

ASA *Review*



May-June
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~~CONFIDENTIAL~~

ASA *Review*

May-June 1947

ASA Review, the successor to the monthly publication R-5, is the official technical and operational bulletin of the Army Security Agency and is issued every two months at ASA headquarters, Washington 25, D.C. The publication of ASA Review is in accordance with Army regulations governing military periodicals.

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Contributions from readers are welcomed. Unclassified contributions from individuals may be sent either as personal mail or through Agency mail channels to the Editor, ASA Review, WDGAS-23, Army Security Agency, The Pentagon, Washington 25, D.C. Personal contributions of a classified nature, and the contributions of ASA units, should be forwarded only as official Agency mail.

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Cover: With one ear bent toward his headphones to check the quality of the incoming signal, an intercept operator converts visually-recorded dots and dashes into type-written messages.

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A PROSPECTUS-

- From the Chief

With its operations spread all over the world and with the men and women at the various installations usually not being acquainted with each other or the nature of each other's work, Army Security Agency needs a medium for exchanging information and promoting better understanding.

This need is partly filled by post and station newspapers. However, each one of these circulates only within a single establishment, and, since all of them are unclassified, they can contain no reference to our work -- the one thing we all have in common.

The Army Security Agency Review is being established to fill this gap. It will be a semi-technical bi-monthly publication, going into the subject-matter of our work and the activities of our organization as deeply as its Confidential classification will allow. It will reach all of you who are engaged in ASA work, whether you are at Arlington Hall, one of the theater ASA Headquarters, or an intercept station. It will have articles about people you know and subjects of interest to you, whether you are an intercept operator or an engineer, a cryptographer or a secretary in an administrative office.

When the establishment of the magazine was announced, a very favorable reaction -- in the form of editorial contributions -- quickly made itself felt. If the initial response continues, the magazine is sure of success, for its purpose is to represent the ideas of all who work for ASA. It will welcome ideas, suggestions, and written contributions from every reader.

We hope that ASA Review will provide the field of communications intelligence and security with a full-fledged service journal.



Harold Hayes

Signalman's Odyssey

In January 1946 T. Sgt. Michael Maslak, four months out of a Japanese prison camp, turned up at Arlington Hall Station to report what was certainly the most amazing series of adventures experienced by any of the hundreds of Americans who did signal-intelligence work during the war.

Sergeant Maslak, who had not been heard from for more than three and a half years, had long since been dropped from Second Signal Service Battalion records, and the news that he was alive was a sensation in itself around Battalion headquarters, especially to Capt. Oscar Wilder, the adjutant, who had been first sergeant of the old Second Signal Service Company when Maslak was a member of its Philippine detachment before the war.

In the course of his visit to Arlington Hall, Sergeant Maslak provided a large amount of previously unknown information about the fate of individual members of that detachment, who were scattered in all directions by the events which began on December 7, 1941 -- some of them trapped on Corregidor, some left in the Philippine hills to become guerrillas, some taken to Australia as the nucleus of the signal-intelligence service at General MacArthur's headquarters.

Still a different set of adventures befell Maslak and two others. This is the first installment of their story.

By Michael Maslak

Chapter 1

Baguio and Corregidor

My experience in signal intelligence work dates from November 20, 1939, when I was detailed to the Second Signal Service Company detachment at Fort Hancock, New Jersey, from Fort Monmouth, where I had been attending the signal communications school.

I had enlisted in the Civilian Conservation Corps in July 1938, the month following my graduation from high school at Johnson City, New York. On April 27, 1939, I enlisted in the Army at Binghamton, New York, and was sent to Fort Monmouth, where I was trained principally in fixed-station operation before being moved over to Station 1 at Fort Hancock, just a few miles away.

At the time of my transfer to Fort Hancock I was not a member of the Second Sig-

nal Service Company. However, I was assigned to the Company later and was sent to Station 7 at Fort Hunt, Alexandria, Virginia, on January 6, 1940, with four others.

I went overseas in June 1940 to Station 6 at Fort McKinley, the Philippines, beginning my period of duty there on August 1. I served as an intercept operator there until the beginning of August 1941, when I was detached to become one of 60 students entering the West Point Preparatory School at Camp John Hay, Baguio, Luzon. Prior to my entrance into the school I had completed several reserve-officer extension courses and was on the second extension course in cryptography.

When the war began, the personnel of the school were placed on duty with the other



Mike Maslak -- March 1946

units of the Camp John Hay garrison, which consisted of two companies of Philippine Scouts and Signal and Quartermaster detachments of U.S. troops. There were approximately 50 Americans in camp. They included the (American) officers of the Filipino companies, officers of the post headquarters and the school, the Signal and QM troops, and the students of the school, who by that time had been reduced in number to 13.

Camp John Hay was not organized and equipped for a major defense, but no invasion in force had yet threatened the area. A thorough watch for enemy moves was being kept, with the 228th Signal Operations Company providing the necessary communications between observer outposts and the camp. This organization also maintained radio communication between General MacArthur's USAFFE Headquarters and Camp John Hay. I was placed on duty in the Camp John Hay station controlling the local net and working USAFFE. This served to relieve the burden on the station's three regular operators.

When off duty I often visited the lookout post on Mount Santo Tomas, from where

(though it was perhaps 15 or more miles from the coast) the waters of the Lingayen Gulf could be seen. While there I witnessed the landing of 80 Japanese ships on December 18. This was the beginning of the big push on Luzon, other landings, in small strength, having been made for the purpose of setting up communications, etc.

On December 24, after coming off a night watch, I was unable to sleep and I got permission to ride in a car which was going to the Philippine Scouts installation where my school roommate was on duty. En route, we suddenly saw, rounding a curve about a quarter of a mile ahead, the vanguard of the Japanese push we had been awaiting.

Our driver whirled around in the road and headed back toward camp. There was an exchange of fire between us and the leading Jap vehicle. At the direction of an infantry lieutenant in our car, we dropped hand-grenades in the road. We saw one of them blow up the Japs' lead truck, filled with troops.

We were the last to cross a large bridge on the road back to camp. We gave the word that it could be blown up, and the destruction of this key crossing (the highway was the only one into Baguio from that direction) slowed up the enemy advance perhaps two or three days.

The evacuation of Baguio was ordered that evening. The garrison was split up into three groups, two of which had the objective of joining the main United States and Philippine forces on Bataan, approximately 160 miles away. I was a member of the first group to leave. It included 11 of the 13 West Point school students, plus several officers and Filipinos. We left at seven o'clock and the next group started four hours later. The third group, which included only a few Americans, took to the hills to become guerrillas.

General MacArthur had ordered the Camp John Hay complement to rendezvous with a group of vehicles from Bataan near Balete Pass, southeast of Baguio on the Manila-Aparri highway. Traveling afoot, we made the journey in three nights and two days, arriving on December 27. We met two buses about ten miles north of the pass. This was a gathering place for many of the scattered American and Filipino forces in the northern part of the island.

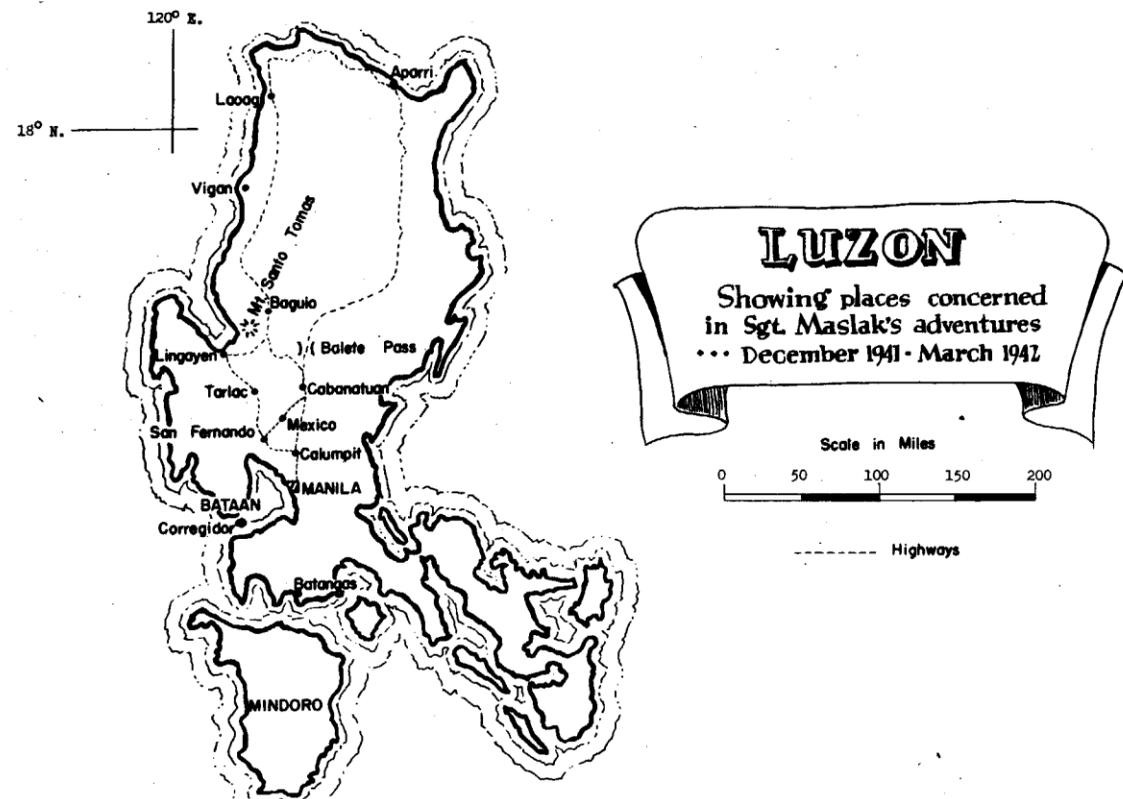
Before the buses were loaded to start south, a Major Fellows, the head of our par-

ty, sent them to an Army warehouse at the Pass, where they took on provisions for the guerrilla bands which were forming around Baguio. The major assembled about a hundred cargadores (native carriers) who set out into the hills with the provisions.

We rode through Balete Pass and Cabanatuan to Mexico, a village north of Manila which was another gathering point for

us or to realize that a sizable group of Americans might be in the vicinity.

At Mexico, along with my schoolmates, I was placed on duty with Philippine Army units. Each one of us was assigned to a different platoon, for the benefit of the Filipinos' morale more than anything else. I was sent to an Engineer outfit whose job was to prepare for and later to carry out demo-



groups of evacuees. The group from Camp John Hay which had followed us across the mountain trails from Baguio was close behind us on the highway, and immediately behind them as they drove, the bridges were being blown up. The Japs by this time had advanced perhaps 80 per cent of the way from their landing at Aparri to Balete Pass. The road down which they were pushing with the evacuating forces ahead of them is the only highway connecting Aparri and Manila.

At a point near Balete Pass we saw Japs about half a mile away moving in artillery as we passed. They did not appear to see

litons. This job lasted about three days, or until December 30, by which time the Lingayen Gulf invasion had penetrated to a point only a few miles away. The bridges we blew up were on three roads forming a triangle -- from Mexico to San Fernando; from San Fernando to Calumpit Bridge, about 35 miles north of Manila; and from that point to Mexico.

We were being covered by a scattering of U.S. units which were opposing the Japanese forces pushing in from the Lingayen Gulf. After the rear-guard troops had crossed the bridges on their withdrawal to Bataan, each bridge was blown up, and San Fernando was

evacuated. This was New Year's Eve.

We were taken to Bataan in trucks. I was with the Americans with whom I had come down from Baguio. We had reassembled upon hearing that the retreat into Bataan was to start.

Next Stop -- Corregidor

After a short time on Bataan I was placed on duty with a battalion of the 60th Anti-Aircraft Regiment near the south-eastern tip of the peninsula, very near Corregidor. This continued for only two days, for on the morning of January 3, I went across the channel by barge to Corregidor and found the Second Signal Service Company detachment, of which I was still a member.

While still at Camp John Hay, a few days after war began, I had radioed Lieutenant Colonel (then Major) Sherr from Camp John Hay to ask him if I should return. He replied that I should remain there if I was needed, so I stayed until the evacuation. However, I was anxious to do intercept operating, and I had determined to make every effort to rejoin my own outfit when we started south.

While at Mexico I had tapped into the commercial telephone lines using a field phone, in an attempt to get through to Bataan or Corregidor to locate the Second Signal detachment. The wires were dead, as Manila was being evacuated that day and the call had to go through there.

