea of the size of the aircraft concerned.

Also at the bottom is a space for an abbreviated "layout" of the aircraft. This is primarily to act as a reminder in the student's notebook. The suggested sequence to be followed is: Engines, Wing position, Unusual features, and Number of Fins and Rudders. An example, using the Venom, would be 1J/MWM/TB/2FR (One Jet/Mid Wing Monoplane/Twin booms/Two Fins and Rudders).

Silhouette study. During this period the class must thoroughly learn the aircraft's shape from the silhouette. This shows it as it really is, unaffected by perspective. Questions will play a big part in this if carried out properly. The pupils will remain alert with their minds focused on the silhouette for the entire eight minutes.

In using this method it is necessary for the class to look at the silhouette as a whole rather than at head on, plan, and side views. When a student is describing the wings, fuselage, or the tail he must cover all three in his comments.

During this period the instructor should use a pointer to run lightly over the parts being described.

After parts of the aircraft have been described the shape will be impressed more firmly upon the mind of the student if a sketch is made. The blackboard sketch may be simple and without detail but it will convey much more than words. This sketch or sketches should be made by the instructor dur-

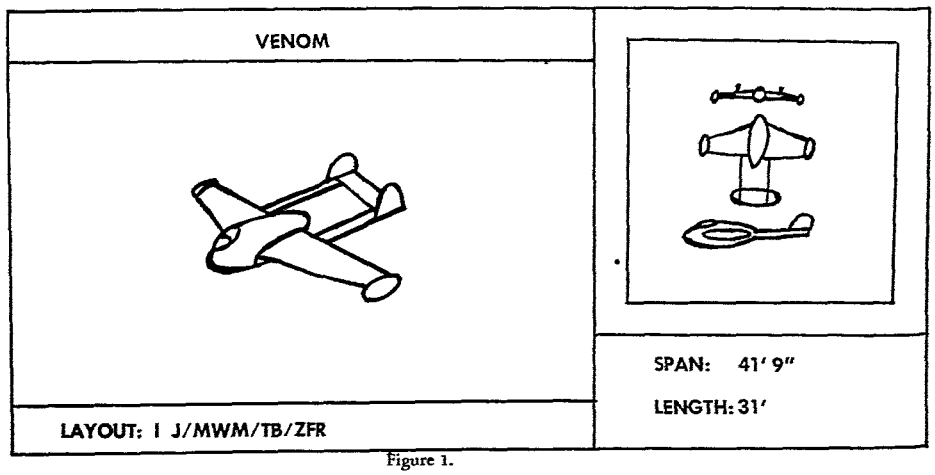


Figure 1.

ing the time that the students describe the different parts of the aircraft. It is necessary for him to direct the description and at the same time make the sketch.

Balopticon work: Before proceeding to this section the silhouette should be turned face to the board and the sketches removed. The reason for this will be obvious.

Basically, four photographs of the aircraft being studied should be used in the baloptican. In addition one interest shot is advisable, making a total of five photographs. An interest shot may be the aircraft combat loaded or shots emphasizing unusual features. The illustrations must be carefully selected and must include one head on view, one plan, one side, and when possible, one interest shot, and one three quarter view. The first three need not be taken in the order mentioned so long as they clearly show the recognition features to be seen from those angles. The interest shot should be shown just before the three quarter. It must be remembered that the three quarter view must be selected to show if possible all major recognition features of the aircraft.

During the projection of the conventional views and the interest shots, the instructor's commentary should serve to remind the class of the main points of the aircraft to be seen in each view. During the projection of the three quarter angle photograph he should remain silent, permitting the class time to decide for themselves the three brief recognition features.

Summary of recognition features: This is the review and memory testing part of the lecture. Again class questioning comes into play. The three recognition features of the aircraft must be obtained and written on the blackboard. This is why the sketch was removed and the silhouette reversed earlier in the lecture.

During this period it will be necessary for the instructor to guide the class in understanding the descriptions that he is teaching. Be sure to guide, not bully the class. Each member of the class must be made to feel that he has a part to play during the entire lecture, and that his ideas and opinions can be voiced and heard. Such phrases as "egg shaped," "cigar shaped," "carrot shaped," etc., should be avoided. Experience will show that what resembles a cigar to one student will look like a broom handle to another, and perhaps even a carrot to a third.

The three features should be arranged so that one covers the wings (including the engines in multi-engined types), and one covers the fuselage, and one the tail unit.

The features are intended to be a reminder of the aircraft's shape and so should be brief and clear. One sentence per feature is normally sufficient.

The final phase of the lecture is given by once again facing the silhouette towards the class and running over the features written on the blackboard. This can be followed by the usual request for any questions.

The 35th AAA Brigade has rounded out an effective aircraft recognition training program, by establishing its school for instructors in which Army training methods were utilized and taught and by periodic inspection of all units to check on the progress of the program as it was being carried out by the school trained instructors. The training has been successful in teaching instantaneous recognition of aircraft flying over defended areas.

HONOR ROLL

(Continued from inside front cover)

705th AAA Gun Bn
Lt. Col. F. O. Roever
708th AAA Gun Bn
Lt. Col. P. L. Getsinger
710th AAA Gun Bn.
Capt. T. T. Chisman
712th AAA Gun Bn
Lt. Col. R. W. Harnett
716th AAA Gun Bn
Lt. Col. Joe R. Stewart, N. Mex.
717th AAA Gun Bn
Lt. Col. E. D. Pelzer, N. Mex.
720th AAA Gun Bn.
Lt. Col. G. A. Duke, Calif.
724th AAA Gun Bn
Lt. Col. E. H. Hahn
726th AAA Gun Bn
Lt. Col. C. F. Arnold, N. Mex.
764th AAA Gun Bn
Lt. Col. E. D. Winstead
768th AAA Gun Bn.
Lt. Col. T. H. Kuyper
773rd AAA Gun Bn
Lt. Col. G. F. Slavin
804th AAA AW Bn (M)
Maj. S. N. Caudill, N. Mex.
867th AAA AW Bn
Lt. Col. W. R. Parr
903rd AAA AW Bn
Lt. Col. F. J. Petrilli
933rd AAA AW Bn
Lt. Col. R. G. Meguiar
950th AAA AW Bn
Lt. Col. J. P. Wallis, Ga.
951st AAA Gun Bn
Lt. Col. W. G. Babbitt
30th AAA Lt. Btry
Capt. W. A. Brant
Btry A, 37th AAA Gun Bn
Lt. A. B. Whitesides

Operations Detachments

131st AAA Opns. Det.
Maj. J. L. Welling, S. C.
142nd AAA Opns. Det.
Maj. B. D. Boyett, Ala.
177th AAA Opns. Det.
Capt. J. J. Niehoff
286th AAA Opns. Det.
Capt. J. B. Stopyra, Dela.
302nd AAA Opns. Det.
Maj. N. L. Funke
327th AAA Opns. Det.
Maj. F. W. Smith
500th AAA Opns. Det.
Maj. C. D. May, Jr.
502nd AAA Opns. Det.
Capt. J. R. Myers
506th AAA Opns. Det.
509th AAA Opns. Det.
Maj. J. P. Bodkin
510th AAA Opns. Det.
Maj. R. H. Moser
511th AAA Opns. Det.
Maj. G. J. Burke
515th AAA Opns. Det.
Capt. P. C. Hubble
517th AAA Opns. Det.
Lt. R. A. Durkins

METEOROLOGY FOR AAA

IN the first issue of the *Journal of the United States Artillery*, January, 1892, the lead article by 1st Lieut. John W. Ruckman, the first editor, bore the title: "The Effect Of The Wind On The Motion Of A Projectile."

Comparing our problem Editor Ruckman stated: "The engineer can allow sufficient strength in his structure to withstand the maximum effect which the wind may produce upon it * * * and always allow a sufficient margin of strength, even when wholly ignorant of the laws of the wind's action. * * * With the artillerist, however, it is different. He is required to send his projectiles direct to the point, and can allow himself no margin, one way or the other, the shot must fall neither short nor beyond, neither to the right nor to the left. Such rigid conditions require a perfect knowledge of the laws of the wind's action and the methods of computing its deviating effects."

Due in large part to the efforts of Ruckman, Whistler, and other artillery writers in the early years of this JOURNAL, the Ordnance Department furnishes to us now in the firing tables accurate and convenient data on wind effects and our directors are designed to compute automatically and apply the corrections for such effects.

We still have with us, however, the practical problem of determining the ballistic wind as well as the ballistic density and temperature. And while we have made progress in this field, too, we have not yet arrived at the point where the AAA brigades and groups can easily turn out satisfactory meteorological data. It is simply a problem which requires more attention and better attention than we have been giving.

For that reason we have seized every occasion during the past two years to publish articles on meteorology for AAA. We have emphasized the need for a procedure which would be more practicable in the field and we have presented a simplified solution for ballistic wind determination. Here, however, we wish to stress the present need in all AAA brigades and groups for more attention and more help to the meteorological section in their work following the prescribed standard procedures.

The first obvious need in each unit is for a well trained officer to direct and supervise this work. Whereas such well trained officers are not available. Each officer so selected will probably have to train himself by working with the section and by study of TM 20-240 and TM 20-241.

EVENTUALLY it is hoped to have warrant officers trained to bear the brunt of the supervision of met sections, but in the usual case now, make no mistake about it, an officer is required. He should have a good background in mathematics and artillery. Electronics is also helpful.

THE most important part of the supervision is to check the care and accuracy of the operation, and particularly the accuracy of the met message.

Under the standard procedure the plotting and computations may involve about one hundred key operations for one met message. Each such operation is a possible source of error. There should be a regular method of checking the message, but unfortunately none is provided. The banker, the accountant, and the engineer in like cases have a checking method. Likewise we need it and we can get it here. And that is the officer's job.

In WWII Major General F. Q. C. Gardner used to visit his met station in the San Francisco area and check or have the Aide check the accuracy of the message. He used data tables then provided for a simplified solution. We hardly need to add that these checks had wholesome results. We will add, however, that such accuracy checks now are almost unheard-of. And this is because there is no easy, ready to order method of doing it.

The most convincing accuracy check can be made by having the met message computed independently from the same observed raw data. This can be done by another met section, or by the same section after shifting the key personnel in the section. This procedure has superb training value.

The officer can get a good general idea of the accuracy by observing the work and by study of the work sheets. The tabulation of the speeds and directions of the zone winds gives a good indication.

FOR a quick and accurate check of the wind data Major H. R. Jackson, meteorological instructor in the School at Fort Bliss, and his assistant Pfc. J. G. Torian get a splendid check on the wind by computing for each standard altitude the average wind speed and direction to the point at 83.3% of the standard altitude. For theory and discussion of this solution see Simplified Wind Determination in Nov.-Dec., 1952 ANTIAIRCRAFT JOURNAL. They interpolate between minute readings to get the elevation and azimuth of this point. The wind azimuth is indicated by computing the back azimuth in hundred mils from the observed reading in degrees and tenths. They use the standard slide rule to compute the wind speed, applying the formula:

$$\text{Wind speed in M.P.H.} = \frac{.0341\ H \cot E}{t}$$

Where H = altitude of balloon in yards; E = elevation angle of balloon; and t is the time in minutes since release of balloon.

This method works well for someone who is thoroughly familiar with standard slide rule operation.

Another method of checking is to use a wind speed computer as described in Beter Wind Data in Nov-Dec 1951 ANTIAIRCRAFT JOURNAL. This provides a rather direct and simple operation with a computer designed for the specific purpose. However, it is necessary first to construct the Wind Speed Computer.

For each met section the officer in charge needs a ready method of checking the met message.