No one whom I asked on Bataan knew where the Station 6 group was. I succeeded in getting on a barge going over to Corregidor on the morning of the 3rd, having decided they must be operating there. I got onto The Rock just in time to get in on a Jap air raid, and I had the closest call of all the times I was under bombing there and in my later adventures covering nearly four years. I was only about 15 feet from the edge of a huge crater when I "woke up."

I resumed asking questions regarding the whereabouts of Second Sig and soon got a good clue: someone had seen two pieces of direction-finding equipment being used Topside on The Rock that morning. Running this down led me to Lt. Brown and the rest of the boys. They were inside the Rock operating, and though an outward evidence of radio-intelligence activity had enabled me to find them, they were actually engaged in no RI mission. They were organizing communications nets with the units that were

withdrawing into Bataan and digging in there.

For the first time since the intercept station had stopped operating at Fort McKinley, radio-intelligence work was resumed sometime between January 15 and 20. Four of us -- Lts. Brown, Gelb and Kinkade, and myself -- were the first to be taken off the communications job, as we were able to copy the kata-kana telegraph code transmissions better than any of the others. Later on, as more men could be spared from communications operating, Messer, Kapp and Gill were added to the intercept group, and Bradbury was assigned to clerical work helping us.

As the next several paragraphs will show, our unfamiliarity with the type of traffic with which we were faced after December 7 did not prevent us from producing much intelligence of immediate value as well as other information of longer-range use. All of this was obtained either from reading plain-text or from interpreting such external features as frequencies, call signs, peculiarities of operators and signals, net organization, the known missions of units whose traffic we were intercepting, etc.

Our Intercept Mission

Our first radio-intelligence job was the intercept of three types of communications: transmissions from and to the reconnaissance planes we saw so often; traffic of the air-ferrying commands in the Philippines area; and Japanese weather stations scattered about the islands.

Because the traffic we were getting largely concerned the Air Corps, and air defense, we were first located at the anti-aircraft command post in the main tunnel. An A-A telephone operator was stationed with us to relay information from us to the executive officer of the regiment and the commanding officer.

Our setup was makeshift, of course. Our antennas were outside and reached the receivers via a very long lead-in. For receivers, we had two Super-Pros -- all we could ask for in the way of reception, and as many in number as the four of us could man.

All four operated, but Lt. Brown and Lt. Gelb also had to evaluate the traffic and make translations (there was much plain-text), coordinate our results with G-2, and make outside contacts in many places. Col-

onel Sherr visited us daily and was almost always able to contribute valuable suggestions. All messages pertaining to the Philippines he took to USAFFE Headquarters. They would be in a partial state of analysis when he arrived, except those in plain-text, of course.

There was a cryptanalytic officer with whom Colonel Sherr, Lt. Brown and Lt. Gelb worked, but the rest of us did not have contact with him or know of the results of his work.

We were in direct telephone contact with the Navy, which had an RI setup in the Navy tunnel near Monkey Point. A naval officer helped us a great deal in plain-text translations.

Colonel Sherr arranged for RI work in the front lines on Bataan, and Lieutenant Kinkade, Kapp, Hall and Messer were sent there for the entire month of February. They set up a telephone circuit for sending in their results to Corregidor. Their location was a fixed one, in a dugout. Colonel Sherr visited them often and was usually disappointed by the results, which seldom included information which could not have been obtained at Corregidor. They were brought back to Corregidor at the beginning of March because the project was not sufficiently productive.

Because of the way the Japanese air raids and reconnaissance missions were carried out and because so much of the enemy traffic was in plain-text or was subject to successful T/A (a term we did not know of then), we were able to develop considerable information for G-2.

Getting Air-Raid Tipoffs

It was the Japs' practice for raiding planes to get to the general area of their intended target, reporting their location to their base all along the way, before being told what exact target to bomb. Reconnaissance planes advertised their locations and to some extent their missions in a similar manner. Both reported results to their bases by radio. Air-ferrying traffic provided a fairly good picture of Japanese movements and intentions. Weather messages gave weather conditions in Jap-held areas and to some extent were an indication of what could be expected in the way of enemy air activity; also, this traffic disclosed the locations of their weather stations. These were the results we

PHILIPPINE DETACHMENT, SECOND SIGNAL SERVICE COMPANY December 1941

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Maj. Joe R. Sherr, Detachment Commander and Assistant Signal Officer, Philippine Department; a veteran in signal intelligence work.

1st Lt. Howard W. Brown, pioneer in RI work in the Philippines as an enlisted man; called to active duty as second lieutenant early in 1941 from position with Mackay Radio, Manila.

T. Sgt. Eustace M. Messer, chief operator

S. Sgt. Joseph Sarata, intercept operator

S. Sgt. Lawrence M. Hall, intercept operator

Sgt. Carl L. Card, intercept operator

Sgt. John J. Phelan, intercept operator

Cpl. Richard E. Nurss, intercept operator and maintenance man

Cpl. Irving A. Stein, intercept operator

Cpl. James E. Rhen, intercept operator

PFC Daniel Gelb, intercept operator; directly commissioned after outbreak of war.

PFC Michael Maslak, intercept operator

PFC Paul A. Gill, intercept operator

PFC Stanley W. Kapp, intercept operator

PFC Berkley J. Kinkade, intercept operator; commissioned with Gelb

PFC David H. Summons, intercept operator

Sgt. Wayne R. Hightower, clerk; transferred to a signal supply unit early in the war

PFC Jay E. Bradbury, clerk

got by observing the surface characteristics of the traffic and reading plain-text.

When the Japs landed on Mindoro in late February or early March, we intercept operators were the first ones to know. U.S. troops on the opposite side of the island from the landing were informed of what had taken place and were given instructions to evacuate. We also were the source of the

first information of the landing at Batan-gas on Luzon.

Early in February, a large number of Japanese had landed at Agaloma, at the end of the Bataan Peninsula. Their mission was infiltration and sniping. The radio traffic of the planes which were sent to keep them supplied with food and other necessities gave away to us what was afoot. Our forces headed them off and the Japanese mission was a failure.

One of our most interesting RI battles involved Captain Villamoor, a Philippine air ace who made regular reconnaissance flights over Jap batteries across from Bataan. One day Foto Joe, the Jap reconnaissance pilot whose plane we were accustomed to seeing at seven o'clock every morning, spotted Captain Villamoor and reported his position to the Jap base. We heard the Japs send up six Zeros after our man. We told the Air Corps; five P-40's which were already in the air as protection for Captain Villamoor were informed that the Zeros were coming. Our boys got all the Zeros while losing one of their own number. Foto Joe requested permission from his base to land, reporting the outcome of the dogfight at the same time. We heard the base tell him more Zeros were coming up. So our planes, low on gasoline by that time, were called in.

We Begin Voice Intercept

Early in March the Japanese bombers started using radiotelephone. We obtained two interpreters, a Filipino and a Japanese of American citizenship, who read their voice transmissions for us. The Japanese, despite his high trust, could go about only under an officer guard, lest he be mistaken for an enemy.

Once, shortly after the Japs' radios began using phone, we heard a bomber report to base that he saw a group of civilians working on a bridge on Bataan. The base ordered him to bomb them, and we were able to warn Bataan in time for the intended victims to reach cover.

We knew the transmitting frequencies of almost all the air bases from which planes came over. The type of traffic they sent was always the tipoff of an impending raid. Special frequencies were used for bombing; they alone were an invaluable source of intelligence for us. We came to know planes' callsigns by heart, and equally well we knew

the pilots' nicknames or code-names; names of fruits were used.

Not only were the Japs generous with their information as to their intentions, but they also kept us well informed of their results. They would report their losses and casualties, bombing or observation outcome, what U.S. batteries got the planes that were shot down, etc. They would attempt to knock out the U.S. batteries which were doing the dirty work.

After the Air Corps came to respect the results of radio intelligence, four Air Corps sergeants were sent to us to learn intercept operating. We gave them as much training as we could.

During the period on Corregidor I usually slept from about one to seven in the morning, as there was very little doing on the air at that time. I slept outside on the beach with a group of Marines. Some of our detachment were so affected by the bombing, however, that they never left the tunnel.

Eight men were the most we ever had on intercept work at one time. Because the officers were largely absorbed in analytic work and the other enlisted men were new at copying kata-kana, a very large part of the intercept work fell to me, especially during Lieutenant Kinkade's absence in February. One of the officers would take over the receivers during my meals; I also took a break now and then to look over the traffic and work on some of the notes I had taken while operating.

The Australia Contingent

We were doing better work all the time, but it was decided to send Lieutenant Brown and ten enlisted men, myself included, to Australia to be the nucleus for RI work there. The others selected were Sergeant Messer, Corporal Nurss, Sergeant Card, Corporal Rhen, Corporal Stein, PFC Kapp, PFC Bradbury, and PFC Gill (I was also a PFC). Those of the former Station 6 detachment not included in this group were Lieutenants Gelb and Kinkade, the only ones left on Corregidor to do RI work except the Air Corps sergeants; Summons, Sarata, and Hall. Sergeant Hightower had been transferred to a supply outfit. Colonel Sherr was one of the officers going to Australia with General MacArthur.

(To be continued.)

Wanted: Three-Year Enlistments

Because of the need for qualified enlisted men to fill agency-wide openings in top-grade jobs, Army Security Agency has obtained War Department permission to enlist men directly in the agency for three-year periods. ASA thus becomes the only service in the Army doing its own recruiting rather than getting its supply of new men from the Army-wide recruiting program.

The recruiting program is aimed at filling vacancies which include approximately half of the Agency's authorized number of master sergeancies and a comparable proportion in the other high grades. Large numbers of jobs calling for these grades are unfilled. The Agency's promotion policy, considerably more liberal than the average for all branches of the service, allows a man to be promoted to the grade called for by the job he holds, provided, of course, that there is a vacancy in that grade. The Agency also hopes to get authority for enlisting men directly in the grades for which they are qualified.

The recruiting of new men is directed toward three-year enlistments only, because of the length of training required by the highly specialized nature of ASA jobs. However, men now in ASA service are permitted to sign up for the shorter enlistment periods - one year or 18 months.

Since the inception of this direct recruiting program March 17, the office set up in New York by M. Sgt. Maurice A. Schultz has been recruiting 10 men a day. A second office is being operated in Boston by M. Sgt. Paul W. Springer. The average AGCT score of these enlistees has been 121 and a sizable number of men have had 130 or better. Most of the men are under 20 years of age, and many have had previous service.

Openings are in the following military occupational specialties:

Technical

- 237 - teletype operator
- 239 - teletype mechanic
- 261 - wire chief, T&T
- *538 - voice interceptor
- 542 - communications chief
- *543 - radio intelligence control chief
- 650 - telephone switchboard operator
- 667 - message center clerk
- 674 - message center chief
- *709 - traffic analyst (radio)
- 740 - radio operator, intermediate speed

766 - radio operator, high speed, manual

- 776 - radio operator, low speed
- *799 - (738/9) intercept operator
- *801 - cryptographic repairman
- 805 - cryptographic technician
- *807 - cryptographic code compiler
- *808 - cryptanalysis technician

Administrative

- 014 - auto mechanic
- 267 - translator
- 345 - truck driver, light
- 400 - tabulating machine operator
- 405 - clerk-typist
- 425 - tabulating machine repairman
- 502 - administrative non-commissioned officer
- 931 - truck driver, heavy

Training in the MOS marked (*) will be given at the Army Security Agency School, Vint Hill Farms Station. The remainder will be provided by other army schools.

Enlistments are open to men with previous service in these specialties, men with previous service in other fields who will be trained in these specialties, and men with no previous military experience.

Enlistees must attain the appropriate minimum AGCT standard score as follows:

- For SSN 709, 807, 808 - AGCT score 120.
- For SSN 400, 425, 538, 799, 801, 805 - AGCT score 110.
- For SSN 405, 502 - AGCT score 100.
- For all radio operators and for SSN 014, 239, 667 - AGCT score 90.
- For all other technical specialties - AGCT score 90; and for all other administrative specialties - AGCT score 80.

In addition, all radio operators must attain a minimum score of 110 in the ARC-1 radio aptitude test.

In order to continue his assignment to ASA after having enlisted, each man must meet the above requirements for his MOS. Those who fail to qualify as prescribed will be reported by the training center to the Adjutant General for reassignment.

"I've Got a New System!"

So you think you have invented or discovered a new cryptographic system that is absolutely unsolvable!

Do you feel that in comparison with your brain-child the methods used by the United States Army are outmoded and antique? Or perhaps have you discovered a short-cut or refinement in present techniques that allows more efficient use of time and man-power?

If so, you are just running true to form with all the other cryptographers, past, present and future. For years -- yes, even for centuries - nearly everyone associated with communications has been bitten by the same bug: striving for the honor of being the person who invented the "absolutely indecipherable system." The search for the Fountain of Youth is insignificant beside the Quest for the Unbreakable Cipher.

The often-heard statement that it is impossible to invent a system which cannot be broken has been accepted by hundreds and thousands of people as a challenge to their inventive abilities. Many of them have offered their ideas to the Government. Another great impetus to cryptographic invention

If you come across the Unbreakable Cipher, be very careful that you communicate it only to the proper authorities. Witness the commendable chariness displayed by one correspondent:

Military Intelligence of Codes
Washington, D.C.

Dear Sirs:

I have heard that the War Department will pay a million dollars to anyone who can invent an unbreakable code. I have what I know is a code that cannot be read. It is so good that at times I cannot read it myself. I have told no one, not even my wife. How do I go about it to get the money?

W.C.

on the part of the public was the wartime Ideas for Victory campaign combined with a Sunday-supplement story, widely circulated but without foundation, that the Government would pay a million dollars for an unbreakable code.

Many who read that story set about immediately to plan how they would rush to the

President with their system, and in day-dreams they were spending the million. If this article should stimulate your inventive tendencies in a similar way, there are some things you should know about the rules of the game, what others have done in the past, and what your chances of success are now. In this way you will, perhaps, be saved many hours of useless labor -- besides saving the time of others who may have to listen to you.

Some Sample Suggestions

We propose, then, to give you from time to time something of the history of cryptosystems which have been submitted to the War Department for adoption. As often as possible, examples that have afforded humorous moments will be given. At other times, if the occasion permits, ideas that were worthy of serious consideration will be presented. Actually, in the long run, what appears in this feature will depend upon you, the readers. The aim and content will be shaped by your response. If you have any suggestions, please write in and tell us about them.

However, right now let us go over some of the history of the phenomenon as seen in the War Department. The available records of the early days are rather scanty in this field. This is because in those days (from the 1850's until World War I) new systems were usually sent in to various popular publications, such as Grahams Magazine (1841), the Pall Mall Magazine (1896), and even newspapers.

Later (perhaps after World War I), cryptosystems began to be submitted to the War Department and other government agencies. The form and manner of submission has varied through the years according to the person and circumstances. Letters have been received which were addressed to the President, to members of Congress, to the Secretaries of War, State and Navy, to the FBI, to the War Department, and to various other agencies. Some people have even hired lawyers to lobby for them. A consid-

erable number have wanted large sums of money for their invention. Some of the people who submitted systems were crack-pots, others were vague dreamers, quite a few (especially during the past war) were sincerely attempting to help the government in the war effort, and others have been professional cryptographic inventors attempting to realize something for their efforts.

The systems have ranged from the simplest monoalphabetic substitution, contributed by young school children, to excellent cryptographic devices possessing considerable merit.

There is little evidence to show how these systems were handled and disposed of prior to 1930. From then (after the formation of the Signal Intelligence Service under the Office of the Chief Signal Officer -- which is now the Army Security Agency) until 1941, examination of the various systems was made by the small staff working under Mr. William F. Friedman. After 1941, with the growth and expansion of Army Security Agency, a special section was set up whose sole function was to examine and evaluate the miscellaneous cryptosystems submitted to the War Department.

During the war this group received over 1,500 different cryptosystems. The majority of these were of the type known as "paper and pencil" systems: simple substitution, transpositions, combination substitution-transposition, and polyalphabetic systems. Some proposals involved simple disc cipher devices based on the Wheatstone principle. A few, especially those submitted by men who worked in Army code rooms, were excellent and practical and would have been adopted for use had it not been for the fact that they duplicated existing equipment. In other words, the idea was good but the inventor in the field was several years behind the home office.

A number of modifications and refinements which were suggested were adopted -- so you see, there is hope for you too.

An SOP for Inventors

Now as to some of the rules of the game of cryptoinvention. If you are an experienced cryptographer or cryptanalyst you may already know them. If you are a tyro in the field it is quite probable you do not.

Is it possible to decrypt any system that

might exist?

The answer to that question is "Well, -- yes and no."

Does that seem strange? Even so, it is an honest answer depending on the conditions under which the question is asked.

Many of the War Department's cryptographic contributors are schoolboys who are not expecting a million dollars but in their naive sincerity are willing to give their treasured possession with no thought of reward. An example:

War Department
Washington, D.C.

Dear Sir:

I am a boy and my name is M.F. I have been working on a code and it is finished and I thought it might help you with the war. Would you kindly answer back about my code. I will write a code in this letter.

The Code

$\frac{25}{2} \frac{5}{4} \frac{21}{3} \quad \frac{8}{4} \frac{8}{3} \frac{18}{2} \frac{5}{4} \frac{22}{4} \frac{23}{3} \frac{17}{4} \frac{7}{2} \frac{24}{4} \frac{17}{4} \quad \frac{25}{2}$

$\frac{5}{4} \frac{22}{4} \frac{12}{4} \frac{11}{4} \frac{17}{2} \frac{11}{3} \frac{23}{4} \frac{17}{3} \frac{18}{2} \quad \frac{8}{4} \quad \frac{6}{3}$

M.F.

To which the Chief Signal Officer answered:

Dear Master F.:

Thank you for your letter and for the cipher you sent for use by the War Department. It is a very good cipher for certain uses.

Unfortunately the War Department cannot use your cipher at the present time because a different type of cipher is necessary. However, your cipher will be kept where it may be found, so that if it is ever needed it can be used.

It is like the answer to "Can a blind man see?"

In other words, we must know (and here we are speaking from a military aspect) the requirements that a cryptographic system must meet, the conditions under which it will be employed, and the amount of information likely to be available to the ana-

lyst. Later we will show how the answer to the question can be "yes" under certain conditions and "no" under others. However, for the time being we are more concerned with setting forth the basic premises upon which we must work.

There are times when it is impossible to decrypt even the simplest of monoalphabetic substitutions: when the message has only a few letters of cipher-text. There are other times when it is possible to decrypt the most secure system in use today.

Is possibility or impossibility of decryption the most essential requirement we are seeking? Not entirely. There often appears to be a universal belief that inability to decrypt a single, often short, message of 20 to 25 letters demonstrates that the system is unbreakable. There is a similar belief that secrecy concerning the details of a cryptosystem makes decryption impossible. But very few amateurs know or realize the fact that given a sufficient amount of cipher-text, decryption is possible in many systems without any knowledge of the details upon which the system is based.

We could expand the above, together with other aspects, until certain standard conditions and rules had been explained. It seems more feasible at present to jump directly to a statement of the requirements which a military cryptosystem must meet. These are practicability, secrecy and speed.

First - Is It Practicable?

As to practicability, a cryptosystem must produce text suitable for telegraphic transmission. This rules out systems employing special characters of all kinds, leaving only letters and figures for the composition of the text. Except in special cases, even a mixture of these is undesirable. The length of the cipher-text may be somewhat longer than the equivalent plain-text, but under no circumstances should it be longer than twice the plain-text. The method of encryption must be relatively simple and rapid, not requiring the application of a long series of steps or rules, and possible of operation by a single person. Furthermore, the system must be such that errors, which invariably occur, can be corrected easily and rapidly. Systems in which it is possible for a single-letter error to affect all the remaining letters of the text cannot be permitted.

Under secrecy we find that a cryptosystem

must possess two distinct elements. The first is a basic or unchangeable method by which it operates. The second is a specific or variable key which controls the exact steps in the basic method. The secrecy of cryptosystems must rest entirely on the second of these elements, because in military cryptography it must be assumed that the enemy knows all the details of the basic method but does not know the particular keying element used. Military experience has proved that it is impossible to maintain absolute secrecy of a cryptosystem which must be used by a very large number of people, sending forth a voluminous traffic from many and widely-separated headquarters. Without considering the possibility of treason or the activities of enemy agents, it is necessary to remember that legitimate operations, such as traffic-analysis or the capture of prisoners and command posts, sooner or later result in the accumulation of data sufficient to disclose the details of the system.

A Dead Giveaway - Traffic Volume

Military history has likewise proved that if attempts to maintain complete secrecy regarding the basic method are successful, the large number of messages exchanged makes it possible for the enemy to obtain a great volume of traffic for study. Sooner or later, and generally it is sooner, mistakes, or violations of cryptographic security, are made and are exploited by trained analysts with the result that the details of the cryptosystem are revealed.

The requirement for speed should be quite apparent. Methods that were considered fairly rapid in 1918 are today hopelessly slow. The increasing mobility of modern military forces has brought a new conception of the speed requirements of communications. The expansion and growth in complexity of the modern military organization necessitates loading down our lines of communications with hundreds of messages which must be moved in the fastest possible time. Furthermore, at present the necessity for speed is gradually assuming almost paramount importance. If this trend continues, it may be that even secrecy must if necessary give way to speed.

Next issue we'll give you something lighter and humorous: a sort of a Perry Mason "The Case of the Perfumed Message."

- Evert Conder

RI Coverage of Sixth Army Maneuvers



Operations Ridge, Camp Pendleton maneuver area -- site of a D/F installation operated by the 60th Signal Service Company in the Sixth Army maneuvers.

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RECOMMENDATIONS as to the future use of radio intelligence companies in training maneuvers have been submitted to ASA by Capt. John P. Shean of WDGAS-22 in a report on the 60th Signal Service Company's participation in Sixth Army maneuvers last November in San Diego County, Calif.

The 60th, an ASA unit permanently stationed at Fort Lewis, Wash., was provided by ASA to operate as the sole RI company in the maneuvers. This required the company to cover the radio traffic of both sides simultaneously, a procedure which Captain Shean recommended be changed in future training.

The captain's report on the maneuvers also suggested that radio intelligence units not be employed by the maneuver umpires, as was done in this case.

A third recommendation was that the maneuver troops opposing the RI unit be provided with radio transmitting equipment that would produce a distinctive signal tone, in order to facilitate identification by intercept operators. This would give the RI men a means of isolating the "enemy" nets comparable to the characteristic tone,

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telegraph characters, and transmitting habits of actual enemy nets, such as those of the Japanese Army during the war. Without such an aid, traffic from enemy and friendly maneuver forces and other Army stations sounds alike to RI operators.

Captain Shean reported to ASA that the maneuvers served to "sell" the place of RI work in Army intelligence. Brigadier General Pape, Sixth Army G-2, spent considerable time with the 60th and acquired a complete knowledge of this type of unit.

Captain Shean's summary of operational results obtained by the 60th showed that "all conceivable types of information were obtained by radio interceptdue to the almost complete absence of security measures during radio transmissions of the maneuver troops. Position-finding activities were useful in some cases in reporting locations of command posts, but generally results were neutralized by the fact that most units sent their map locations and unit identifications in the clear over voice radio."

Operator chatter lengthened transmissions to the point where the unit's direction-finders were able to obtain excellent bear-

A GREETING:

It has always been the lot of the men and women in our work to remain behind the scenes, away from the view of the public and even of their own co-workers. This isolation from the outside world is part of the very nature of the work and is necessary to its success; but that we should be entirely shut off from one another is not only unnecessary but a definite disadvantage.

A wall of this kind surrounds each individual working for the Army Security Agency. None of us knows, in a professional way, more than the comparatively small number of people encountered in the course of the day's work. We do not know what ideas the other fellow has which may interest us, except when those ideas have a direct bearing on our own duties.

The cause of this isolation is simply the size to which our organization has had, by force of circumstances, to expand. No amount of orientation, no amount of liaison between individuals or groups, could bring about the kind of unity we would have if we were much smaller. We

are in fact a distinct occupational group, much like the more widely known professions, and we need, as much as any other professional group, a common meeting-ground, in the form of a journal devoted to our work.

Many of us have written technical papers which have been "published" in an original and two carbons, gone through channels, and stopped there for want of a medium of further promulgation. Many other purely technical subjects have never been set down on paper, and many of the very interesting sidelights and background material of our science never come to the notice of our colleagues, because of the same lack. Now, with the establishment of our own journal, we will have an outlet, a platform from which to express our ideas, and a medium for carrying to a wider circle of enthusiastic devotees our thoughts in written form. I hope that ASA Review will further both the development of a professional spirit among ourselves and the advancement of our collaborative research efforts in a highly specialized field of urgent importance in the national defense.

William F. Friedman

ings. Other insecure practices on the part of the maneuver troops included failure to authenticate transmissions in most cases; violation of the principle of using minimum power necessary to maintain communication; and inefficient operation resulting from the stations of a given net not all being on the same frequency.