Electronics Training For The Artillery

By LT. COL. HENRY P. MORSE

"TROUBLESHOOTING which is not founded on a sound grasp of theory, plus an intimate knowledge of circuit hookup, is nothing more than tinkering."

Those words came from a radar officer in Korea. And we certainly agree here in the Department of Electronics of the Antiaircraft and Guided Missile Branch of The Artillery School.

The Department of Electronics is responsible for the technical training of all radar and fire control equipment repairmen for the artillery. It will have the same responsibility for guided missile fire control equipment repairmen.

The schooling problem is approached in this manner. An incoming student is sent first to the Basic Electronics Section of the Department. Here, the student spends fourteen weeks studying the principles of electricity, radio circuits and finally basic radar circuits. All incoming students who have not previously had a course in basic electronics are given an identical course. No attempt is made to give any of the circuits of a particular piece of equipment. The student spends three hours daily receiving conference type instruction, and four hours in a laboratory.

Upon completion of basic electronics the student moves to the Fire Control Equipment Section of the Department. At this point he is channeled into a course built around the specific piece of equipment on which he is to be trained. His school day is similar to that which he had in Basic Electronics. First, he attends a three-hour conference on a particular circuit of a particular piece of equipment. The theoretical operation of the circuit is gone over thoroughly, to include possible malfunctions and known points of troubles, their causes and how to detect them. Then he spends four hours working on the particular circuit on the actual equipment. These four hours are divided into two parts. First he performs a number of experiments designed to illustrate that the circuit works in the manner described in his previous conference. The second, and largest part, is devoted to actual troubleshooting of the particular circuit. With the student's back turned, the instructor injects a trouble into the circuit. This can take any number of forms, such as substituting a bad tube for a good one, switching two wires around on a terminal board, shorting across a resistor, etc. The student is then required to make a step-by-step analysis of what is causing the trouble, where the cause is located, and correcting it.

At the present time, four different courses are being conducted in the Fire Control Equipment Section. The first of these is a combination of two former courses. It is on the SCR 584 and the M9 director. This course is sixteen weeks in length. The second one is on the AAFCS M33 and takes twenty-three weeks. The third course covers the AAFCS T38 (the fire control system for the new 75mm Skysweeper), and is twenty weeks long. Fourthly is the course on the AN/MPQ-10, the new countermortar radar, and it is of ten weeks duration. Included with the first three courses is also a short course on the AN/TPS-1D. Adding to the above times, the fourteen weeks spent on basic electronics, it will be seen that these repairmen courses run from twenty-four to thirty-seven weeks.

If a person has had a previous course on radar or schooling in electronics, he is eligible to take what is known as a transition course. This course eliminates the fourteen weeks of basic electronics and starts the student out on the equipment portion outlined in the previous paragraph. At present this type of course is being conducted on the M33 and T38.

There has recently been started a revised officers course of thirty-two weeks duration. This is a course which is a combination of all the newer equipment. The officer receives instruction in basic electronics, the M33 and T38 fire control systems, and the AN/TPS-1D and AN/MPQ-10 radars. Essentially he receives the same instruction as an enlisted man but at an accelerated pace.

Here are Some Questions and Answers:

QUESTION: Why is it necessary to give an officer as much technical training as an enlisted man?

ANSWER: The Department feels that in the case of highly complicated electronic equipment, proper supervision can be accomplished only by knowing as much as the men under you.

QUESTION: Your course of fourteen weeks in basic electronics is comparable to the amount a student would receive in four years of college. Is that much knowledge of electronics necessary?

ANSWER: Yes, that can be illustrated in several ways. Take the training of an automobile mechanic. Before he learns how to change a carburetor or reseat a valve he learns the principles of operation of gasoline motors. From this knowledge of the principles he learns how to diagnose malfunctions. The Department endeavors to do the same thing with electronic technicians. However, the complexity of a radar as compared to a gasoline engine is on the order of 10 to 1. Ergo, it takes ten times longer to teach the principles of electronics than it does to teach the principles of a combustion engine.

When a malfunction occurs in a gasoline engine, the cause is generally located in the same place that the malfunction manifests itself. This is not true of electronics equipment. At least 50% of the time the cause of an electronic malfunction is located in an entirely different place than where it evidences itself. To locate the cause of electronic troubles requires a knowledge of the characteristics of electronic components and their effect on one another.

Over the past eight years the Department has compiled a list of over 350 troubles that have occurred to the SCR-584 in the field. In time a similar list will be built up for the newer radars and computers. It would be entirely possible to teach a repairman how to recognize and correct these troubles without a knowledge of electronics. He would then be working by rote, and if an

unknown trouble occurred he would be stumped. The Department feels that it is much more satisfactory to give a man a good background of basic principles and a complete knowledge of circuitry. He is then capable of diagnosing almost any trouble. It takes a little longer in time but the end product is far superior in quality.

QUESTION: Some of your courses are nine months long. If total mobilization should come, would they be cut down?

ANSWER: The Department is continuously striving to reduce the length of the courses. With the advent of the new M33 integrated fire control system it was decided to teach the complete system to one man. Formerly, one man learned the radar and another the computer. This took six and five months each respectively. Each man had to go through basic electronics first. By combining the courses, two man months were saved.

Actually the Department is making considerable strides in reducing the length of the courses. The M33 system comprises two radars and a computer, yet the course is only two weeks longer than the former SCR 584/M9 course. With present plant and equipment, full strength T/D and all present student quotas filled, the Department can turn out sufficient maintenance men annually for present requirements. This rate was set up because of the one year availability of selective service personnel. If total mobilization came tomorrow this backlog of maintenance men would normally be immediately frozen in the army, so there would be no immediate increased need for this type personnel. The rate of output of the Department, with no change in size, could produce as many repairmen as sets of fire control equipment produced by industry to equip newly activitated units. From this it can be seen that there would be no need to shorten the courses to meet any immediate need for trained maintenance men.

QUESTION: You have set very high standards for admission to your courses. Is this necessary and does it not make it difficult to get enough students?

ANSWER: The high standards are necessary. The Department has gone through its records and calculated that, of the personnel who entered the courses without the required prerequisites, about 50% fail to finish. That is too expensive in terms of money and energy wasted. Actually, since the start of the Korean war, the Department has had no difficulty in obtaining students. It draws directly from the RTC at Fort Bliss, and units in general have managed to find a fair number of qualified personnel to send. Our present flow of graduates will meet the needs of the antiaircraft units in the present troop basis.

QUESTION: Aren't you teaching a level of maintenance that is properly a responsibility of a Technical Service?

ANSWER: That is an important question, and it is debatable. Going strictly by regulations, the organizational maintenance man is authorized to perform maintenance within the limits of the tools and spare parts authorized for issue to the unit. However, the ability to use a soldering iron, wrench or screwdriver on one particular part is perfectly transferable to any other part that requires the use of such a tool. By the same token, the ability to trace a trouble to a part which is authorized to be replaced, is also usable to trace a trouble to any other part.

Actually the Department does not attempt to draw a line based on a list of tools and spare parts issued with the piece of equipment. The guiding principle has been the training of a maintenance man capable of keeping the equipment in operation in the field without dependence on the Technical Service. The Department feels that there will be times under combat conditions when technical service support is not available. When such conditions exist, the unit commander should have available a trained man capable of doing the maximum amount of maintenance if all types of spare parts are issued to him.

VERSATILITY OF RADIO SET AN/GRC-9

By 1st LT. ARTHUR B. NASH

Radar Officer, 89th AAA Gun Battalion

ALTHOUGH the rated maximum range of the AN/GRC-9 is stated in TM 11-263 as 25 miles when used in stationary position, the 89th AAA Gun Battalion recently used this set successfully and consistently over a distance of approximately 125 miles, for a period of almost a month. Communication was continuous and satisfactory for that entire period, and contact was made not only with the net control station but with other stations in the net as well. This unusual and gratifying performance of the AN/GRC-9 came about as the result of a requirement for reliable communications between the battalion headquarters, in the Baltimore area, and batteries of the battalion, which were rotating to Bethany Beach, Delaware, for service practice. Faced with the requirement for an administrative communications net without incurring excessive telephone bills, the battalion commander, Lieut. Col. Thomas H. Barfield, directed the author to experiment with various antennae, in order possibly to establish the necessary circuits. How this was done is described in the following paragraphs.

The tests were conducted during average mid-Atlantic seaboard winter weather, with good weather, rain, and windstorms. The terrain was moderately favorable in that it was generally flat with no serious intervening features. Normal operating frequency being between 6000 and 7000 kilocycles, or approximately the center of the set's frequency range (two to twelve megacycles), it was decided to continue the experiment at the usual frequency, even though recognizing its characteristics of short daytime and medium nighttime range. It is interesting to note, in retrospect, that the frequency was particularly appropriate as time of day appeared to have little if any effect on the success of the experiment.

Many types of antenna were experimented with and greatly varying effects were obtained. Finally, after several preliminary tests were made, it was decided that a doublet type antenna would provide the optimum results. The lead-ins and radiators were cut to exact lengths required for one-half wave radiators and lead-ins as given in TM 11-263. The entire assembly was made of field wire W-110B. To avoid splices the entire length of one radiator and lead-in was measured from one piece of wire; the wire was then carefully separated to a point where the lead-in began, and that point was taped to prevent further separation of wire. Thus the two separated pieces served as radiators and the remaining twisted portion as a lead-in. Copper wire, made into a more permanent unit, may be used if obtainable, or the antenna supplied with the AN/GRC-9 can be used, provided the proper length of radiator and lead-in can be obtained for the frequency utilized. It is important to note that no subsequent changes in length of lead-in or radiator should be made if satisfactory results are to be expected. It was found that a change of six inches in any portion of the doublet assembly reduced power output sharply, although reception was only moderately affected. This limitation, particularly as it relates to lead-in wires, was found to be a critical factor in determining the location of the radio station itself. In this particular instance, the aerial was suspended about fifteen feet above the ground, the radiators were terminated on insulators, and cord was used to fasten insulators to antenna supports. In an effort to make an exhaustive research of the effectiveness of various types of antennae, other types were tested, particularly the long wire and whip types. No contact, either transmission or reception, was possible when the whip was tested. Weak and intermittent contact was possible with a long wire antenna, but only during late afternoon hours. Because of the directive effect of the doublet, local interference was reduced with this antenna, whereas with a whip or longwire assembly local coast guard and amateur stations could be heard.

Hand generator operation was found to be the most satisfactory. It was found that when using the hand generator, several seconds should elapse between the time the load indicator glows and actual voice transmission begins, otherwise a "flutter" will be heard at the receiving station. Also, steady operation of the hand cranks is particularly necessary to prevent fading and the consequent need to repeat messages.

Initial contact over extreme range is hard to establish and patience and great care are needed. It was found advisable to set aside a certain hour for making initial contact, thus assuring the full attention of operators at each station and eliminating delay and confusion. Once communication has been established it was maintained in routine fashion.

In evaluating this experiment, and the successful operation of the AN/GRC-9 over extreme distances, it is concluded that such range is feasible and readily attainable if the directional qualities occasioned by the arrangement described herein are acceptable to the using unit. Such use indeed confirms the versatility of the "ANGRY-9."

Winterization of the AN/TPS-ID

By CAPT. DUNCAN S. BOUGHNER

Radar Officer, 8th AAA AW Bn.

DUE to severe winter conditions here at Sault Ste. Marie, Mich., some method had to be found to winterize the AN/TPS-1D. The tent supplied as a component part is not suitable for the extreme cold weather here. In trying out several methods of installation two solutions became apparent, one of which also presented an answer for a more mobile setup. Both solutions satisfy all requirements without impairing the efficiency of the unit.