Practically all of the transmissions during the problem were in the clear. In his report to Sixth Army G-2 and to the maneuver umpire, Captain Shean pointed out the advantages of several types of easily-used tactical codes, such as brevity codes, and

codes for place-names and persons.

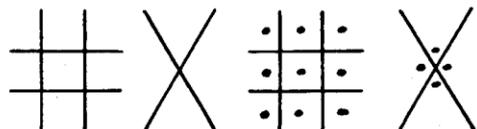
During the maneuvers the 60th was working against heavy odds from loss of key men. Forty-one of the most experienced enlisted men in the maneuver detachment were discharged and were replaced just before the departure from Fort Lewis with men untrained in field RI work. Lt. Hyman H. Hart, who had been commanding the company, also received his discharge at that time and Captain Shean took over the company, although he had originally been sent to the maneuvers only as an observer from ASA. He served in both capacities.

Two Historic Ciphers

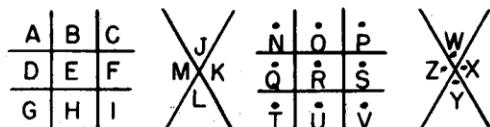
This article explains two traditional ciphers which all cryptographers have heard about but many have never seen on paper -- the Masonic Cipher and the Caesar Cipher.

The Masonic cipher apparently was actually used at one time to conceal the rites of that fraternity. The writer recalls an experience in his youth when an oily salesman endeavored to sell him the Masonic ritualistic secrets. He showed a booklet with the supposed ritual written out in the Masonic secret cipher; that was available if you bought the key to the cipher. By so doing you could decipher the lodge secrets and passwords and practically become a Mason in six easy lessons, and for only a few dollars. Your writer has subsequently learned that although the salesman's cryptography was sound, the security of the lodge secrets was in no way jeopardized. Oh, well, six bucks! Easy come, easy go. I'll give it to you free. Here is the key that he sold me, and I do mean "sold".

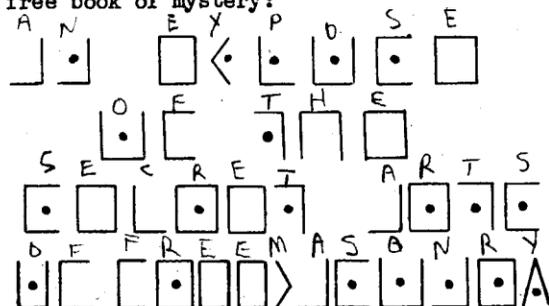
It consisted of a five-by-eight card with four diagrams on it in this manner:



On the reverse side of that \$6 key, these diagrams were filled in with



Now you too can amaze your friends! Proceed to decipher the title page of the free book of mystery:



Julius Caesar is credited with the use of a simple form of encipherment which it is presumed was effective enough in his time.

The first step in Caesar's encipherment was to write out the plain-text, as MY ROMAN LEGIONS. Under this the code clerk would continue the alphabet downward in a vertical column for each letter, as

```

MY ROMAN LEGIONS
NZ SPNBO MFHJPOT
OA TQOCP NGIKQPU
PB URPDQ OHJIRQV
QC VSQER PIKMSRW
RD WTRFS QJLNTSX
SE XUSGT RKMOUTY
    
```

In sending the message, any horizontal line could be chosen, since OA TQOCP NGIKQPU has the same plain-text meaning as SE XUSGT RKMOUTY or any other line. As can be seen, these two cipher messages are equivalent because they are enciphered in the same way and have the same plain-text.

The Caesar Cipher affords a striking illustration of some principles underlying the well-known warning against cryptographing the same message in two or more ways.

Suppose you had three messages to cryptanalyze, all of the same length and general appearance, and you placed them in relation to each other as follows:

```

QC VSQER PIKMSRW
RD WTRFS QJLNTSX
TF YVTHU SLNPUVZ
    
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After a little observation, you certainly would be struck by the fact that reading vertically down any column, the alphabet was in its normal sequence. You would be tempted as an experiment to continue those vertical alphabets. If you did so for all of them, you would somewhat further down see

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LX QNLZM KDFHNMZ
MY ROMAN LEGIONS
NZ SPNBO MFHJPOT
    
```

and be able to pick out the plain-text horizontally, although your work was done vertically column by column. Since identical texts are subject to quick analysis by this or other experiments, cryptographic practice requires that if it is necessary to re-

send a message it must be paraphrased or otherwise changed.

Now to decipher a few messages. They are solvable by the method indicated - "running down the alphabet" or "completing the plain component". This procedure has many applications in cryptanalysis.

The first message is intentionally easy, as the letters of plain-text will appear on the same horizontal line. The second is a little different and a bit tricky, as the plain-text letters are on different lines. In this one, when you get started on the right zig-zag path, the pattern will remain the same. Run down your alphabets, then use your eyes.

The groups are written in fives but the words will vary in length. Technically this is not monoalphabetic but that will

not influence your solution.

- (1) XIVRK VITRL KZPFD
LJKSV VOVIT ZJVUO
- (2) LXIOX KNLWW LAAUS
NKWJH JNGGN ESNXJ
NASHH FCGWB NFXKW
XYALL LUIJC E

Solutions to these problems will be given in the next issue.

- Norman Dillinger



"Stop me if you've heard this one."



Korea Sounds a GI Note --

Here comes the first contribution from the last outpost -- the present site of the First Operating Platoon of the 126th Signal Service Company, at APO 235. If you have a map of the Pacific handy, take a look at the forgotten spot of the world -- Korea. Of course, this will probably bring arguments from those members of the organization who spent time on Amchitka or Okinawa, but if you don't believe that this is life in the rough, just come and try it! It has taken Korea over 4000 years to reach its present primitive state, and we believe we arrived here 4000 years too soon.

Our station is located eight miles from the center of Seoul, the capital of Southern Korea. The 38th parallel is 30 miles to the north. The scenery is very picturesque, with high rocky mountains surrounding us for miles. The valleys between are full of terraced rice paddies and spotted with thatch-roofed villages.

We also have the sound effects to go with the scenery. Ox-carts creak and rumble along the rutted roads with the speed of Korean progress. An oriental band plays for a funeral with music out of this world. Chimney-sweeps bang their gongs. Fish-peddlers cry their wares in a wailing song. No, you would never mistake this for 42nd Street.

And the smells! Chanel Number 5 never had anything on our king-sized honey carts. We can boast the biggest and most odiferous fertilizer-dispensers in the Orient. One soon learns the meaning and technique of breath-control here, or else.

At present we are living in a Japanese-constructed radio station. We have been losing personnel with everyone else, and are now down to rock bottom with about twenty men. However, being a small detachment has its merits, for everybody knows everybody and the morale is high. There is little to do but work, and as a result we

believe we equal if not surpass the other units here in the Pacific in work produced per man.

There are better things ahead, too. A new site for our station is now under construction several miles away, on land that once was the second-best golf course in the Orient. It is well laid-out, with all the conveniences of home -- well, almost all. By the time this is published, we will probably be living there, saying, "We never had it so good." All together, 48, 49, 50 - - -

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Now for a few words about sports in Korea. Due to the cold weather, which ranged as low as 17 below, recreation was mainly indoors this winter. Nightly pinochle and ping-pong contests are held, and some mighty hot games result. Before T. Sgt. Bill Norton was transferred to Kyoto, he and Lt. Mosser were the reigning doubles pingpong champs, with Lt. Morrow the man to beat at singles. Sgt. Dahle, Cpl. Oliver and PFC Richter are currently the hottest pinochle players.

When the weather is warm enough, hunting parties set out into the surrounding hills, which abound in pheasants, foxes and deer. Carbines are used, and it takes some mighty good shooting to bring down a pheasant on the wing. We seldom return empty-handed, however, and a handsome red fox was the latest victim of "Eagle-eye" Styke, our best hunter. As he is also a cook, we get a welcome change from standard Army chow occasionally. We have sent out only a few hunting parties recently, as the ordeal experienced by one group has scared us all off. When a truck broke down in the mountains, eight of our hunters had to walk 28 miles back into camp.

Recently a group started out for a hike along the Han Gang River, which is about a

block away from the station. It was frozen to an eight-inch thickness in spots, so after a few unsuccessful but amusing attempts at ice-skating, they found themselves across the river in a large village. While they were wandering through the narrow winding alleys, a group of teen-age boys came up and challenged them to a game of soccer. They accepted, and soon a fast but loose game was on. The ball changed sides many times, but the easily-winded GI's were on the defensive most of the game. Tec 4's Bell

and Kasting played a whale of a game, but they were no match for the fast footwork of the Korean village all-stars. The final score was 2-1 in favor of the Korean team, with the Korean rooting section of several hundred in stitches at the antics of our arm-chair commandos. And it could have been a lot worse, because, Jack, have you ever tried dashing nimbly around a soccer field in a pair of heavy combat boots?

- Lt. Richard B. Mosser

--and Germany Echoes It

Of the many military cliches which one hears in this unique American community, perhaps the most characteristic are, "Life is rough in the E.T." and, in startling contrast, "You've never had it so good." This, then, is a revelation of some of the pleasant and the not-so-pleasant aspects of occupation life.

Take, for instance, the question of domestic servants with which the numerous American families are coping. Each household is entitled to at least two servants, usually a cook and a housemaid. These are generally provided by the billeting authorities and are charged to rental allowance. At small additional expense you can have as many more domestics as you want or can accommodate. This, mind you, is most convenient and handy. In fact, "you've never had it so good." But consider what will happen when this lotus-eaters' existence ends. Lady Wife becomes so conditioned to playing the chatelaine that when she is back in the land of organized labor and again has to wield the can-opener or dust the window-sill, instead of commanding in pidgin German, "Gretchen, do this," or "Brunnhilda, do that," the finger may well be pointed at Friend Husband.

Take the recent painful experience of one of our popular young officers who long ago became convinced that the Army is no place to save money. "The idea," he says, "is to keep the pantry full of rare viands and fine delicacies; the same applies to the stomach." His numerous bachelor friends highly endorse this quaint philosophy. They, improvident characters, did not have the foresight to provide themselves with wives to share their military tribulation. The local Army commissary serves married folk only. So it became a tradition to

raid our man's ice-box daily, often accompanied by a friend of a friend. All that was very well, and although mine hospitable host objected not, even when one enterprising intimate acquired a pass-key so that he would not disturb the parties of the first part when he had an urge for a snack at some odd hour of the night, -- the commissary people did. It seemed that, by local regulations, a rather conservative ceiling on permissible expenditures for "vittles" is enforced. Imagine his mortification when the heartless commissary, without warning, cut off his credit for the balance of the month. He now walks gaunt and disconsolate, subsisting on charity, CARE packages, and infrequent visits to established mess-halls (the kiss of death), determined to become a social outcast -- but eat regular. Yes, life is rough in the E.T.

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A three-day conference of unit commanders and branch chiefs of Army Security Agency, Europe, was held in the Frankfurt headquarters on February 17, 18 and 19. Topics relative to administration and technical operations were discussed. The recent Theater reorganization had created new problems, and a general zeroing-in was in order. The conference was concluded with an inspection of the headquarters installation.

The three-day get-together was likewise an excuse for a series of dinner parties, stag sessions and general wassail. The meeting was generally admitted to be a great success. To quote one of the C.O.'s from the country, "We were wine'd, dined and straightened out."

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A son, Roy Lesley, was born on 15 February to Lt. and Mrs. Stanley F. Sparks of Headquarters, ASA, Europe.

Stateside With the 136th

Headquarters, 136th Radio Security Detachment, makes its home at Mitchel Field, near Hempstead, Long Island, which is approximately a 55-minute journey from New York City via the Long Island Railroad.

Mitchel Field, the cradle of American military aviation, served as a training ground in four wars. Here, in the days of the Civil War, was located Camp Winfield Scott; in the Spanish-American War, Camp Black; in World War I, Camp Mills, and in World War II, Mitchel Field. The Rainbow (42nd) Division, including the Fighting 69th, trained here during World War I.

Mitchel Field offers plenty of relaxation and entertainment for both officers and enlisted men. There are two War Department theaters, one of permanent brick construction; a modern permanent gymnasium, two swimming pools, an officers' club, enlisted men's clubs, facilities for all types of sports, and a modern library with over 17,500 books plus numerous current magazines. In addition to the recreation facilities available on the post, the Roosevelt Race Track, the Meadow Brook Polo Grounds, and the Nassau County Golf Club are within a mile of the Field.

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The commanding officer, Capt. Albert E. Zellefrow, and the analysis officer, Capt. Emanuel P. Peters, of Headquarters, 136th Radio Security Detachment, have received appointments in the Regular Army as first lieutenants, Signal Corps.

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A party held by the Mitchel Field detachment in their barracks last month attracted every member of the outfit who was physically able to attend. For a great number of the "boys" this was a "hail and farewell" to their Army careers, as the greater percentage of the organization is composed of draftees.

Highlight of the party was a spread that included a free flow of golden-brown brew, every conceivable kind of choice and fancy meats, and a variety of salads. Group singing, solos and duets closed the evening.

Pfc. R. J. Congdon, Jr.

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Camp Daly City, Calif., a picturesque site atop an 800-foot rocky hill overlooking the waters of the Pacific Ocean, is the

operating location of the Third Radio Security Section of the 136th. The camp is approximately two miles from any other activity, military or civilian, and even though it is only a short distance from San Francisco, it could well be compared with an uninhabited Pacific Island or an isolated mountain in Germany or Japan. The weather resembles the fogs and rain squalls of South America.

The section is operating on a 24-hour, seven-day-per-week basis utilizing four shifts running for six hours each to man the five operating positions being used. The antenna array consists of numerous delta-matched antennas supplemented by three bi-directional rhombics, several double doublets, and some long-wire antennas. The buildings are all constructed of wood and plainly marked with T's, which do not mean temporary but rather terminated. The operations building is the freest from the ever-recurring Florida fogs and rains. Due to the rapid influx of new men, bringing the unit to full strength, the camp messhall has been put into operation and the \$2.25-per-day subsistence allowance, known for so long as a booster to the pay of the lower grades, has ceased.

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At present, because of the non-existence of gasoline in this area, the unit has been forced to withdraw all but the most essential motor trips made by organization motor vehicles. Two trips to Daly City are made each day for the purpose of receiving and dispatching mail. Men desiring to go on pass are forced to call a taxi (Daly City taxi drivers are the best paid in the world, including rickshaw drivers of India) or trudge down the two and a half mile San Mateo County road with one knife, TL-29, to part the fog.

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A dance was held in the organization messhall and day-room recently. Music was furnished by a six-piece orchestra from Hamilton Field and partners were secured from among the flowering beauty of Daly City. There was plenty to eat and sufficient beer and soda-pop to drown one's sorrows.

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At the request of Fifteenth Air Force, operations of the Third Radio Security Section have been expanded to include the monitoring of its air-ground and point-to-

point circuits. In addition, plans have been made to dispatch a mobile monitor unit as soon as warm weather arrives. This should prove to be quite an extensive tour covering the Central and Eastern United States. All trick-chiefs and operators are bucking for assignment to the mobile unit.

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Four crack operators have been lost to the unit for a period of approximately six

months for detached service in Alaska. S. Sgt. Josleyn, who has spent most of his Army career here in Camp Daly City, was seen just before leaving dressed in fur-lined gadgets and gismoes that defied description and trying to get in the mood for the trip by eating an eskimo pie.

- Capt. James L. Warbington
M. Sgt. Ralph P. Rushing

Happenings at the Hill

Vint Hill is going through a period of rapid turnover of both enlisted men and officers. The EM have been leaving in large numbers as a result of the regulation for the discharge of all non-volunteers. A number of permanently assigned officers have left, to be replaced by others, and there is a parallel going-and-coming among the student officers.

Unusual as it may sound, the separation of our last inductees, which will leave such a gaping void in our organization, is being taken in stride. The people who have the worry of becoming replacements in most of the sections seem to have grown used to having the ground cut from under them and being forced to revert to their previous specs of clerk-typists, dental technicians, truck drivers, etc. Perhaps the Army will settle down some day!

The departure of enlisted men will seriously affect the operator strength in Monitor Station 1 and it is hoped that the losses will be made up by Regular Army men.

Recent arrivals on officer assignments include Capt. Bill Vinson, Administrative Inspector and Assistant Operations and Training Officer; Capt. Richard Hamel, who replaces 1st Lt. James A. Pirtle as Information and Education Officer and Recruiting Officer; and two new pill-rollers, Capt. Carl Smith and Lt. Robert McCleod. They are welcome additions to the overhead complement.

The loss resulting from departure of our student officers is to have a compensation in the arrival of the first group of students for the Vint Hill phase of the ASA Officers Course, General.

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The sulphur and molasses season has an added attraction for the men at the Hill

in that it is also supposed to usher in the building season. A new baseball field, preliminary excavation for our new rec hall, and the construction of tennis and handball courts all awaited the spring thaw.

A former operator coming back to MS-1 would hardly recognize part of the station. The entire first floor of the Main Operations Building has been redecorated. Radio Maintenance has papered the lower walls of its rooms so that when they get too dirty all that will be necessary is to repaper. The main office and the office of the supply officer have been repainted, as well as the hallway. Coming into the building is like getting snow-blinded.

.. . . .

Miss Dorothy Cornelia Leach of Greenwich, Va., and M. Sgt. Carl J. Bierbaum, post sergeant-major, were married in the bride's home on March 15. Their honeymoon trip was to Atchison, Kansas, home of Sergeant Bierbaum's mother.

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The famous Warren Green Hotel in Warrenton, from whose portico General McClellan took leave of the officers of the Army of the Potomac during the Civil War, was the scene on Sunday afternoon, March 23, of a reception for the post commander, Lt. Col. Merl Sherburn, and his bride, the former Miss Margaret Bonfield of Perth, Australia. Their wedding took place March 11 in Washington. Mrs. Sherburn, who was a civilian employee of the U.S. Army Air Forces in Australia, the Philippines, and Japan, arrived in this country in March. Colonel and Mrs. Sherburn are residing in Warrenton.

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MS-1's "junior station" is growing rapidly. M. Sgt. Richard Hoban and his wife have a new baby boy born in January and yours truly is the father of a new baby

girl. The mothers kept each other company in Ward 29 at Walter Reed. At present the other additions to the station's second generation are all in the prospective stage. Maj. James B. Nixdorff, Assistant Operations Officer, will be Papa Nixdorff in the next few months. Maj. Finis G. Johnson and Tec 4 William A. Newman, company clerk for the 1st Detachment, expect additions to their families at about the same time.

Still in the baby department: M. Sgt. Walter H. Collins' baby, who swallowed a pin recently, is progressing nicely. Tec. 3 Jeff Rhodes comes forward for attention with a claim that his six-month-old daughter is already trying to walk.

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Sgt. Irving Strobing, who sent the last

News From Two Rock

Monitor Station 2 is going through a change-over from the old to the new in station equipment, giving up many outmoded items for currently standard pieces. The principal items being exchanged are the diversity receivers. We are getting DR-89 Diversity instead of the Super-Pro Schuttig sets. We are also beginning to receive a newer modification of the TCB sound recorder and transcriber.

Our maintenance is moving to new and larger quarters. If anyone remembers MS-2 as it was during the war, Room 1 is the new home of the shop. More up-to-date equipment will make the shop a marvel of economy and efficiency.

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Two Rock Ranch recently instituted a change in passes. We now have the regular ASA picture passes for entry into the various buildings at the post. Still we notice that a certain captain in Operations is wearing a picture of his mother-in-law.

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The mess-hall personnel of Two Rock received a morale boost when two new ranges were installed recently. For some months it has been something like cooking on the side of a volcano crater with all the lids dipping toward the firebox.

Despite all their troubles, the mess sergeant, T. Sgt. Arlene Crain, and his as-

radio message from Corregidor before it surrendered to the Japanese, recently took a refresher course in radio work at Vint Hill and has now departed to his permanent assignment.

While working his amateur radio station one night recently, M. Sgt. John P. Kolski happened to contact two old friends of Major Nixdorff -- Lt. Bob Richardson and Sergeant Apodaca, who were operating a ham station in Maryland.

T. Sgt. George W. Gullede has left for a new assignment.

Contributing to the drinking habits of the Vint Hill intercept men is a 20-gallon coffee urn which has been installed in the coke room at the station.

- M. Sgt. Q.J. Recktenwald

Assistant, Tec 3 Clifton D. Fair, elected to reenlist for three years when they were discharged recently. Both spent reenlistment furloughs in Kentucky.

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Work on a makeshift Officer's Club has been progressing satisfactorily with all the officers carrying lumber, sawing, planing and nailing. Although some talent for this sort of work is shown, we can see why most of the officers decided against carpentry as a trade.

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A sum of \$19,000 has been allocated to Two Rock Ranch Station from non-appropriated funds for the construction of recreation facilities, such as a football field, baseball diamond, softball fields, and tennis courts.

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Operations is having weekly showings of training films which include various phases of radio work. Beginning with law and graduating into more advanced subjects with each film, we are expecting to give operators at least a basic idea of the equipment they use. Thus far the attendance, all voluntary, has been very satisfactory.

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With the departure of Lts. Rutkowski and Piurkowsky and M. Sgt. Ernest Barat, the station has lost most of the gang who were

in Oahu prior to January 1939. Remaining here of that group are only Capt. Nolen and Lts. Merrill and Jeffreys.

The departure of Capt. Girardin S. O'Sullivan from this station left us temporarily without a medical officer. We are going to miss Doc's kind words and soothing ministrations. Capt. O'Sullivan will soon begin a fellowship in psychiatry at the Menninger Foundation in Topeka, Kansas.

.....

The main topic of conversation at Two Rock these days, as we suppose it is everywhere, is the latest discharge criteria. We'd better bend our efforts toward getting some of our men to enlist in the Regular Army or Two Rock will be as empty as last year's bird's nest. Lt. Dingman, the recruiting officer, and his assistants, 1st Sgt. Morgan, M. Sgt. Camp and M. Sgt. Arndt, are expending considerable effort toward that end.

.....

Two Rock's observance of Army Day and Army Week shaped up nicely. Arrangements were

made with the Petaluma Argus-Courier to run articles about the Army as a whole and personal articles about the officers and enlisted men at the Post theater, sponsored by the Special Services officer. Another dance was planned by the American Legion in Petaluma with free admission granted to service men.

.....

We hear that Station 7 had about a month of cold weather. We even hear something about thirty days in a row with temperatures of more than fifty degrees below zero. Capt. Nolen must be happy that he's here instead of there.

Tec 3 Frank T. Addicks is learning to fly. Maybe he wants to learn to be one of those throttle jockeys like used to wear them "fifth Mission caps". The other day he said, "Wonder how come the clouds were in the wrong place today."

Neatest trick of the week: Compton climbs a 90-foot pole while keeping both feet on the ground. We knew he had long legs, but...

- WJG Robert L. Fulton

Willis Ryan's

DR. CRYPPY



"What I'd like to know is, why hasn't anything been done about those atmospheric at Station Seven?"

cryptopuzzles

Know Your ICR Net?

Each of the following sentences contains the hidden name of a city or town having a prominent commercial radiotelegraph station. From the example given in the first sentence, can you solve the others? For the answers, turn to page 30.

1. This mural is bona fide Dali.
2. He'd do anything for a battle star!
3. Come here, Ma, 'cause I need you!
4. Sure -- I saw Bob as I left the Conga Room.
5. No kidding! Date her and see for yourself!
6. Except to an Asiatic, a yen never was legal tender.
7. Wonder what Nero meant by fiddling?
8. Go slow around the corner.

9. Uses of iambic pentameter are limited.
10. Sorry, but you can't. Only adults are allowed.
11. Shall I make out the check to "Cash"?
12. I don't like his caustic air of bitterness.
13. As an aftermath, Ensign Johnson flunked math.
14. It's our only hope; I pin great faith on human nature.

(By R. S. Benjamin)

Cryptarithms

In this long-division cryptarithm, each letter has been substituted for a certain single digit. The problem is to determine the digit equivalents of the letters. The substitution is based on a key-word or -words such as

BLACKHORSE

1 2 3 4 5 6 7 8 9 0

except that in the one below, the key runs from 0 through 9 instead of 1 through 0. It's a two-word key, and it's tricky.

```

ORA / QNIUURT / NAQS
QOTM
RAAU
RIAM
AIAR
ROQU
MTOT
MUIT
AOI
    
```

(By Norman Dillinger)

This one, too, is long-division but a little more difficult. Each x can represent any one of the ten digits. One digit in the result of the division is given.

```

  x x x / x x x x x x x / x 7 x x x
    x x x
    x x x
    x x x x
    x x x
    x x x x
    x x x x
    0 0 0 0
    
```

(Contributed by C. A. Latham Jr.)

Cryptarithm solutions will be given in the next issue.