The first, which for lack of a better name we shall call the "Mobile Method," is constructed as follows: A five-foot-high removable cab was built around an M18 four-wheel, two-ton generator trailer. This trailer has outside jacks on rear for stabilization and an excellent bracing dolly wheel in front. The platform on the drawbar can be used for mounting the PU-104. We put a floor of 1 inch by 4 inch with 2 inch by 4 inch props in the trailer. The fly portion of shelter S-68/TPS-1D is used as a roof and held on by strapping around the top of the framework. The walls are made of ¼-inch plywood with 2 inch by 2 inch frame. The roof has a lengthwise beam, 2 inch by 2 inch with either 2 inch by 2 inch or 1 inch by 2 inch rafters to right front, both rear corners and both sides. The rafter to left front is omitted to allow for the pedestral unit. The door is in the center rear. The walls can be lined with celotex or any other insulation for more comfort.

The units are stacked and facing as follows: The antenna base and receiver-transmitter, left front corner facing to rear; the power supply and signal comparator in right front corner facing to rear; the indicator and modulator are halfway toward the rear on right side facing left. The leveling jacks of the radar are only under the receiver-transmitter and antenna base units. The

antenna sections are carried in trucks with gas drums.

Tests show that this arrangement provided maximum mobility. With wooden bases with bolts holding the other two stacks, no difficulty was encountered as to stability either on good or bad roads, or across rough terrain. The stacks did not sway or slide nor did it affect adjustments made before move other than to check level. The average time for getting on air from move was 25 minutes. The unit itself, when on air, furnishes enough heat to be comfortable even when it is zero degrees outside.

The second method employed does not give the mobility of the method described above but it does provide a much more suitable place for operation and maintenance crews while on shift.

An M48, four section hut (Jamesway) was set up. In the vestibule the stack was set up less the indicator and modulator units, facing the inside of the hut. The inner door and the canvas top of the vestibule were removed and 2 inch by 6 inch bracing put under the vestibule floor. The regular tent, S-68/TPS-1D, bracing cables and fly were installed as normally prescribed. The tent falls on the sides of vestibule and is lashed there with rope. The fly gives added weather protection and is held down on hut side by placing one of the six inch hut securing bands in its normal place with edge of fly under it. Removal of units is simplified in this manner by removing fly, tent, antenna, and the canvas end of vestibule onto a 2½-ton truck.

Inside the vestibule the stack faces inward which simplifies cabling. The transmitter just clears the top of door. The servo amplifier unit in the antenna base unit can also be removed if necessary by removing the screen in ventilator above the door thus making all units immediately available. The modulator and indicator units are set on a wooden platform just inside the door but at right angles to the stack. Two sliding curtains can be hung, screening the operator from light entering the windows. A work bench is installed on one side of hut. The stove is in the opposite end of the hut from the radar. For fire protection a CO_2 and a standard foam extinguisher must be available. The CO_2 extinguisher is for the radar; it will not damage the parts.

This provides necessary winterization for the radar. We have used a standard CP tent with curtains rolled up to house the generators whose exhaust extensions are suspended out the window. This allows sufficient protection for maintenance and servicing without being exposed to elements or danger from exhaust fumes. Gasoline drums are on an open platform with a sheltering roof outside of tent. A foam extinguisher is used in this tent.

These solutions offer a possible interim or permanent utilization.

31st AAA Brigade Activities

On 29 January 1953, Hq and Hq Btry, 31st AAA Brigade, under command of Brigadier General Eugene F. Cardwell, moved from Fort Lewis, Washington to McChord Air Force Base, Washington. McChord Air Force Base is the home of the 25th Air Division, commanded by Brigadier General T. Allen Bennett. Its mission is the air defense of the Northwest Sector. Thus, the Army and Air Force headquarters responsible for the air and antiaircraft defense in the Northwest are now located on the same reservation. This close proximity will result in improved coordination of planning and operations.

McChord Air Force Base converted two adjacent 63-man barracks into completely adequate office space for the Brigade Headquarters. By cross service agreement, finance, medical, post supply, and communication services are furnished.

From the small number of quarters available on the base, the Brigade has been allocated one officers set and one noncommissioned officers set. Other married personnel have had no difficulty finding adequate housing within six miles of the Base in the communities of Lakewood and South Tacoma. Headquarters Battery is housed and messed in the "Castle," a large brick barracks.

General Cardwell reports that General Bennett and all of the Air Force people at McChord have gone all out to make the 31st Brigade personnel comfortable and welcome.

General Cardwell was on extended TDY at Headquarters Western Army AA Command in February and March between the departure of Brigadier General Berry and the arrival of Brigadier General McGaw. The S2, Captain William D. Knapp, and the S4, Captain Kenneth V. Frankenfield, have been ordered overseas. Captain Frankenfield has been replaced by Captain Joseph E. Markee. The Brigade Radar Officer, Major Floyd H. Bjorklund, is taking the short course at the Command and General Staff College and will be lost to the Brigade until May.

The grapevine has indicated that Colonel John C. Steele, Commanding Officer 5th AAA Group, and Colonel Henry D. Lind, Commanding Officer 26th AAA Group, will be leaving the command this summer for school. Colonel Steele to the National War College and Colonel Lind to the Army War College. Colonel H. G. Haskell has been ordered to the 5th AAA Group to succeed Colonel Steele in command.

Lt. Colonel Grant S. Green, former Commanding Officer of the 513th AAA Gun Bn recently departed for overseas shipment.

Lt. Colonels Charles F. Ottinger, Arvid P. Dahl, and Arthur E. Holt have recently joined the Brigade. They have been assigned as commanding officers of the 20th, 83rd, and 519th Battalions respectively.

Major Donn M. McCann, executive officer, 5th AAA Group, and Major Leonard T. Hansen, executive officer 518th AAA Gun Bn, have recently joined.

ARMY PRIMARY PROGRAMS

By LT. COL. WILLIAM L. THORKELSON

THE Army Primary Programs, some fifteen in number, consist of a grouping of practically all of the activities of the Army. These activities are so grouped into the Primary Programs that they can be readily administered because each program consists of related activities for which specific objectives can be set. The program system is a vehicle for better management in the Army. The Primary Programs and their subdivisions called activities are used by many individuals throughout the Army. Planners use them as a means of laying out future courses of action in fair detail. Budgeteers use them as a means of justifying budget requests for future years. General Staff divisions follow them in carrying out their activities. Soon army commanders and some overseas commanders will use them as basic guidance for their operations. Finally, program directors, the deputy chiefs of staff, and the Chief of Staff, use them as a means of measuring accomplishments against objectives. In other words, the Primary Programs of the Army are gradually becoming the basic guidance for most Army activities.

To understand the Army Primary Program System or Program Management one must first approach the problem with a knowledge that there is no great mystery involved. While the Army Program System is sometimes discussed as a new innovation, there is really nothing new about it at all. The Army has always had programs. However, these programs have been related to specific fields of endeavor. For example, each one of us is familiar with training directives, training programs and training schedules for all size units. These are programs in no different sense than any one of the Army Primary Programs. In fact the basic guidance for all unit training directives, programs, and schedules is Army Primary Program No. 6, Training.

The only really new thing about the Army Primary Programs is that they represent the first attempt to encompass practically all of the Army activities within a single framework. While specific Army activities such as construction of buildings have been programmed for many years, no single set of related documents stated and correlated most all Army activities. The program system represents our long-standing concepts of planning, of looking to the future, embodied into a formalized framework encompassing most of the activities of the Army, and executed on a scheduled basis. Also, the Programming System is related to the JCS planning cycles, and is geared to the budget cycle of the Federal Government.

Program Management is now being taught in the Army War College, and in time will become a subject of instruction at other general service schools. Some senior officers feel it will never be entirely effective until more of the officer corps have received familiarization training in it at the schools. It was given great impetus in the Department of the Army by Lieutenant General Maxwell D. Taylor, who placed much emphasis upon the Primary Programs in the execution of his responsibilities as Deputy Chief of Staff for Operations and Administration. Last year the system was adopted in the Fourth and Sixth Army areas. It is being studied in certain overseas areas, and in the very near future will be adopted in all of the continental Armies.

The need for an all-encompassing programming system was demonstrated by a number of things. Among these were the findings in 1949 of the Commission on Organization of the Executive Branch of the Government generally known as the Hoover Commission. The Commission recommended that the whole budgetary concept of the Federal Government be refashioned by the adoption of a budget based upon functions, activities, and projects which they termed the "performance budget." The Primary Programs, since they are functional groupings of activities and can be related to the Performance Budget structure prescribed by the Hoover

DEPARTMENT OF ARMY PRIMARY PROGRAMS

Program	Director
Troop	G1
Command and Management	G1
Military Personnel	G1
Civilian Personnel	Director, Civilian Personnel, OCS
Intelligence	G2
Research and Development	Chief, R&D, OCS
Industrial Mobilization	G4
Matériel	G4
Supply Distribution and Maintenance	G4
Services	G4
Installations	G4
Construction	G4
Training	G3
Joint Projects	Appropriate G's
National Guard	Chief of NG Bureau

Lt. Col. Thorkelson first appeared in the March-April 1949 issue of the JOURNAL as author of "Activities of the IX Air Defense Command". In World War II. In 1946 he served with General Clay's secretariat in Berlin and is now the G3 member of the Junior Program Advisory Committee, Department of the Army.

Commission, were a natural development from the findings of this group.

BUT the findings of the Hoover Commission, directed as they were toward better management, were not the only impelling reason for the adoption of a program system by the Army. The unification hearings which started immediately after the end of World War II and resulted in adoption of the National Security Act of 1947, were directed at economy in the military services. There were other reasons for the passage of the Unification Bill, but certainly economy was one of the highlights of much of the debate on this measure.

In 1949 the Act was amended to give the Secretary of Defense much more direct control over the budgets of the three Services. The budget became a basic tool of the Defense Secretary in unifying and controlling the activities of the services. While it cannot be said that these changes in the authority of the Secretary of Defense alone were instrumental in the adoption of the Army Program System, still they had a very significant influence. The influence came in the realization by the Army that through a sound programming system it would be better able to defend its requests for funds both before the Secretary of Defense and the Congress.

Another factor was the experience gained in World War II which dramatically illustrated the importance of "lead-time" in both training men and procuring matériel. Adequate programs were required to balance the requirements of lead-time, both in personnel and in equipment, to produce a fighting force capable of taking a given objective at a specific time. All of this required detailed long range planning. Without such planning and programming of requirements, the necessary goods and materials, the tools of war, were not available to our fighting men when needed. This led to the development of a programming system which encompassed more than the specific Army activities related to a theater or operation; it led to the development of the Primary Program System which brought into balance the many complex facets of our modern military operations.

It is a combination of these factors; the Hoover Commission findings, the National Security Act of 1947 as amended, and the experience gained in World War II which resulted in the adoption of the Primary Program System. In September 1949 a Planning Manual entitled the Department of the Army Planning System, FM 101-51, was published. This was the first of four field manuals covering planning and program management at the Department of Army level. In the summer of 1950, a manual on the Program Management System, FM 101-54, was published. This manual has been followed by a number of Special Regulations which delineate in greater detail the contents of the Army Primary Programs and the operations of the Primary Program System. These are constantly being revised and new regulations published as experience is gained in programming.

The scope of activities included in the Primary Programs can be seen from briefly looking at the contents of each of the fifteen Programs. The Troop Program contains a statement of the force structure of the Army. A tabulation indicates major units, that is, divisions, regimental combat teams, and separate battalions; it shows where the units are to be deployed in the fiscal year under consideration, states the composition of the General Reserve, and includes certain detail on the Reserve Forces Program. Basic recommendations on force structure and organization of units are made by G3, although G1 is the director of this program.