Radioman's Crossword

1	2	3	4	5	6	7	8	9	10	11	12	13
14				15				16				
17				18			19			20		
21				22			23				24	
			25		26		27			28	29	
30	31	32		33		34			35			
36					37			38			39	40
41			42	43				44				
45							46				47	
		48				49			50		51	
52	53				54			55		56		
57				58				59		60	61	62
63		64		65				66	67		68	
69			70			71				72		
73						74					75	

- 55 The Sack
- 57 Transmitting
- 58 All in line
- 59 The radio term that spells the same backward as forward
- 63 Furnished with current
- 65 Remake a coil
- 68 "No more for you" (Jap Army)
- 69 Goddess of peace
- 71 Puzzlemaker's favorite lake
- 72 Shoots a standard score
- 73 African mountain range
- 74 Obligation
- 75 Slit

VERTICAL

- 1 A method of antenna suspension
- 2 Individual entry
- 3 Grant a loan
- 4 Direct
- 5 Old name for ASA
- 6 Day's work for an intercept operator (abbr.)
- 7 Not monitored
- 8 A kind of emergency power equipment
- 9 None
- 10 The new world order
- 11 1/1000
- 12 Mix
- 13 Gives an impression
- 19 Teheran call sign
- 22 Pinch
- 26 Orients an emission
- 28 Tart
- 29 Fatigues
- 30 Schools of thought
- 31 Biblical "you"
- 32 Emission
- 34 Public notices
- 35 Man's name
- 38 Consolidates
- 39 South African antelopes
- 40 Non-coms
- 42 European station
- 43 Prosign Scandinavian capital
- 44 A National receiver
- 46 Antenna
- 49 Packed
- 50 Swiss river
- 52 European station
- 53 Lifeless
- 54 Society of Radio Engineers (abbr.)
- 56 Suppresses
- 58 War god
- 60 Send identical signals on two frequencies
- 61 Combining form: African
- 62 Oxidize
- 64 Prosign: turn over to addressee
- 66 Penpoint
- 67 Receiver stage (abbr.)
- 70 Continent (abbr.)

(By E. C. Fisher)

HORIZONTAL

- 1 1,000
- 5 Binding post
- 9 Deadens
- 14 Brain passage
- 15 Spanish African colony
- 16 Like an old woman
- 17 Stand watch
- 18 German admiral who lost an RI battle (Jutland)
- 20 Dr. De Forest
- 21 Where the British cut the German cables (1914)
- 23 Catch sight of
- 24 "Nothing more for you"
- 25 Bony rod
- 27 The U.S. overseas army of World War I.
- 28 Prosign: message destination
- 30 Possessive
- 33 Where the recent unpleasantness started
- 35 An antenna de-insulator
- 36 --- (kata-kana)
- 37 Supplement
- 38 Twists
- 41 Lots of resistance
- 44 What precedes the preamble?
- 45 Feels
- 46 Prosign: circuit number
- 47 Cur (var.)
- 48 Entirety
- 49 Czech munitions works
- 51 "Government message coming"
- 52 Grain storer
- 54 Pigeon

Solution on page 39.

Old Wine, New Bottle

REMEMBER your days as a neophyte crypt student, when you toiled many hours making frequency counts and hunting word-repeats? When your instructor (a PFC) threatened you with permanent KP because the GI letters you printed weren't GI enough? When you lived in fear that you might emulate the fellow across the room who had been on the same problem for seven months and hadn't found the plain-text yet?

Well, to coin a cliché, those days of yore we know no more. There is a New Era in cryptanalytic instruction. True, the student still has to print so that someone else can read it. He still has to solve the problems himself. And the Army still has such a thing as KP. But though it's the same old crypt (and the same old Army), there have been a few changes in the courses. For instance:

Much of the time-consuming spade-work is done in advance for the student. He is furnished with frequency counts, statistical tests, lists of repeats, and other such data, in order that he will be able to concentrate on the solution itself.

He is given some of the mechanical aids that he would have in actual cryptanalytic operations - principally IBM sorts.

He also has the benefit of hints as to the subject matter of a cryptogram, words which might be cribbed into the text, and other collateral information which might be available in tactical operations. There is a problem-to-problem continuity of subject matter in the plain-texts of the messages offering an entering wedge for this kind of deduction.

Faster, Not Easier

The purpose of this plan is to make the problems more practical (or less theoretical) and to enable the student to get farther in less time. However, the actual reasoning leading to solution is not made easier, nor are hand methods on the part of the student entirely eliminated. Enough work of this kind is left to produce the required degree of "inside" familiarity with the problems.

This redesigning of the Agency's crypt-

analytic curriculum has covered Crypt-analysis 1 and 2. "Crypts" 3, 4 and 5 are now going through the revision process.

The cryptanalytic courses are only one part of the program of the ASA Extension School. All other aspects of the Agency's

In order to receive ASA Extension School subcourses,

1. If you are in the Army and are at Arlington Hall, write out a request and put it in any "out"-box, addressed to the Extension Training Division, ASA School.

2. If you are in the Army elsewhere, write a letter to the Chief, Army Security Agency, Washington 25, D.C., attention Extension Training Division, ASA School. This, too, must be sent through your commanding officer.

3. If you are a member of the Organized Reserve or the National Guard not on active duty, write to the above address through the ORC instructor in the state of your legal residence. This is for record purposes; records of your credits will also be kept by ASA.

4. If you are a civilian employee of the War Department and not a reservist, write out a request and give it to your supervisor. Some supervisors at ASA are authorized to forward it directly to the Extension Training Division; in other branches, it must follow channels.

operations are covered equally thoroughly. In the analytic field, there is traffic-analysis as well as cryptanalysis; and there are three other fields: Communications Security (U.S. cryptographic systems and their uses); Radio Intelligence (including intercept); and Materiel and Administration.

The curriculum is designed for the correspondence work to be done by members of the Organized Reserve and the National Guard. However, the courses are also available to persons on active duty in the Army and to civilian employees of the War Department whose duties are concerned with the subjects covered in the courses.

The curriculum in each of the four fields of ASA activity is divided into series, each appropriate to a certain grade.

Each series includes "concurrent military training" courses in addition to the technical courses. The "50" and "60" series, being devoted largely to studies of worldwide signal-intelligence planning, capabilities of ASA units, etc., include Command and Staff College subcourses as part of the military subjects.

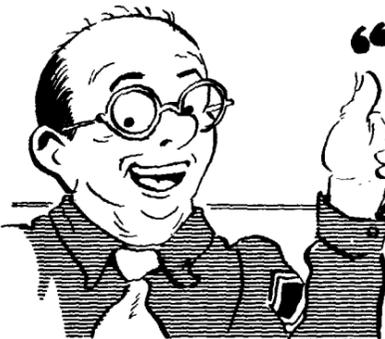
Hours, Not Months

Remember the fellow who hit the seven-month impasse on a cryptanalysis problem? That sort of thing is still possible, but the courses are not designed to take any amount of time comparable to that. Individual cryptanalysis courses are aimed at 30 to 50 hours' working time - and Peter M. Bosco, director of the Extension School, tries to make the estimated time for each problem represent the average rather than the ideal. Each series of courses totals between 250 and 300 hours' working time.

Preparation of new subcourses is the responsibility of the Extension Training Division's Technical Publications Staff. Capt. Lambros D. Callimahos of WDGAS-14 is writing the cryptanalysis subcourses and Stephen L. Wolf, WDGAS-90, is the author of the traffic-analysis material. Radio intelligence is covered by Capt. John P. Shean, AS-22. In communications security, courses in cryptography have been prepared by Herbert C. Hackbarth, AS-83; distribution and accounting by Thomas R. Chittenden, AS-81; friendly-traffic security analysis by the Protective Branch (WDGAS-84); and other subjects by Warren F. Beck, AS-83, and Robert E. Sturgis, AS-82. The Materiel and Administration courses are the work of various sections of the ASA staff: Organization and Training (WDGAS-22); Plans and Operations (WDGAS-23), and Materiel (WDGAS-24).



"In the case of failure of a transmitting operator to use authorized procedure, the receiving operator should bear with him to the maximum possible extent in the interest of completing the exchange of traffic. If the violations of procedure are so severe as to prevent the taking of intelligible message copy, the receiving operator may interrupt the transmission as he sees fit."



"Now here's how our outfit won the war"

John Victor, now a civilian in the teletype center at Arlington Hall, did a spell during the war at old Station 6, that favorite ASA spot on Amchitka, and has the following things to say about his overseas experiences. ASA Review invites its readers to send in similar reminiscences of their wartime service, whether it consisted of battling the traffic on Constitution Avenue or enjoying the peace and quiet of a South Pacific foxhole.

Alaska (?) - Bound

"So I'm going to Alaska," I thought as I hung over the rail and emptied my stomach for the third time. This was indeed a very serious business, and truly I was not prepared mentally for such a dangerous undertaking. Fortunately the War Department, which had charted my course, knew this and met the emergency with a publication entitled "WAR- $\frac{1}{2}$ minus Section 8", or subtitled simply "Alaska-Bound". Captain James Worthington James, the author, wrote of the trials and tribulations of the great Northwest, having lived there for five years before moving to the Southeast (across the river from Alexandria).

Having such a handy reference was a boon. On page one, for instance, were four helpful hints under the heading "What to Do on the Boat". (1) Don't discuss the trip with anyone. (2) Don't take off your shoes. (3) No smoking in the lifeboats. (4) Turn off the lights when not in use. The rest of the chapter dealt with the cultural benefits to be derived from the voyage, comparing the advantages of making a seven with educated cubes against the disadvantages of swimming back to the Port of Embarkation.

Chapter Two, entitled "Disembarking," was designed to assist the soldiers in leaving the ship in an orderly and military manner (1) to impress the Navy (2) to facilitate assignment to igloos. "All personnel," it said, "will line up on the starboard side of the transport, arrange themselves in alphabetical order, and march down the gangplank in columns of two." When the day for disembarkation arrived, we all went to the starboard side, lined up in alphabetical order, and swam to shore shortly after

the boat capsized.

Chapter Three, "Native Habits and Customs," was written to give the military a better understanding of the inhabitants of the Alaskan Territory. It classified the customs and habits in three separate groups: work, living, and spiritual. Work habits were the same as in the States, except that the night shift lasted six months. Living customs were very much like back home, although servicemen were cautioned against the use of expressions such as "You call this living?" Spiritual customs were the same except that the federal excise tax had been removed.

Chapters Four and Five went on to extol the wonders of the Territory: the magnificent forests, the impressive mountain peaks, the clean white snow and the outside plumbing.

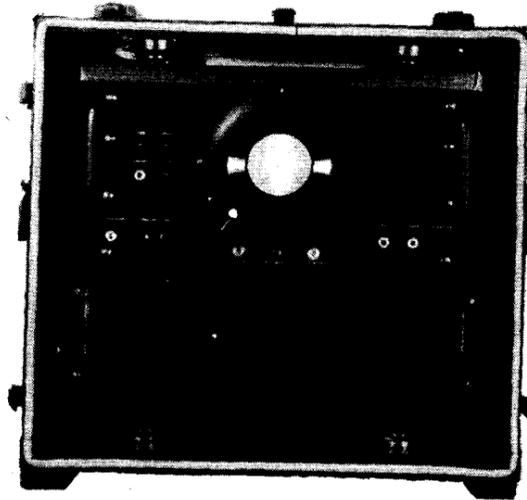
The last chapter was the best of all. Briefly it summed up the distinct advantages the G.I. had in being stationed in Alaska. Special emphasis was placed on "that outdoor complexion," the lack of jungle fever, and writing left-handed. The last feature was presumed to be naturally acquired after a combination of walking past too many officers, frostbite, and amputation had taken place.

WAR- $\frac{1}{2}$ minus Section 8 was a great help to me. The only complaint I had was that it didn't contain a copy of my orders. For when I got off the boat I discovered that Alaska was only 900 short miles from the island I was on.

- John Victor

ASA Review

New Intercept Equipment



LEFT: Front view of the BC-1338, showing controls and alidade.
RIGHT: Rear view, showing receptacles.

A major improvement in direction-finding equipment, in the form of an electronic bearing-indicator, is in the final stages of development and is expected to be ready for issuance to Army Security Agency D/F units within the next few months.