The second program is one entitled the Command and Management Program. This program consists of an accumulation of miscellaneous activities which do not properly belong in the other Primary Programs. For example, it contains a statement of war and mobilization planning, the military missions, budget responsibilities, statistics, legislative activities, and other miscellaneous activities. G1 is the director of the Command and Management Program while each of these segments is the responsibility of the Assistant Chief of Staff within whose purview the activity largely falls.

THE Military Personnel Program provides for the management of military personnel as individuals. It furnishes guidance for assignment, promotion, separation, awards, and other personnel activities. A forecast of the Army man power requirements for the year under consideration to include the number of individuals to be called each month through the selective service system is contained in this program.

The Intelligence Program provides a statement of the intelligence activities of the Army, as does the Research and Development Program of the research and development activities. The Industrial Mobilization Program furnishes guidance for the establishment and maintenance of the Army's reserve plant capacity and industrial preparedness measures in the event of a total war. The Training Program is the bible for all training activities.

The most important of the Primary Programs, dollarwise, is the Matériel Program. This program provides objectives for the procurement of such major items of equipment as artillery, tanks, and vehicles, and small arms. Other items such as bridging matériel, heavy materials handling equipment, radios, guided missiles, ammunition, special training equipment and a multitude of other items are also included.

Because of its importance, and because it is illustrative of a program document, let us examine the Matériel Program in greater detail. The contents of this very important document can possibly best be illustrated by an example, the M-47 tank. The requirement portion of the FY 1952 Matériel Program showed the number of tanks required for the active Army, for combat consumption in Korea, for peacetime consumption elsewhere, for the civilian components, and for the Mobilization Reserve. These figures G4 computes from the statement of units in the Troop Program. The sum of these represented the total requirement. Next were indicated the quantity of M-47 tanks ordered in FY 51 and the number of other tanks on hand which were considered a satisfactory substitute item for the M-47. The difference between this total and the requirement total was the procurement requirement for FY 1952.

So far the figures were largely a matter of computation. The next one, which was the number of tanks to be procured in FY 1952, represented the essence of programming. This was the program objective for tanks and could be equal to or less than the tank requirement. Establishment of this objective required

a balancing of requirements with the available appropriations and national productive capacity. This is the area in which compromise and good judgment are most essential. While G4 made the initial recommendation as to how many tanks should be included in this program, many other individuals could modify this decision.

The most influential of these were the Chief of Staff, the Secretary of Defense, representatives of the Bureau of the Budget, the President, Congressional committees and finally the Congress. Some changes were made by most of these individuals. However, major modification of the Matériel Program to include all the items in support of these tanks was not made until funds were appropriated by the Congress. At that time the exact quantity of tanks and other items in the Matériel Program was changed, if necessary, to conform to the number of dollars available for their purchase.

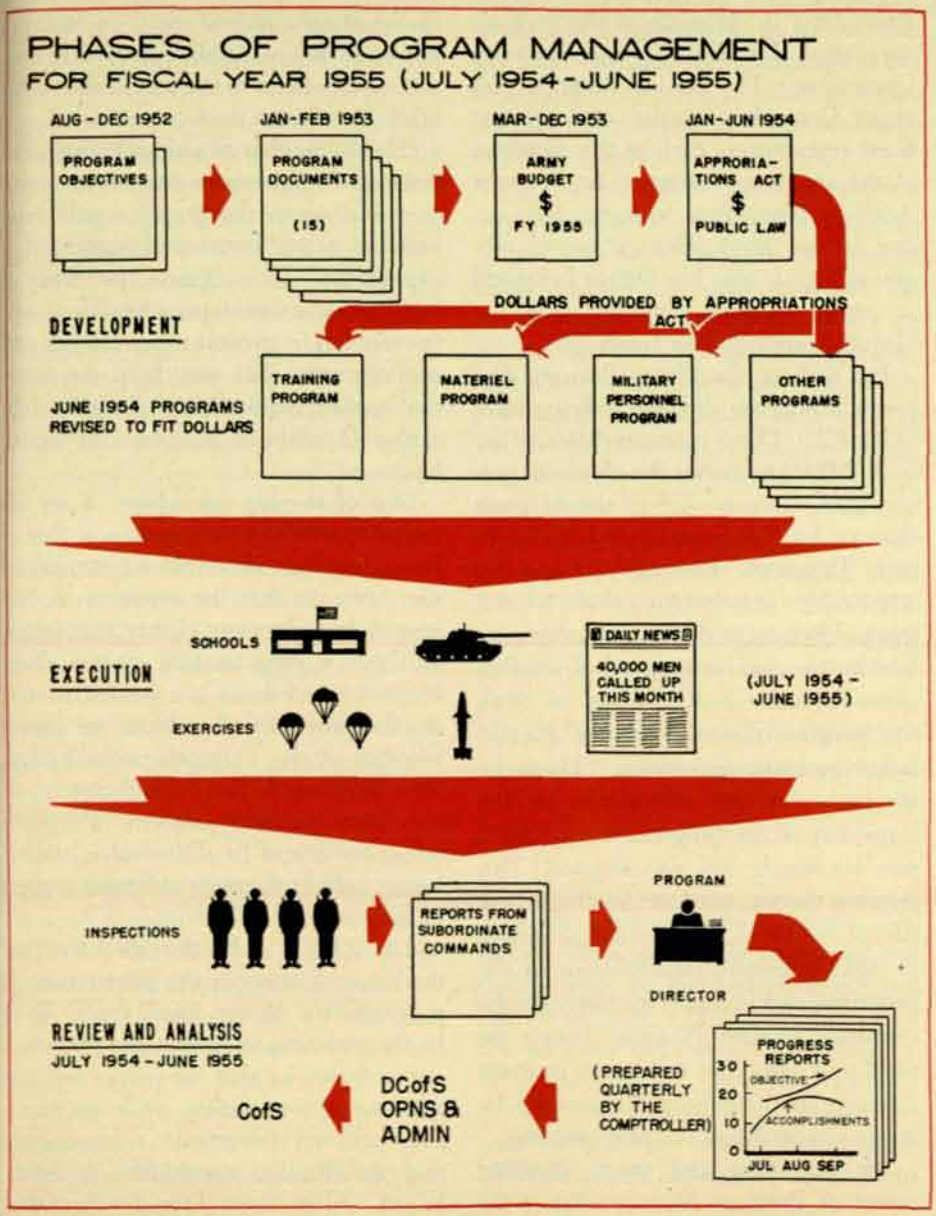
Other programs are the Supply Distribution and Maintenance Program, the Services Program which contains the requirements for the housekeeping and administrative support of the Army, and the Installations Program which provides for the management of the fixed plant of the Army. Requirements for new installations and for new structures on existing installations are included in the Construction Program. Finally, the National Guard Program contains the requirements of the National Guard, and the Joint Projects Program provides for those joint tasks in which the Army participates. It furnishes guidance for the Army participation in the Armed Forces Special Weapons Project, the National War College, and the Industrial College of the Armed Forces.

Having examined the scope of the fifteen Primary Programs in a brief fashion, let us turn to the three phases of Program Management. Program Management is not a complex concept; it is the exercise of command through programs. Primary Programs are the basic ingredients of Program Management. The three phases of Program Management are: the development of the Primary Programs, the execution of these programs, and finally the review and analysis of the execution of the programs. (See chart)

The development of Primary Programs, which consists generally of establishing objectives and goals for each program and the activities thereof, is accomplished in the Department of the Army long before the programs are to be executed. In fact, the program objectives and the programs themselves are prepared in advance of the preparation of the budget for the same fiscal year. By this means the programs become the basis for the Army's budget request, and the request is defended before the Congress in terms of the content of the programs. The programs, like the budget, are prepared for a single fiscal year. To illustrate the lead-time required in the preparation of programs, it is interesting to note that in the fall and early winter of 1952-1953, the programs for fiscal year 1955 were being prepared.

Following the preparation of the programs, the budget which will provide the funds to support and carry out the programs is prepared and defended before the Congress. When Congress passes the Public Law known as the Annual Appropriations Act, money is available for the Army to carry out its programs. Frequently, the appropriations are somewhat less than required to execute the programs as originally prepared. Therefore, on the appropriation of the funds the programs are revised so that they are in keeping with the money available for their execution. This revision includes processing of what are known as change orders to the Primary Programs, and preparing more detailed changes to the schedules which are developed from the programs.

During the fiscal year in which the programs are in effect quarterly reviews of progress achieved are made. At this time each program director reports on



the progress made during that quarter toward the achievement of the objectives established in his particular program. This is a most important step in Program Management, for it is at these quarterly reviews that the Army top management has an opportunity to see how well not just one, but all activities of the Army are proceeding in relation to the program which was established for these activities. The Comptroller of the Army has the responsibility for presenting these quarterly reviews, and for formulating conclusions as to the relative accomplishment of all of the programs.

Having discussed the phases of Program Management, let us turn now to the responsibilities of certain senior officers in the Department of Army for programming. The Deputy Chief of Staff for Plans and Research, Lieut. Gen. L. L. Lemnitzer, has the responsibility for preparing the program objectives and for the initial development of the programs. This is his responsibility because he is in charge of over-all Army planning, and the programs in their development phase are planning documents. The Comptroller of the Army, Lieut. Gen. George H. Decker, takes the programs and from them prepares the annual budget. Once the funds are appropriated by Congress for the fiscal year for which the programs were devised, the Deputy Chief of Staff for Operations and Administration, now Lieut. Gen. Anthony C. McAuliffe, uses the programs as a management tool in determining the effectiveness of over-all Army operations. It is to him that the quarterly review and analysis of Department of the Army programs is made.

As in any large organization, there are a number of working groups in the lower echelons who perform many of the detailed operations and who submit plans to senior officers for approval. The Program Advisory Committee is such a working committee. Its function is to review and make recommendations to the Chief of Staff on program objectives and programs. This committee is composed of General Lemnitzer's Assistant for Planning Coordination, Brig. Gen. Barksdale Hamlett, the Chief of the Budget Division, Maj. Gen. Geo. Honnen and the Deputies of G1, G2,

Lieut. General Lyman L. Lemnitzer

G3, and G4 together with the Special Assistant to the Chief of Staff for Civilian Component Affairs.

An unofficial group known as the Junior Program Advisory Committee has been organized at the Department of Army level to do much of the preliminary work for the Program Advisory Committee. The Junior Program Advisory Committee consists of action officers representing each of the members of the senior committee. The Program Advisory Committee is particularly active in the development phase of programming. It also has certain functions in regard to reprogramming after the Congress appropriates funds.

For each of the fifteen Primary Programs a program director is designated. (Chart 2) These program directors are with a few exceptions the chiefs of general staff sections. G4 is the program director for the largest number of Primary Programs. Program directors are responsible for submitting drafts of program objectives to the Program Advisory Committee, and on approval of the Program Directive by the Chief of Staff, the program directors prepare the detailed program documents. These individuals then are responsible for the execution of the programs in the fiscal year for which they are designed. This requires them to produce detailed schedules of specific portions of the programs, to make necessary modifications in the programs, and to report quarterly on the execution of their program during the fiscal year. In other words, the program directors are the individuals carrying the major responsibility for programming.

An interesting and much discussed aspect of Program Management is the concept of balance. This is a term used a great deal at the Department of Army level and can mean a number of different things. Generally, when balance is spoken of in regard to programming it means the status of equilibrium between the fifteen primary programs to insure correlation of the combined output of these programs. For example, the material procured under the Matériel Program must be adequate to support the forces contained in the Troop Program.