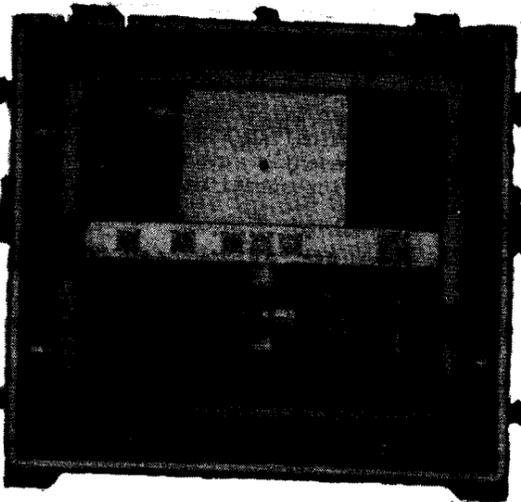
The indicator, known as BC-1338-(), embodies an electronic goniometer in place of the motor-driven goniometer of the D/F equipment now in use. It produces on an oscilloscope screen a visual indication of the azimuth of an incoming signal.

The indicator itself is a five-inch cathode-ray tube and its associated circuit components. Its readings are continuous and automatic with simultaneous monitoring of the received signal for c.w., modulated c.w., or keyed c.w. signals.

The new device can convert any receiver into a direction-finder with only minor modifications to the input circuit plus the addition of an appropriate antenna -- cross-loop or cross-U Adcock.

Advantages of the BC-1338-() over the mechanical-gun indicator (BC-1159-A) normally used with the SCR-291 are:

A signal pattern that is more easily read, especially for weak signals;



A split pattern useful in evaluating certain types of signals;
Compactness and lightness (25 to 30 pounds as compared to 300);
Less difficulty in maintenance.

When the electronic bearing-indicator becomes available, it will be issued to present holders of SCR-291 and SCR-502 D/F equipment. It is a development of the Signal Corps Engineering Laboratories, where it is undergoing final tests. Its performance was given a thorough tryout under field conditions during the 60th Signal Service Company's participation in the Sixth Army maneuvers in California last November. An SCEEL engineer was on the scene throughout the maneuvers to work with the 60th's D/F units.

Another new piece of equipment in the D/F field is a loop-antenna kit. Because of the adaptability of loop antennas to reception of ground-waves, the new kit will be of chief interest to RI companies rather than fixed long-range D/F stations.

Recently authorized for use at all Army Security Agency stations is a new fre-

quency converter, Boehme No. 5-C. The date when the first units will be issued is not yet known.

The new converter is rack-mounted on one panel. Its cost will be approximately \$800 per unit, about one-tenth the cost of the equipment it will replace, namely the Dual Diversity Converter CV-31/TRA-7 and the Radioteletype Terminal AN/FGC-1. The CV-31/TRA-7 is presently authorized and the AN-FGC-1 is its substitute.

Solution to ICR Puzzle

- | | |
|--------------------------|-------------|
| 1. Lisbon | 8. Oslo |
| 2. Rabat | 9. Sofia |
| 3. Macau | 10. Canton |
| 4. Basile (Fernando Poo) | 11. Lima |
| 5. Teheran | 12. Cairo |
| 6. Cayenne | 13. Athens |
| 7. Rome | 14. Peiping |

Traffic Note: MS-7 Intercepts Yukon Cage Crown

Monitor Station 7's basketball team, 1946-47 champion of the Yukon Territory, is pictured below. The members are:

Sitting, front -- Sgt. Fred Gladstone, captain and all-Department guard.

Sitting, left to right -- Cpl. Walley Durflinger, forward; Cpl. Ned Procknow, guard; Cpl. Sonny Spontak, guard; Sgt. Sid Weissner, all-Department forward; PFC Voy Althouse, guard.

Standing, left to right -- Capt. Joseph B. Mathis, team manager; Cpl. Paul Brantley, center; Cpl. Don Swavley, center; Sgt. Mark Wolfson, forward.

The Station 7 cagers, undefeated in 37 games, were the only team in the territory with a spotless record. Their closest call to defeat came in the season finale, when they were pushed to take a 42-41 decision from Headquarters Battery of the Ninth Field Artillery Observation Battalion.



ASA Review

-- BOOKS in REVIEW --

Secret Missions

By Rear Admiral Ellis M. Zacharias, USN (Ret.). G. P. Putnam's Sons, New York, 1946; 433 pp.; \$3.75. Available in WDGAS-95 Library.

Following every war, sometimes directly, sometimes at a discreet distance, have come a group of books that, for lack of a better name, may be called the "Now It Can Be Told" series. These include the formal "memoirs" that statesmen are so fond of, the "action stories" of field soldiers, and interpretive dissertations of those who are convinced that we could have done it better.

"Secret Missions" belongs in all three categories. Admiral Zacharias tells many stories of his early experience with the Japanese that can only be called memoirs; there is plenty of action, some of it of the type that Hollywood could and, perhaps, may use; and the Admiral is certainly convinced that we could have done it better, especially in the organization of our intelligence structure before the war.

The author is one of the few service officers who regarded his permanent career as being in intelligence work. From his early days as a language officer in Japan to his last major assignment in charge of the psychological assault on the Japanese will to war, he seems to have looked upon himself as a committee of one to thwart Japanese aggressive intent. Nor was his one-man campaign always supported by the Navy Department. Bureaucratic routine and self-satisfied complacency come in for quite a shellacking, and the Admiral casts many aspersions at a few of his colleagues, some of them not too well concealed.

The very real contribution that Zacharias made to American intelligence during his period of active service, and the continuing contribution he is making now by calling public attention to the need for centralized control of our intelligence agencies, will more than compensate, in this writer's opinion, for some of the flaws in his make-up that the book reveals.

At a recent lecture, attended by this writer, the Admiral read to the audience an excerpt from a review of the book by a metropolitan paper. The reviewer stated

that the book was devoted entirely to the exploits of Captain Zacharias, an officer for whom its author has unbounded admiration. There is an element of truth in this. That part of the work that deals with the author's experiences with Japanese naval intelligence is written in a cops-and-robbers vein, complete with mysterious Japs appearing at the naval attache's office in Tokyo to sell harbor plans and equally mysterious agents posing as barbers in Panama, suspiciously near the Canal. In justification for all this was a remark the author made to this writer at the lecture mentioned above. He said that when people come to hear a lecturer speak on any subject they expect to be entertained. The same might be said of a book put out for the general public, and indeed there is entertainment in this book.

There is more, however, and despite the flamboyant style, it would be unwise for the serious student of intelligence to disregard it as being merely the self-glorification of a vain man. Admiral Zacharias spent 25 years as an intelligence officer. He was among the first men in the Navy to become proficient in the Japanese language, and was frequently used when the United States required an officer highly qualified in that difficult tongue. He came into contact with more Japanese, particularly Navy men, than almost any other American in the period between the two wars, and unlike most career officers, he did not regard his intelligence activities as being mere interludes between periods of sea duty.

All of this background gives an authentic ring, even to such far-fetched incidents as seeing a poorly dressed Japanese on the street in Panama, and recognizing something about the man that made him sure the Jap was a naval officer in mufti. Zacharias knew a great deal about the Japanese.

Of particular concern to a group professionally interested in intelligence was the question of how much information an author can put into his book without breach-

ing security. Zacharias was aware of this problem, and also knew that he had been criticized in Navy Department circles for printing the book in the first place. One of the first statements in his lecture was that he recalled the damage done by the Yardley book "The American Black Chamber"; that he had had twenty-five years in the business, and that he might be trusted to know what could and what could not be safely printed. This writer believes he has maintained such discretion throughout.

There are some parts, such as those dealing with his assignment to the Navy cryptographic section in 1926, which might have been deleted had not the Pearl Harbor investigation first published far more of such activities than Zacharias ever dreamed of doing. Such parts as do deal with classified activities are colorful but not revealing. Indeed, when the author refers to those persons "with a passion for anonymity" and compares them to "Trappist Monks" in their "silent devotion to duty," he may have been a bit too colorful.

The author's connection with the Pearl Harbor disaster and the ensuing investigations was more newsworthy than important, and he devotes comparatively little space to it. He was at sea in command of the cruiser Salt Lake City at the time the Japanese attacked, and was not connected with naval intelligence in any formal way at all. He had had an interview with Admiral Kimmel, the Commander-in-Chief of the Pacific Fleet, some time before the attack, at which he warned the latter that, from his knowledge of the Japs, he expected them to attack the fleet, wherever it was, and that the attack would come on a weekend, the low point in the American week. A story had gotten a-

round Washington that Zacharias had actually predicted the exact date and time of the attack several months before it occurred, and that Kimmel had ignored his warning completely. Admiral Kimmel testified that he recalled the Zacharias interview only vaguely, and denied that he had received a specific prediction of doom at a given date.

Zacharias' testimony was largely a reconstruction of that interview, a denial that he had predicted an exact date for the attack, and an extensive exhibit outlining his ideas for a consolidated and centralized intelligence system. Some of the ideas in his exhibit were later incorporated in the Congressional Report, i.e. his concept of a professional intelligence system, as opposed to the way it had been conducted before the war.

There is nothing in this book that was not already public knowledge when the book was published, except for the personal reminiscences of the author, and these are quite innocuous. By the same token, the book must be regarded only as a primer in intelligence, and not a post-graduate thesis. It was slanted at a mass public, not at the specialist, but it is the work of a devoted man. Just how devoted may be gathered by this little story culled from the early pages. The author had just met the lady whom he later married, and while eating dinner with her aboard an American warship at Panama, discovered himself in love with her. Sitting there with his newly beloved, he tenderly discussed... the chances of a successful aerial attack on the Canal locks. Brother, that is devotion.

- Lt. Robert H. Bar

The Future of American Secret Intelligence

By George S. Pettee. The Infantry Journal Press, Washington, 1946; 120 pp.; \$1.50. Available in WDGAS-95 Library.

This monograph is an expression of opinion by Professor Pettee on the need for continuing the wartime intelligence activities undertaken by various branches of the government in a central intelligence agency. Pettee, a member of the Department of Political Science at Amherst College, emphasizes the need for a central intelligence authority and goes into considerable detail in discussing the wartime experiences of the various agencies engaged in collecting eco-

omic, geographic, political, scientific and related information. He does not refer to having been engaged personally in any of the war agencies. (His acknowledgements mention "younger colleagues" who were members of the Office of Strategic Services (OSS) and the Foreign Economic Administration (FEA).) It seems reasonable to infer, therefore, that his book represents the viewpoint of a "layman", and it is accordingly of some interest as an indication of

public appreciation of the continuing need for coordinated intelligence.

Communications intelligence is mentioned only in connection with Pearl Harbor, where the process known as "Magic" is cited as one of the sources of pre-attack information. Although both Pearl Harbor and the Battle of the Bulge are cited as examples of failure in evaluation, the excellence of the basic information reported by the military and naval services is stressed. Actually both MIS (Military Intelligence Service) and ONI (Office of Naval Intelligence) are mentioned only in passing as two units in the complex of agencies, boards, committees and other groups functioning during the war.

Under the heading "The Faults and Errors of Strategic Intelligence in the War" (chapter 1) an impressive but by no means exhaustive list of errors, omissions, and mistakes in judgment is presented. These are adduced as examples of what was wrong

with the intelligence effort. The theme of the book is that our wartime errors were due to lack of experience in directing the intelligence-producing processes and to the growing-pains of the unprecedented expansion. Pettee holds that the main problem facing us in the future is administrative, that "research processes are by nature as susceptible to the arts of management as any other human activity." In his review of the problems and requirements in administration and organization (chapters 3, 4, 5 and 7), the individual reader will find many striking parallels with the history of Army Security Agency. The strictures passed by Pettee on the difficulties in recruiting and placing personnel under civil service are especially familiar themes.

Pettee presents a sound argument for the creation of a permanent central intelligence authority, and for this reason it is to be hoped that his book will receive a wide distribution.

THE OLD-TIMER by Bob Benjamin



"But I've been trying to tell you — I was a ham actor!"

Although Pettee himself points out that there is no guaranteed method for discovering persons with a flair for intelligence work, he leans strongly upon practitioners of his own profession, namely political scientists with sound training in social science procedures, as best qualified. This very training, in this reviewer's opinion, is inherently dangerous for intelligence work. I am willing to grant that social scientists are well-trained in amassing vast amounts of material of an economic- or political-tendency nature, but their training is almost invariably in drawing general conclusions based on the weight of available evidence. In intelligence evaluation the ability to isolate a single item, often contradictory or unconnected to the trend of all other information, may be crucial. Persons possessing this flair will be found in no specific category or walk of life and can be given no guaranteed course of instruction. Of course, some social scientists in general are necessary to prepare and digest the preliminary data for final evaluation.

The qualifications for the workers in the central agency itself and the definition of its mission are not the same as those of the subordinate operating agencies and have not been covered adequately by Mr. Pettee.