Another expression of balance is balance within a particular program. For example, in the Construction Program, the acquisition of land, the preparation of necessary underground utilities, and the proper locating of new construction on a given installation, must all be carried out on a definite time schedule. Imbalance would result when either facilities are constructed without regard to the station master plan, or facilities are built at an installation which does not require them to the extent that some other installation does.

There are other meanings to this word "balance." Balance is sometimes interpreted to mean the proper equilibrium between active forces and mobilization capabilities. This requires the Army to keep on an active status adequate troops to carry out its present requirements and commitments, but not keep so many that money required to develop mobilization capabilities is spent for active forces.

One of the big advantages of an all-inclusive programming system is that it brings together all of the operations of the Army so that the question of balance is brought more clearly into focus. Without a programming system there is a natural tendency to consider balance in the immediate problem at hand, whether it be matériel, mobilization, force structure of the general reserve, or any other pressing problem. Programming, because of its all-inclusive nature, brings to light the many different aspects of the problem of balance.

The concept of balance then has particular application in the preparation of programs for future fiscal years. It is in the planning stage that the programs are so drawn up that the proper balance between them, within each program, and between immediate requirements and mobilization capabilities is established. After these Primary Programs

Lieut. Gen. Anthony C. McAuliffe

are in the execution phase, balance is constantly checked both within and between programs by the program directors and through the quarterly progress reports. In this way there is a continuous check on such things as the construction of barracks at the optimum time before they are required by the personnel enumerated in the Military Personnel Program. Also, programs are a way of helping the program directors to do first things first. Since balance is such a general term, when it is being discussed it is well to find out exactly which of the many aspects of balance the speaker is describing.

In terms of time sequence, the programming documents are firmly geared to the Federal budget cycle. Programs are developed for each fiscal year, and as stated earlier, are prepared approximately a year to a year and a half before the fiscal year to enable the budgeteers to use the programs to develop the necessary budgets and justification for them. However, the Federal budget is not the only planning document to which programs are related. Programs are closely related to mobilization and war plans, both of the Army and of the joint staff. Recent efforts have been made to closely correlate the joint and service planning with budget preparation. The Army Program System is correlated very carefully with this effort. It is in the development phase of programming that the greatest reference is made to these other basic planning documents. However, changes in any of them would of course necessitate reprogramming and program changes.

Program Management in the Department of the Army is still in its infancy. However, since 1951 when the first real efforts to make it work commenced, there have been a number of significant achievements. In the fall of 1951 a set of abbreviated Army Program Documents was prepared and used for fiscal year 1952 which of course is the period from July 1951 to July 1952. In early 1952, sets of program objectives were developed for both fiscal years 1953 and 1954. The objectives for fiscal year 1953 were used in preparation of the budget estimates for the year, and the Army is today operating under the FY 1953 programs. As soon as funds are appropriated this spring for FY 1954, the programs for that year will be changed, if necessary, and become the operating documents for FY 1954 starting on 1 July 1953.

At the present time, the detailed programs for FY 1955 are in preparation. These will be available for preparation of the FY 1955 budget. It will be the first time that not only the program objectives, but also the detailed program documents have been available for budget preparation.

For the past year quarterly progress reports on the execution of Primary Programs have been made to the Deputy Chief of Staff for Operations and Administration, who in turn has made a report to the Chief of Staff. This is a very significant achievement, and one which has brought programming into focus at the Department of Army level more than any other programming activity to date. These progress reports are a very effective tool for top management, and Generals Taylor and McAuliffe have used them in exactly that sense. Following each of these quarterly reports in which the accomplishments of the program against the objectives established for it are reported, the Operations Deputy has taken corrective action if it has not already been taken by the program directors.

IN the past year the directors used factors which have been developed and refined both by the budget officer and the G4 to make a flash cost estimate of the program objectives. This has enabled the Program Advisory Committee in their consideration of program objectives for a future year to also consider alternate sets of objectives. This can be

Lieut. Gen. George H. Decker

accomplished quite intelligently once the assumptions upon which the alternate objectives are developed have been accepted, because then a dollar figure can be placed on individual programs. This is a most important consideration in view of the express political trend towards cutting military expenditures. This requires that the Army must maximize the funds it obtains from the Congress. Consideration of alternative objectives is one way of doing just this thing.

Another major achievement in the past year has been the statement of risks which has been prepared for use of the Secretary of the Army and the Chief of Staff in their budget justifications before the Congress. The risks are a statement of what effect a given budget has on the combat readiness of the Army and its capability to perform its assigned mission. This information can be used by the Secretary or Chief of Staff with a salutary effect when legislators are bent on making across the board cuts.

The Secretary of the Army, and his assistants who occasionally sit in as nonparticipants at Program Advisory Committee meetings have found the program system of the Army to be of major assistance to them in correlating the many different facets of Army operations. In fact, recently Mr. Pace made the statement that he thought the program management system of the Army was one of the great forward steps taken in government in recent years.

Even the failures and shortcomings of programming have been an area of achievement. Because, where the program system was inadequate or where

it became too much of an academic exercise, changes have been made to improve program management. The system is constantly under study by the General Staff. During the past summer the entire format of Army programs was reviewed, simplified, and reduced in bulk.

A great deal remains to be done to make program management effective. For one thing, the system will have to be extended throughout the army areas and certain overseas commands in order to achieve the maximum benefit from this method of controlling the armies' non-tactical operations. Programs also need to be made more flexible, and capable of change and modification. Such a step was made in October 1952 when SR 11-10-3 was published providing for schedule changes. Previously there was no orderly provision for reflecting operating changes in the program schedules. Considerable confusion resulted. With the procedure now adopted for making schedule changes according to prescribed criteria and with the approval of the program director, the control of the execution phase of the system has been greatly improved.

Programming will continue to provide better management in the Army. Effective programming will mean the Army will get more for its defense dollar, largely through better balance of its many activities. Finally, programming forces people at all echelons to think farther to the future. This in turn results in more realistic development of future programs and budgets.

A FORMULA FOR SUCCESS*

Delivered as the Commencement Address to the Class of 1952 at the U. S. Naval Academy.

By ADMIRAL WILLIAM M. FECHTELER, U. S. Navy

Chief of Naval Operations

I SUPPOSE that from time immemorial it has been the aim of those who address classes of graduates to make an attempt at presenting them with a formula for success.

It has been my observation, I regret to say, that such attempts to chart the path of the future for young feet to follow usually meet with something less than complete accomplishment.

There are probably many reasons why this is so. Only one reason is necessary to explain it, however. The reason is that the graduates are almost certainly thinking of other things. The entire future of the young men lies before them; and already the plans for its enjoyment are being formulated in their minds.

It is inevitable that this be so.

I have a deep abiding interest in the progress and future happiness of the members of the Class of 1952. Indeed the whole naval service shares my interest. I am glad, therefore, to have this opportunity of speaking to you on one of the most important days of your life.

You who are graduating today have acquired the basic ingredients for full, happy, and useful careers. What you have learned and absorbed here will remain with you throughout life. Your attainments, however, must be wisely employed and constantly developed if they are to serve you and your country well. The use and development of your talents are now in your hands. From this day you become the responsible party.

Integrity

The essentials for your success consist not alone of techniques, skills, and knowledge.

The first and the priceless ingredient of success is integrity.

Integrity is that quality of mind and spirit which we associate with honesty and good faith either in public or in private life. It implies a moral state of mind in which high principle and good character are inherent.

Preserve your integrity. Do not lose your sense of decency.

Without these things you cannot serve your country well; you cannot even live a happy personal life.

However brilliant you may be, however high may be your professional attainments, without integrity you will certainly fail of greatness.

Industry

It may seem a little old-fashioned, but I shall remind you that you must work hard. Industry is, I think, the second ingredient of success.

Industry may be defined as the application of one's efforts to a task or business. It was once the established pattern of our society. I hear that hard work is no longer regarded as the virtue which it was once considered to be.

Of this I can assure you, however: it is still a virtue in the Navy and in the other Services as well, and you will never reach such exalted rank that you can dispense with the business of hard work.

All of the world's benefactors, the truly great men and women of all time, have been consecrated to their work. I know of none who was not diligent and persevering.

Thrift

The third essential to success is thrift. Like integrity and industry, it, too, is

*Reprinted with permission from the October 1952 issue, *U. S. Naval Institute Proceedings*.

an old-fashioned word.

Thrift can be defined as the wise use of human and material resources. It is important to all of you in your personal affairs and it is important to your Government that you do not waste its money or its resources.

The essence of thrift is to spend less than we receive. "If you know how to spend less than you get," said Franklin, "you have the philosopher's stone."

Thrift requires the determination to hold to purposes and to keep first things first. It requires foresight and self-denial.

Professional Competence

Your attendance at the Naval Academy has put you well on the road to professional competence. This competence I regard as the fourth essential to success.

Never overlook an opportunity to increase and exercise your professional skills. This is preparation for ultimate usefulness.

It may well be true that the achievement of extraordinary success with consequent advancement is largely a matter of opportunity.

No man can make his opportunity. He can only make use of such opportunities as occur. Many persons retire after years of solid achievement without having had any great opportunity to distinguish themselves.

However, so far as I know, no one has ever distinguished himself in high places without long and faithful preparation. Even should opportunity come to the man who is unprepared, he will be unable to take advantage of it.

Although no one can make his own opportunities, success is not an accident.

The surest way of rising to the top of one's profession is by thoroughly mastering the details of each duty as it is reached. When a man does that, fame, if it comes to him, is but an episode. His mind is fixed solely upon the full development of his powers and the effective performance of his appropriate work.

One's whole life may well be a preparation for a brilliant success which, so far as the world knows, was earned within the scope of a few days or a few hours.

Service

Integrity, industry, thrift, and professional competence. These with one other attribute are the essentials of your success.

The remaining attribute, and the most important ingredient of all, is the concept of service—a deep and selfless devotion to your country.

You must approach your work with the zeal and earnestness of a clergyman. Yours is a service and a responsibility which requires dedication.

It is not merely a job—or even a position. It is a status.

You must regard your career as an opportunity to serve. It is not a question of "What does the *Service* have to offer me?" But rather it is a question of "What have *I* to offer the Service?"

As the years pass, you will find the path of duty complicated not only by heavy responsibilities but also by conflicting advice, and sometimes by heavy pressures from men who earnestly believe themselves to be right.

Let me urge that throughout your careers in the Service, you adhere steadfastly to the simple virtues which have given character to the lives of our great leaders.

I commend to you as guidance the words of Theodore Roosevelt when he said:

"Let us see to it that we neither do wrong nor shrink from doing right because the right is difficult; that on the one hand we inflict no injury, and that on the other we have a due regard for the honor and interest of our mighty Nation; and that we keep unsullied the renown of the Flag which beyond all others of the present time or of the ages of the past stands for confident faith in the future welfare and greatness of mankind."

The Service of your Country is a stern taskmaster. It will make many demands upon you and may be less than tolerant of serious shortcomings. Remember that you are entering active service at a crucial time in your Country's history. You are to be depended upon and you cannot afford to make mistakes.

Although the Service is rigorous, in it you will find a life of satisfaction—a life so attractive that those who leave it will carry with them, more often than not, an abiding nostalgia for the Service and its ways.

Whatever you do, whatever happens to you, there is always one thing over which you will have absolute control. It is that you can always do your best. Usually your best will be good enough.

What I mean to say may be stated thus:

"Whether a man accepts from Fortune her spade and looks downward and digs or from Aspiration her axe and cord and looks upward to scale the ice, the one and only success which it is his to command is to bring to his work a mighty heart."

Conclusion

To you, young gentlemen of the class of 1952, and to all of you who are gathered here, let me affirm my unwavering faith in the glorious future of our Country. You are privileged to play a part in it.

To you who are graduating today and who are about to take the oath of high and honorable office, let me remind you again that America looks to you for leadership in a troubled time.

I have every faith that in peace and in war you will serve your Nation unselfishly, faithfully, courageously, and well; and that you will set an example to every American in the responsibilities of citizenship.

My congratulations and good wishes go with you as you leave your alma mater.

May God bless you every one.

Fort Bliss News

AA OCS—A PROGRESS REPORT

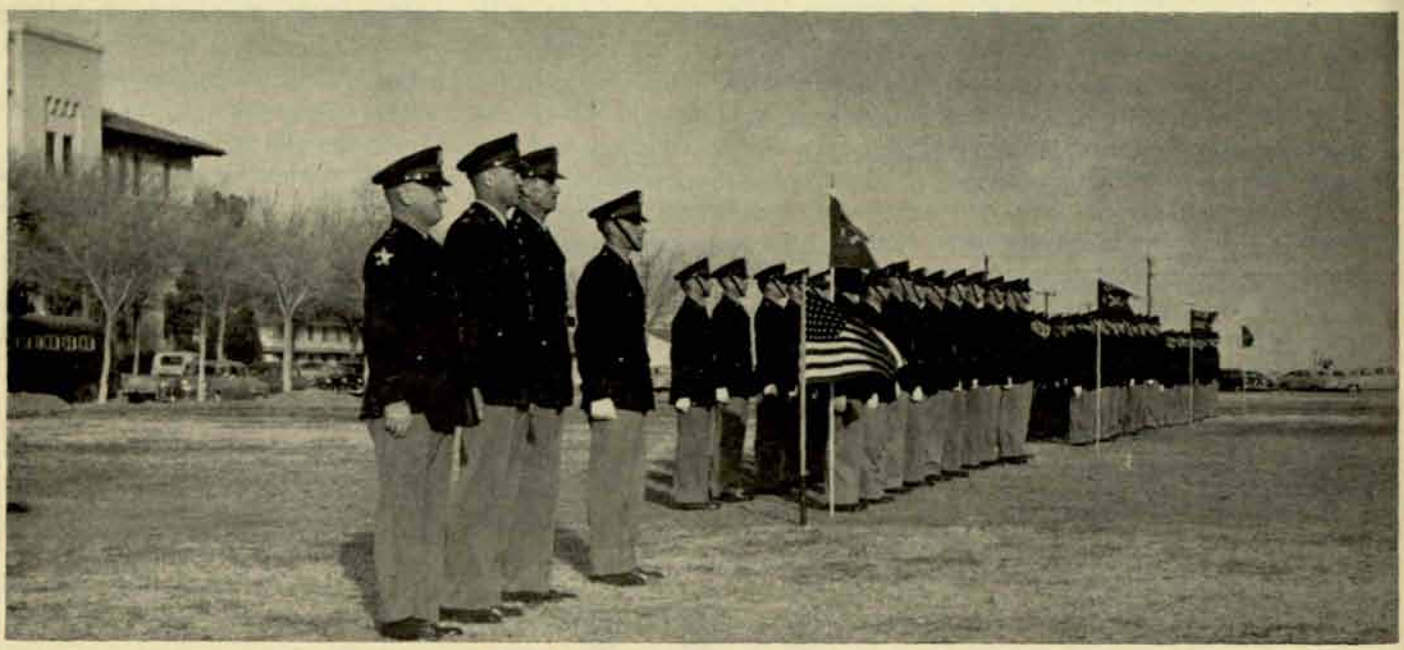
By LT. COL. GEORGE J. BAYERLE, JR.
Assistant Director OCS Dept.

THE success of any school can be measured only in the effectiveness of its product. Since the product of an officer candidate school is theoretically an officer capable of effectively leading others in combat or in garrison, the yardstick for measuring the success of the Fort Bliss product rests with Antiaircraft unit commanders throughout the world with whom our graduates are serving. All we at AA OCS can do is to hope that we have given our graduates the equipment they need to cope with the great responsibilities they are encountering in the field. While we may not yet have final and positive knowledge as to how our graduates will measure up when faced with the on-the-job responsibilities of a 2nd Lieutenant, there isn't one officer on the staff and faculty of the school who does not feel a real glow of satisfaction as he sees each candidate step forward to receive his commission after successfully completing the rigorous course.

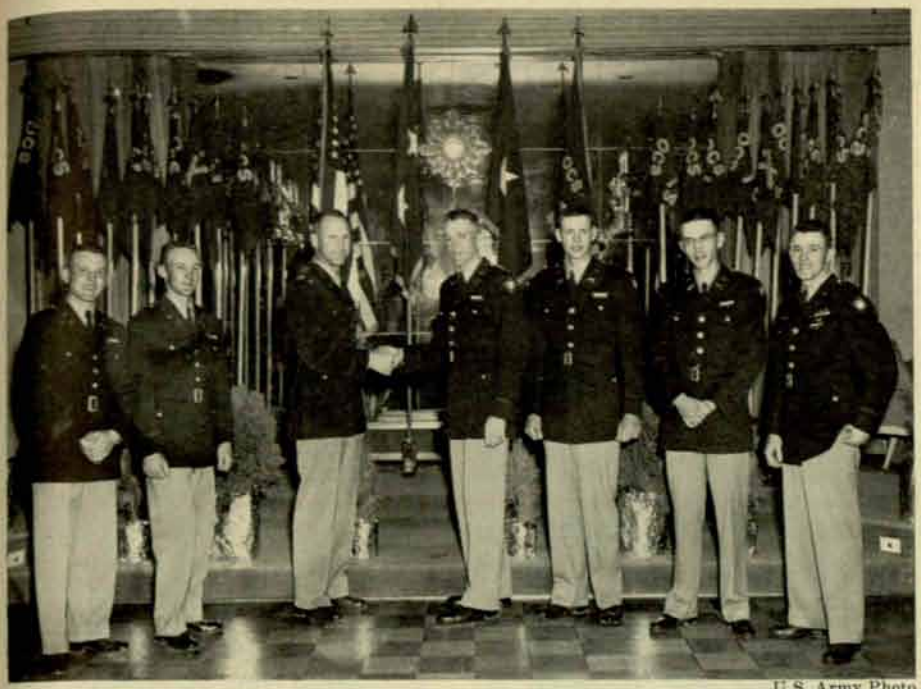
Class Number Twelve graduated on 19 March 1953. With the graduation of this class almost one thousand artillery officers have been commissioned via candidate training at Fort Bliss. How are these officers performing? To answer this question a survey team of three officers visited individually antiaircraft units throughout the United States. Unit commanders were interviewed in great detail concerning the progress of OCS graduates. The answers received were completely reassuring. It was further ascertained that many are filling positions of responsibility far beyond those for which they are trained at Fort Bliss.

Previous editions of the ANTIAIRCRAFT JOURNAL have carried articles which covered such matters as the program of instruction and methods of evaluating the leadership potential of officer candidates. Not mentioned however, was the extra efforts made within the comparatively short training period to give each candidate a broader insight into the full responsibilities and obligations of an officer. In connection with this, the school has solicited and obtained the fullest support from citizen groups in El Paso, from interested Department of the Army and Army Field Force research units, and from groups of experienced educators. All of these extra activities are pursued with only one objective in mind, that of producing the best possible junior officer for our antiaircraft units.

Few, if any matters are overlooked. Concerned about the inadequate knowledge the average young officer has of things financial, responsible El Paso citizens were approached and requested to provide qualified civilians to lecture



Reviewing officers and graduating class (Class No. 11) at graduation parade. Left to right: Maj. Gen. Haydon L. Boatner, Deputy Commander Fourth Army; Col. Kenneth R. Kenerick, Director, OCS; Captain James P. Anderson, Senior Tactical Officer, Class No. 11; Candidate Max D. Kitterman, Honor Graduate, Class No. 11 and the graduating class.



U.S. Army Photo

Distinguished Graduates of O.C.S. Class 12 are congratulated by Colonel K. R. Kenerick, O.C.S. Commandant. Left to right: Jack H. Thomas, Kenneth W. Leaver, Colonel Kenerick; Robert H. Ketchum, honor graduate; Richard B. Sulley, Thomas C. Nelson, and Robert L. Schrodetski.

candidates on savings, investments, insurance and legal matters. The response was typical of El Paso. Through the good offices of Mr. Chris P. Fox, Vice President of the State National Bank, these experienced civilians were provided and each candidate class receives a thorough orientation on subjects which are so necessary to the young officer in handling his personal affairs and in guiding and assisting the men in his unit.

Realizing the importance the distaff side has on the career of an officer, the wives of officer candidates are given a thorough briefing in "Customs and Courtesies of the Service." In these briefings matters affecting army protocol and proper dress are discussed. The interest shown by the young wives in these discussions has been gratifying.

If you don't know how to dance, come to Antiaircraft Officer Candidate School. Weekly dancing classes are provided for those candidates whose terpsichorean ability is on the weak side. Remember, all this must be sandwiched in with the regular technical and leadership training, and constitutes only a part of the candidate's extracurricular activity. Each class prepares a class book delineating the activities of that class while at Officer Candidate School. The book is comparable to the best annuals and yearbooks published in the universities. Yet this must be done in the candidate's free time.

Intensive efforts are continually made to provide the candidate with every tool he'll need to make a success of his commissioned career. Guest lecturers are presented whenever it is believed the speaker has something worthwhile to offer the potential officer. All these activities culminate in the impressive graduation ceremonies which take place each month. Here again, the graduation speaker is chosen with great care. Among those who have addressed graduating classes are Congressman Ken Regan, local representative to the United States Congress; Honorable Robert E. Thomason, Federal District Judge and onetime United States Congressman, father of the well remembered Thomason Act; Lieutenant General William Hoge, Commander of the Seventh Army; Major General Haydon Boatner, Deputy Commander of the Fourth Army and famous for subduing communist rioters in Koje Prison; Major General Terry Allen (retired) famed wartime commander of the 1st and 104th Infantry Divisions; Major General G. Ralph Meyer (retired); Brigadier General Clesen Tenney (retired), Dean at New Mexico A & M College; Dr. W. H. Elkins, President of Texas Western College; Mr. Chris P. Fox; and many other noteworthy personages.

Rather than feeling any smugness in the methods and practices employed in the development of candidates at Fort Bliss, the school has had searching analyses made of these methods by distinguished civilian educators and army psychological research units. Their findings have, without exception, placed a stamp of approval on the policies, procedures and operation of the school; their recommended changes have in each case covered only minor matters and have where possible, been incorporated into the system. The officer candidate school however, will never be satisfied that the system cannot be improved. As time and experience dictate, progressive changes will be made in order to continue providing antiaircraft artillery units with the finest officers possible.

The school is always interested in the comments of field commanders concerning any aspect of OCS operations. Similarly, the school is extremely interested in the role commanders play in the recommendation and selection of enlisted applicants for OCS. It is imperative that enlisted men under consideration for any OCS are sincere and earnest in their desire to become an officer; that they have been adequately oriented in the nature of the training they will receive—training which will prepare them for the responsibilities of an officer—training of 22 weeks duration which is exacting and demanding—training in which they will undergo constant supervision and evaluation. It's a difficult way to get a commission but a way which will pay dividends for life.

As we go to press, information has been received that the AAA OCS at Fort Bliss will phase out with the graduation of the last class in July. After that, AAA OCS students will train at Fort Sill.—Ed.

Fort Bliss

Movie Makers at Bliss

Shooting of the Metro-Goldwyn-Mayer picture, "Take The High Ground," opened at Fort Bliss on February 5.

The post is cooperating in filming the picture which has been approved by the Department of the Army.

"Take The High Ground" will be a full-length rough-comedy feature. Its title is derived from a famous infantry command spoken throughout history, "Take the high ground and hold it."

Addresses Graduates

Dr. Wilson H. Elkins, president of Texas Western College at El Paso, Texas, delivered the commencement address at graduation ceremonies for Class No. 10, Antiaircraft Artillery Officer Candidate School at Fort Bliss, January 22.

Following Dr. Elkin's address, Major General S. R. Mickelsen, Commanding General of Fort Bliss, presented diplomas to 47 graduates, who were sworn in as second lieutenants in the Organized Reserve Corps.

ROK Officers Study

Two Republic of Korea Army officers are among the Allied officers currently enrolled as students in the Antiaircraft and Guided Missiles Branch of The Artillery School at Fort Bliss.

Brig. Gen. Kim Kai Won and Col. Lee Hi Tai are students in the Artillery Officers Advanced Course, studying U. S. antiaircraft artillery tactics, techniques and matériel.

Bliss Unit Gets Streamers

The 531st AAA AW Battalion recently received battle streamers for its World War II service, in a ceremony held on Noel Field, Fort Bliss.

Distinctively a Fort Bliss unit, the 531st was activated in July 1942 and reactivated here in July 1952 where it is again undergoing training.

Coat of arms of the 531st AAA AW Bn. The gold lion on the black shield of its blazonry recalls that the unit was cited by the Belgian Army and received the Fourragere for action in Belgium and in the Ardennes. The fleurs-de-lis symbolize the battalion's campaigns in Normandy and Northern France and the battle-axe is used to represent its participation in the Rhineland and Central European Campaign. The Latin motto Means "We speak with fire."

To Far East Command

Colonel William J. Wuest, commanding officer of the 6th AAA Group since its reactivation in February, 1952, at Fort Bliss, was recently re-assigned to the Far East Command, where he is assigned as chief of staff, Ryukyus Command on Okinawa.

He has been succeeded by Colonel Arthur A. Adams who was formerly on duty in the G3 Section, at Center Headquarters.

* * *

Lt. Col. Gay E. Miller has assumed command of the 495th AAA Battalion, replacing Lt. Col. James E. Moore who has been assigned as Assistant G3 at Center Headquarters.

* * *

New executive officer of the 6th AAA Group is Lt. Col. Gordan G. Walters. He has been succeeded by Lt. Col. Phillip J. Gundlach as CO of the 531st AAA Battalion.

More New Buildings

Ground-breaking ceremonies for three more new permanent-type buildings—part of the huge expansion program now under way at a cost of $291,112.

The three structures include a field printing plant and two shop and laboratory buildings. The latter are to be used by the Gunnery and Electronics Departments of the School.

The symbolic "first shovelful" of earth for the new construction was turned by Major General Stanley R. Mickelsen.

Other military officials present included: Brig. Gen. Hobart Hewett, Assistant Commandant of the School; Col. Peter Shunk, head of the Electronics Department; Col. T. H. Watkins, director of the Nonresident Instruction Department; and Col. Joy T. Wrean, head of the Gunnery and Matériel Department.

This giant German V-2 rocket finds its ultimate duty in welcoming visitors as they approach Center Headquarters.

Major General S. R. Mickelsen breaks ground for one of a group of new buildings for the School.

BOOK REVIEWS

YOUR WAR FOR PEACE by Frank L. Howley. Henry Holt & Company. 166 pages. $2.75.

Brig. Gen. Hawley writes this book in his usual forthright style after a recent trip to Europe. It is just about what you would expect from the tough minded first military governor of Berlin. His book is just as dynamic and positive as were his activities in Berlin through the air lift days.

How refreshing and natural. "They are out to get us and we had better get them first. . . . The greatest vulnerability of the Russians in economic, political, military, and psychological fields is their inability to change. . . . We should keep them so busy worrying about what we will do next in Berlin that they will not have time to carry out a plan in Shanghai. . . . We should withdraw the respectability of recognition which the present criminal organization in the Kremlin enjoys. We should put an end to the farce of joyously bowing to them at social functions, while they stimulate warfare which is killing our people. . . . We must substitute actions for words, and determination for timidity."—C.S.H.

UNITED STATES ARMY IN WORLD WAR II. THREE BATTLES: ARNAVILLE, ALTUZZO AND SCHMIDT. By Charles B. MacDonald and Sidney T. Mathews. U. S. Government Printing Office. 460 pages. Maps and illustrations. Price $4.00.

The Historical Section, in this volume, undertakes a new line of attack on the problem of presenting American participation in the late war to contemporary students. The three battles were not selected because they are important ones, but partly because they are typical of many other actions and partly because data are reasonably abundant. In a way, therefore, the celebrated studies of Ardant du Picq are now repeated after seventy-five years: this book tells what really happens to human beings in action. It also explains to a present-day company commander how important training in fundamentals is to later success in battle.

The authors both served in the Army and both are competent historians. They did not collaborate. Dr. MacDonald wrote the stories of Arnaville and Schmidt, Dr. Mathews wrote of Altuzzo. The latter had the unusual opportunity of going over the battlefield a few days after the engagement in company with many of the surviving combatants. In all three articles the stage is set by an explanation of the general plan followed by the instructions which were given to the small units expected to execute them. Every detail of each action is then described, down to the movements of privates with a significant role. The picture is as complete as the available evidence permits.

WINCHESTER by Harold F. Williamson. 494 pages, 8 by 11. Combat Forces Press. Price $10.00.

The advent of the repeating rifle and the winning of the West. This is more than history of the conquest of a continent, it is also a saga of the growth of an important segment of American industry. It shows the development of a small gunsmith's shop in the early decades of the 19th Century and the influence it had as it expanded on the nation in war and peace.

STILWELL'S MISSION TO CHINA. By Charles F. Romanus and Riley Sunderland. (United States Army in World War II; China-Burma-India Theater) Washington, Superintendent of Documents 1953. Pp. xix, 441. $5.00.

The first of a three-volume subseries on the history of the U. S. Army in China in World War II, this volume relates in a most interesting manner the intricate problems that confronted General Joseph W. Stilwell in his efforts to carry out the order of General George C. Marshall to improve the combat efficiency of the Chinese Army and to increase the effectiveness of U. S. aid to China. Compiled in the Office of the Chief of Military History, Department of the Army, as one of the volumes in the Army's History of World War II, it is well arranged, thoroughly documented and carefully indexed. Its value is enhanced by the use of General Stilwell's personal papers, first opened in May 1950.

This volume traces the origins of the prewar program of the U. S. for equipping the Chinese Army, develops the unusually complicated command situation that developed in the CBI Theater and concludes with Stilwell's decision reached in October 1943, "I have about reached the limit of what I can do." As General Orlando War, Chief of Military History, states in the Foreword "Reading the history of the China-Burma-India Theater will be an eye opener and a lesson to those who, in the future, have to deal with allies in far distant lands about whom so much should be known and so little is."

To make it easier for the reader, each chapter ends with a clearly written summary. In short, this volume sets a high standard that we trust will continue throughout this series.—W.C.F.

Received and Noted Briefly

THE APPROACH TO THE PHILIPPINES. By Robert R. Smith. (United States Army in World War II; The War in the Pacific.) The Supt. of Documents, Washington, D. C., 600 pages, $5.50.

It deals principally with the amphibious and ground operations along the New Guinea Coast in 1944. It is of interest to the military student and to those who engaged in these or like operations.

THE CAMPAIGN ON NEW BRITAIN. By Lt. Col. Frank O. Hough, USMCR, and Major John A. Crown, USMCR. 220 pages, $3.75.

THE MARINES IN THE CENTRAL SOLOMONS. By Major John N. Rentz, USMCR. 186 pages, $2.75.

These two books are part of a series being prepared by the Historical Branch, Headquarters U.S.M.C. Both are published and sold by the Supt. of Documents, U.S. GPO, Washington, D. C. They deal with the Marine landing and ground action in the New Georgia Islands and on New Britain as the allies set out from Guadalcanal to neutralize Rabaul.

They are of interest to the casual military reader and to the veterans who participated in like campaigns.

CAN RUSSIA SURVIVE? By F. B. Czarnomski. Philosophical Library. 126 pages. $2.75.

Maj. Gen. Aaron Bradshaw

Former JOURNAL Editor Retires

MAJOR GENERAL AARON BRADSHAW, JR., retired January the 31st for physical disability in Heidelburg, Germany, after more than 35 years of service.

Graduating from the Military Academy in 1917, he served with antiaircraft in France in WWI. An aggressive AAA leader ever since, he served as the editor of this JOURNAL from 1936 to 1940. (See article beginning on page 2.)

In 1942 General Bradshaw served with antiaircraft in North Africa. He then commanded the 34th AAA Brigade with the Seventh Army through the Sicilian campaign.

In 1943 he commanded the 35th AAA Brigade with the VI Corps in Southern Italy and moved on in 1944 to command the antiaircraft defenses of Anzio. After that he took over the Antiaircraft Command of the Fifth Army to participate in all the Italian campaigns.

His last assignment was as G4 of USAREUR. Upon his retirement General Manton Eddy, Commander-in-Chief in his praise emphasized that, "General Bradshaw's planning, foresight, and drive and energy in getting monumental tasks accomplished have contributed greatly to the present degree of readiness of this command."

War Decorations: DSM, SS, LM (OLC), BSM, CR.

General and Mrs. Bradshaw now reside at 6606 Barnaby St., N.W., Washington, D. C.

* * *

Brigadier General Robert W. Berry, formerly Commanding General of the Western Army AA Command at Hamilton Air Force Base, California, departed in February for the United States European Command Headquarters to take over his duties there as Director J1.

Brigadier General Edward J. McGaw relieved General Berry as the Commander in the Western Army AA Command. His last assignment was as the artillery commander of the VI Corps at Camp Atterbury, Indiana.

Gen. Armstrong bids farewell to Col. William A. Cauthen at Camp Stewart.

Gen. Armstrong Retires

BRIGADIER GENERAL CLARE H. ARMSTRONG retired March the 31st for physical disability at Walter Reed Army Hospital in Washington, D. C.

General Armstrong graduated at West Point in 1917 and served in the Infantry until 1921 when he transferred to the Coast Artillery.

In 1943 he took command of the 50th AAA Brigade, serving with it a short while in England. Landing with the First Army in Normandy, his Brigade later served with the Third Army in its movement across France.

Late in 1944 General Armstrong organized the "Antwerp X" command for the antiaircraft defense of that vital port against the German V bombs. The 56th U.S. Brigade and the 80th British Brigade were attached to the 50th Brigade. The defense continued under his command till April, 1945 when the V bomb attacks ceased. During that time his antiaircraft gunners brought down 2281 German V bombs. The port continued to function every day during the siege and General Armstrong achieved his reputation among the citizens of that city as the "Saviour of Antwerp."

War Decorations: DSM, BSM (OLC), CR.

After the War he served as the Military Attaché at Brussels, Belgium, until 1950 when he returned to take command of Camp Stewart, Ga., where he promptly organized that active AAA Training Center. He relinquished his command at Camp Stewart on February the 20th to Colonel William A. Cauthen, his Chief of Staff.

Brigadier General Richard W. Mayo, recently promoted after his outstanding service with the 5th F.A. Group in Korea, has now arrived to take the command.

* * *

General Officer Assignments

Major General Walter L. Weible, formerly Chief of the Logistics Division, SHAPE, recently reported for duty at Headquarters, Fifth Army to become the Deputy Commanding General.

News and Comment

The JOURNAL Merger

In the merger proposal ballot, which closed on March the 2nd, the members voted to authorize the Executive Council to effect a merger with The Association of the U. S. Army and to merge this JOURNAL with the *Combat Forces Journal*. Accordingly, the Council promptly began negotiations to make final arrangements for and to effect the merger.

It has been found impracticable, however, to complete the necessary arrangements satisfactorily by the original target date of May the 1st, as was once anticipated. The Council intends to work out all the arrangements involved in the merger in a thorough and businesslike manner and is devoting its efforts toward that end. When those arrangements are agreed upon, the merger date will be fixed and announced.

Meanwhile we continue to publish the ANTIAIRCRAFT JOURNAL and carry on other Association operations in our normal procedure until the arrangements are completed.

Articles Wanted

One of the best ways to improve the value of any service journal and the interest therein, is to get more members and readers to write articles and letters to publish.

So we urge you to organize and submit your ideas on any subject of interest to our antiaircraft readers.

Gen. Schuyler Heads 28th Division

Major General Cortlandt V. R. Schuyler took command of the 28th Infantry Division in Europe in February. He had been with SHAPE in Paris.

Col. Hennessy at Nuernberg

Colonel Harold P. Hennessy is now Deputy Commander of the Nuernberg Military District in Germany.

Retirements

Colonel Joseph C. Haw retired for age in Washington, D. C., March the 31st after more than 41 years of service. He has served during the past two years as Chief of the Career Record Analysis Branch in the Adjutant General's Office. Colonel and Mrs. Haw plan to make their home in California.

* * *

Colonel Lawrence C. Mitchell retired for physical disability in Washington, D. C., February the 28th after more than 35 years of service. For the past few years Colonel Mitchell has also served in the Career Records Analysis Branch, TAGO. Colonel and Mrs. Mitchell reside in Falls Church, Virginia.

* * *

Colonel Edward B. McCarthy retired for physical disability at Fort Devens, Mass., on February the 28th after more than 35 years of service. His last assignment was as the Post Executive. Colonel and Mrs. McCarthy are residing in Wellesley, Mass.

* * *

Colonel Volney W. Wortman will retire for age in Washington, D. C., on April the 30th after more than 35 years of service. He has also served for the past two years in the Career Records Analysis Branch, TAGO.

* * *

Colonel Carl B. Wahle retired for physical disability at Walter Reed Army Hospital on February the 28th after 32 years of service. His last assignment was in Charleston as the Senior Military Instructor with the West Virginia National Guard.

Colonel Fred J. Woods retired for physical disability on March 31 at Letterman General Hospital in San Francisco after thirty years of service.

New 10th Group CO

Colonel Charles G. Dunn has assumed command of the 10th AAA Group in Korea, relieving Colonel George R. Carey, who is now Deputy G3 at Eighth Army Headquarters. Col. Dunn was previously the deputy post commander at Fort Bliss.

National Guard Exam for USMA 1954-55

Enlisted members of the Army and Air National Guard with one full year of military service may apply for the annual competitive examination for entrance to the United States Military Academy.

Age limits are from 17 to 22 years on July 1, 1954. Minimum educational requirements call for a high school diploma or the equivalent.

Application should be made through the respective state Adjutant Generals to the Adjutant General, Department of the Army for authorization to take the annual West Point designation examination. Those making the highest scores will be appointed cadet candidates and will be eligible to take the regular competitive entrance examination in March, 1954 for entrance in July.

R. I. Guard Unit Wins Trophy Five Times

Award of the Eisenhower Trophy for the fifth consecutive year was made to Battery C, 243rd AAA Gun Battalion, commanded by Capt. Cortland Clarke, Rhode Island National Guard. The unit, in Bristol, R. I., has been recognized as outstanding every year since the award's inception in 1948.

* * *

The Chief of the National Guard Bureau has recently announced the following trophy winners:

202nd AAA Detachment (RCAT) won both the Pershing Trophy in the First Army area and also the State of Massachusetts National Guard Trophy.

Battery C, 265th AAA AW Battalion was awarded the State of Florida National Guard Trophy.

Battery A, 204th AAA AW Battalion was awarded the State of Mississippi Guard Trophy.

Hq & Hq Battery, 120th AAA Gun Battalion was awarded the State of New Mexico Guard Trophy.

Hq & Hq Battery, 236th AAA Group was awarded the State of Washington Guard Trophy.

Battery C, 945th AAA Bn., Delaware, Eisenhower Trophy.

Battery D, 113th AAA Bn., Iowa, Eisenhower Trophy.

SKYSWEEPER UNVEILED AT FORT MYER

Antiaircraft's latest automatic weapon

DEMONSTRATED for the first time in the Washington, D. C. area, the Antiaircraft Artillery's newest answer to low-flying enemy planes was on public display recently at Fort Myer, Va.

The new 75mm AA piece loads, aims, tracks and fires automatically. Only four operations are required of the gunner. The first is to load the gun. Two 11-round magazines carry the load. The shell weighs 12½ pounds, carries a proximity fuse.

Second step is to start the radar scanner, an integral part of the gun. The radar set, on the left front of the mount, sweeps the sky once every 40 seconds to a 15-mile radius. Information that returns to the dish antenna mounted on the top of the radar console feeds to the computer mounted on its own console on the right front of the mount, and to scopes on the radar control panel where it can be monitored.

One scope is used while the radar is scanning, another while tracking. Off the gun is an auxiliary sight which the operator can use to direct the gun to a more critical target or to one in an area where the radar is not currently scanning.

With the information from the radar, the computer directs the aiming of the gun. This occurs when a "deadman" foot pedal is depressed, stopping scanning by the radar and starting it tracking. This is the third step that the gunner must take.

When the gun is set to track, the computer takes the information from the tracking radar and transmits directions to the servo-motors which move the barrel. The computer automatically figures speed, range and the course of the target. It also figures the necessary "lead" so that a shell will arrive at the correct point in the target's path.

The gunner then presses the firing button. With this fourth step, the gun fires automatically. It is fed, rammed and the cases removed, untouched by human hands.

Rate of fire is 45 rounds a minute. A half-minute supply of ammunition is on the carriage.

The 300-pound magazines can be inserted by a trained crew in less than 15 seconds. With enough loaders and the ammo properly distributed, the gun can fire for as long as necessary.

The service tests of the Skysweeper were done by Army Field Forces Board No. 4 at Fort Bliss where AAA battalions are undergoing training in the complex details of operating and maintaining the new weapon. Skysweeper fire control and gunnery courses are being conducted at the AAA and Guided Missile Branch, The Artillery School.

There is also a 37-week course in maintenance at the Aberdeen Proving Grounds.

Auxiliary equipment includes the M8 Army cargo tractor and motor-driven hydraulic jacks used to emplace the gun for firing.

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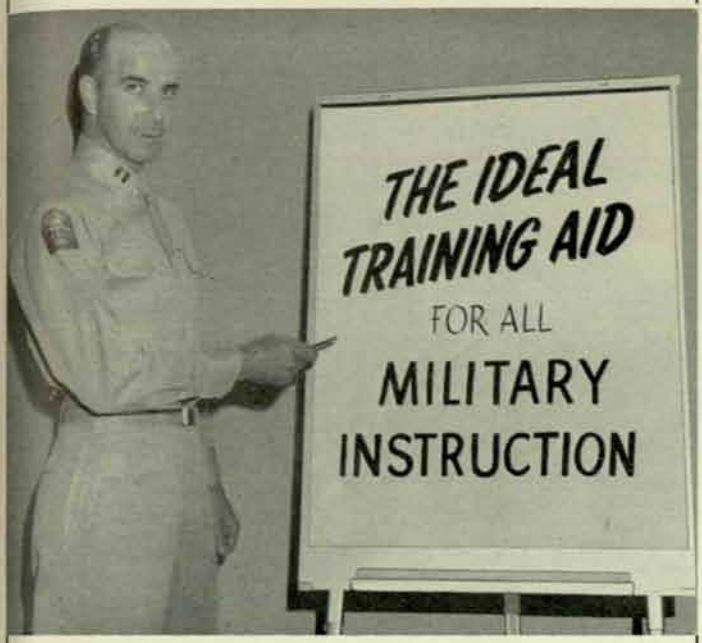
MODEL D2



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ANNUAL FINANCIAL REPORT
ANTIAIRCRAFT JOURNAL
BALANCE SHEET—DECEMBER 31, 1952

ASSETS

CURRENT ASSETS:		
Cash on deposit		$ 5,732.88
Office cash fund		25.00
Accounts receivable:		
Merchandise accounts	$2,754.65	
Subscriptions	810.00	
	$3,564.65	
Less reserve for bad debts	567.17	2,997.48
Inventory of books, held for sale		79.87
TOTAL CURRENT ASSETS		$ 8,835.23
FIXED ASSETS:		
Office furniture and equipment	$8,320.34	
Less reserve for depreciation	8,200.17	120.17
DEFERRED CHARGES AND OTHER ASSETS:		
Inventory of office supplies	$1,521.65	
Deposit with U. S. Government Printing Office	34.27	1,555.92
TOTAL ASSETS		$10,511.32

LIABILITIES AND NET WORTH

CURRENT LIABILITIES:		
Accounts payable		$ 66.82
District of Columbia sales tax		1.27
TOTAL CURRENT LIABILITIES		$ 68.09
DEFERRED INCOME:		
Unexpired subscriptions		$11,012.75
DEFICIT:		
Balance, December 31, 1951	$ 801.18	
Less: Net profit for the year ended December 31, 1952, per Exhibit B	231.66	
Deficit, balance December 31, 1952		569.52
TOTAL LIABILITIES AND NET WORTH		$10,511.32

THE UNITED STATES ANTIAIRCRAFT ASSOCIATION
BALANCE SHEET—DECEMBER 31, 1952

ASSETS

Cash in bank		$ 1,007.69
Investments: Schedule 1		
U. S. Government bonds	$64,135.63	
Common Stock	160.00	64,295.63
TOTAL ASSETS		$65,303.32

NET WORTH

Add:		
SURPLUS BALANCE, December 31, 1951		$64,805.40
Excess of recipts over disbursements for the year ended December 31, 1952, for Exhibit B		497.92
SURPLUS BALANCE, December 31, 1952		$65,303.32

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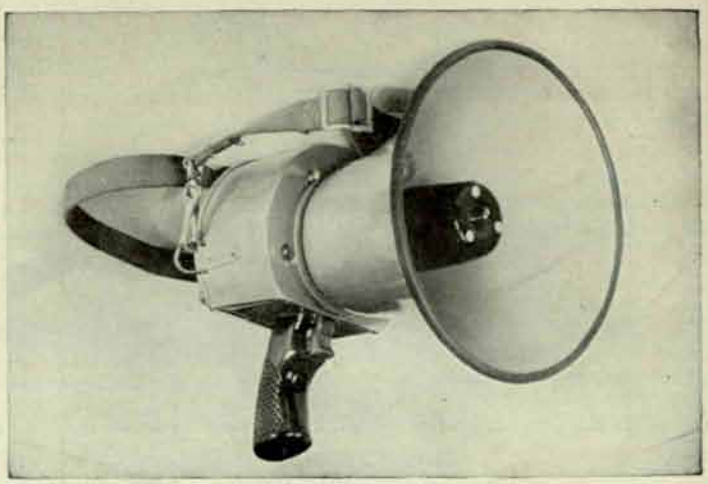

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