Pettee believes that the central intelligence authority should be mainly concerned with determining the form and establishing the doctrine, terms and methodology of the information to be developed by the subordinate agencies. This again raises one of the dangers of the social sciences. Many readers will be familiar with the considerable mumbo-jumbo of definitions, terms, phrases, standard tests, etc., devised by the social sciences in connection with Education. (This is perhaps an unfair comparison, as to my knowledge no one has suggested that "Educasters" would be the ideal nucleus for an intelligence agency.) In Education the methods and definitions become an end in themselves and often stultify any progress.

The Strange Alliance

(The Story of Our Efforts at Wartime Cooperation With Russia), by Maj. Gen. John R. Deane. Viking Press, New York, 1946; 344 pp.; \$3.75. Available in WDGAS-95 Library.

A great many books have been written about Russia in the past few years. Most of them are by correspondents and observers who have visited Russia, lived among Russians, and talked to Russians. Few are by men who have worked with Russians -- particularly with top-echelon Russians.

General Deane served as secretary to the Joint Chiefs of Staff until 1943, when he was appointed head of the U.S. Military Mission in Moscow. He remained in this post through the days of Lend-Lease, the Teheran and Yalta Conferences, the German surrender, and finally the Japanese surrender. In The Strange Alliance, he tells the story of the mission, its problems, successes and failures, combining a well-documented account of high historical importance with a study in Russian relations and Russian psychology.

The style is straightforward and unembellished, and the book has the ring of factual experience. But it is not a "dry" book, for the material is interestingly presented and General Deane is not without a sense of humor. The book is divided into four parts, each treating a different

Too much emphasis on terminology and forms could be a serious danger to developing an intelligence authority.

In fairness to Pettee, a distinction must be emphasized between the general information services with which he is concerned (such as economic surveys, studies based on the foreign press and foreign broadcasting, dispatches of American correspondents abroad, and the like) and the military and naval intelligence activities which are generally of a much higher classification. The actual processes of intelligence work in these two fields are widely different. Furthermore, the problem of security, which Pettee does not discuss, is paramount in military intelligence but of relatively little importance in the other type of information-gathering. Despite these shortcomings, Pettee's book is a valuable contribution to any discussion of the problem of a central intelligence authority.

-- Thomas A. Miller

phase of the liaison effort. The first covers General Deane's introduction to Russia (including some of its more venerable institutions, such as vodka and the NKVD) and the problems of Lend-Lease. Part Two tells of the coordination (in most instances, attempted) of the air and land operations between the western Allies and Russia; the German surrender, and the frustrating difficulties of repatriating Allied prisoners-of-war. This part, however, ends with a ray of sunshine breaking through the clouds, in a chapter called "It Was Not All Bad." The Yalta and Potsdam Conferences and the entrance of Russia into the Pacific war form the third part. The last part is titled "Can We Get Along With Russia?"

General Deane presents the history of the liaison effort from the inside. His observations on the Soviet Government, character, and people are those of a trained mind and are based on an experience of over two years with the men who rule Russia. His book is required reading for anyone desiring a fuller understanding of Russia and the Russians.

- Stephen L. Wolf

ASA Review

Surreptitious Entry

By Willis DeVere George. D. Appleton-Century Company, New York, 1946; 214 pp.; \$2.50. Available in WDGAS-95 Library.

As a commentary of interest to persons in intelligence work, these reminiscences of a former agent for the Treasury Department, congressional investigations, Office of Naval Intelligence, and Office of Strategic Services contain very little worthwhile information. Nevertheless, they are more interesting than the average spy thriller, and they are based -- at least purportedly -- on fact.

The book opens in a manner reminiscent of a hard-boiled detective story with the hero (equal author) temporarily stranded in Cuba. There he is selected (for reasons unclear, as no qualifications for the job have been shown for him) by a Treasury Department under-cover man who is attempting to break up a ring smuggling Cuban alcohol into the United States. This is done by a liberal mixture of dynamite, the third-degree, and a beautiful and mysterious woman assistant. In rapid succession a ring of counterfeiters is exposed (in rivalry with the Secret Service), the notorious Alvin Barkis, Public Enemy Number 1, is found for the FBI, a Cuban dope ring is smashed, and an attempt by a Cuban revolutionary movement to kidnap Irene DePont is foiled. Through it all the author moves in amicable relations and considerable cooperation with the Cuban Security Police, an organization which, it will be recalled, has not won praise for its respect for civil liberties. Nevertheless, the Cuban episode alone should bring Hollywood in full cry, the fact that there is a close resemblance to past "B" movies certainly being no deterrent.

The heart of the story concerns the author's work for the Office of Naval Intelligence, chiefly in New York City and Chicago, although there is one of the standard reminiscences about Washington red-tape, building-guards and identification procedures. A new wrinkle has the author get lost in the Navy Department rather than in the Pentagon.

For ONI the author, so he purports, de-

veloped to a high skill the art of "surreptitious entry". This involves entering a suspected office or home, picking the lock of any safe or cabinet, opening sealed packages, microfilming all interesting documents, and departing with all trace of examination of documents and visit to the room or building removed. The actual techniques employed and the evidence of careful training in precise teamwork are very interesting. The first few pages of the book whet the reader's interest with the description of a particularly careful (and successful) operation in Chicago against a suspected Nazi agent.

Through the acquaintance of a suspect with a former "colonel in a central European intelligence organization in World War I" an extensive spy ring was uncovered. Among the documents photographed "surreptitiously" were the plans for the invasion of Sicily two weeks before it started. The photographing of the codes and papers in the consulate safe of a "pro-Axis" neutral is also described.

After the Cuban exploits and the ONI operations of the author, his services with the Office of Strategic Services are anticlimactic. After taking the training course for OSS agents (recently pictured in "13 Rue Madeleine") he took the job of training OSS operatives in the techniques of lock-picking and package-opening. Finally he got to London and from there to the Continent. However, after a parachute landing behind the German lines and a surreptitious entry, the "Gestapo safe in Cologne" and various vaults containing German industrial and Nazi Party secrets were not opened by any of the lock-picking tools carried in a 35-pound pack. Instead, their locks were blown out with the latest high explosives after the respective targets were overrun by General Bradley's 12th Army Group, to which the author was attached.

The shadowing of ONI and FBI operatives

by each other is amusing and there are several other examples of a lack of coordination between these agencies. Highly to Mr. George's credit, however, is his caution in withholding specific names and dates. His

book loses nothing in interest from this restraint and compares favorably with some of the more revealing memoirs which have recently appeared.

-- Thomas A. Miller

ASA Library Accessions

The following is a partial list of books recently added to the WDGAS-95 Library, Room 1507 "B" Building. For complete lists see the accession notices periodically circulated by the Library to all Arlington Hall operations units.

Almanacs, Yearbooks and Directories

World Almanac, 1947.	AY42	Roethlisberger, F.J. - Management and the Worker. 1939.	T58
Information Please Almanac, 1947, edited by John Kieran.	AY64	<u>Religion and Ethics</u>	
South American Handbook, 1946.	F2204	Hastings, James - Encyclopedia of Religion and Ethics. 12v.	BL31
Economic Almanac for 1946-1947.	HA42	Dictionary of American Hierarchy. 1940.	BX4670
Canada Yearbook, 1946.	HA742		
Patterson's American Educational Directory, 1946.	I901	<u>Who's Who</u>	

Bibliography

Galland, Joseph S. - Bibliography of the Literature of Cryptology. 1945.	Z5705	International Blue Book (World Notables), 1946.	CT120
Ulrich's Periodicals Directory. 1946.	Z6947	Who's Who in Labor, 1946.	HD8073
Scientific, Medical and Technical Books Published in the United States. 1946.	Z7401	American Men of Science, 1944.	QL41

Literature

Platz, Mabel, compiler - Anthology of Public Speeches. 1940.	PN6122	<u>World Affairs</u>	
Churchill, Winston - Secret Session Speeches. 1946.	FR1329	Sumner, B.H. - Short History of Russia. 1943.	DK41
Hart, James D. - Oxford Companion to American Literature. 1941.	PS21	Zacharias, Ellis M. - Secret Missions. 1946.	D810.S7

Personnel

Johnson, F.H. - Job Evaluation.	T58	Fisher, A.G.B. - International Implications of Full Employment in Great Britain. 1946.	HD5767
Mosher and Kingsley - Public Personnel Administration. 1941.	T58	Beukema, H. - Contemporary Foreign Governments (U.S. Military Academy, West Point, Dept. of Economics, Government and History). 1946.	JF201
		Ogg, Frederick A. - European Governments and Politics. 1939.	JF51
		Myers, Denys P. - Handbook of the League of Nations. 1935.	JX1975
		Ranshofen-Wertheimer, E. - The International Secretariat, 1945.	JX1975

WITH ASA HAMS...

Arlington Hall Takes to the Air

The roof of Headquarters Building at Arlington Hall is sprouting antennas which will carry the signals of W4LOI, the new amateur station of the A.H. Radio Club.

Installation of power wiring has been delaying the completion of equipment construction. Operation is contemplated on 10, 20, 40 and 80 meters with one or more BC-610's and two "liberated" German transmitters. At least one of the rigs will have a kilowatt at its disposal.

The club intends to establish contacts with amateur stations operated by ASA men overseas and to maintain traffic schedules for handling third-party messages between the United States and overseas areas. In order to accomplish the former objective, the club is collecting schedule and frequency information from stations in the field and compiling a master schedule. W4LOI's normal operation will be from 1400Z to 0300Z Saturdays and Sundays and from 2130Z to 0300Z on other days. Both variable-frequency and crystal-controlled oscillators will be used.

Security regulations for operation of the A.H. station include a requirement that there be no mention of ASA or ASA activities on the air, either in voice or code.

Officers of the club are: President, Maj. George M. Sayre, W5ZU; secretary-treasurer, Frank Mitchell Jr., W5IIB; chief operator, Mitford M. Mathews, W4LFU; property officer, Lt. Wayne B. Palioca.

Hamming in the Far East

Amateur station J2VFW has been installed and is in operation at Tokyo Arsenal using the license of Colonel Samuel P. Collins, W8VFW, chief of ASA Pacific. The installation work was performed by Major Terry, who does most of the phone operation. Considerable interest has been shown by those who have talked to families and friends at home.

Other ASA amateur stations in the Pacific are J3GNX, Captain Tiffany, Kyoto; J9AAW, Lieutenant Day, Okinawa, and KALAW, Captain Openshaw, San Miguel, Luzon.

"CQ 10-Meter Phone"

W6YII (Young Innocent Ida) took to the air last November under the somewhat nervous but careful guidance of M. Sgt. Ralph P. Rushing of the 3rd Radio Security Section, 136th Radio Security Detachment, at Daly City, Calif. Although he opened shop (or is it "shack"?) on 40 meters, 10-meter phone is now Rushing's pet.

Using a John Meck Industries transmitter, which employs a 6L6G regenerative oscillator circuit and a pair of 6L6G's in push-push (sic) in the final, Rushing has a power input varying as per frequency from 50 to 65 watts. This powerful little 50-wattter feeds a borrowed Army rhombic atop 90-foot masts, with 400 feet of wire per leg beamed at 70 degrees 10 minutes east of north, cutting through Washington, D.C., and South Africa to the east and Hawaii and New Zealand to the west. The antenna is fed from both ends with 600-ohm feeders running into the transmitter shack. A 600-ohm resistor is connected across the feeders not in use, making the antenna unidirectional. Tests were made and a gain of 14 to 18 decibels was noted when antenna feeders were so arranged as to make it unidirectional toward the station worked.

Sergeant Rushing is well on his way to getting a WAS (Worked All States) certificate, having 26 to his credit thus far plus a collection of New Zealand, Bermuda, Hawaii, South Africa and Australia contacts. With present plans calling for the installation of a north-south "Lazy H" (six half-waves in phase) antenna, hopes are high for future contacts with Alaska, Central and South America, and the Far East.

Valentine's Day found Capt. James L. Warbington, the 3rd's Charlie Oboe, and Sgt. Lawrence C. Tate slaving over the old ham exam at the San Francisco FCC office. The code test was a breeze for both but the written exam was something else. The captain received a Mickey Finn in that his set of questions included seven diagrams to be drawn, captioned and explained. He definitely is no artist, he says, and feels that the FCC conspired to keep him off the air.

- 2nd Lt. Robert T. Ellis

ASA: A Service With Its Own Reserve

WITH THE ESTABLISHMENT of the Army Security Section in the Organized Reserve, specialists in the various fields of ASA activity now have their own reserve unit. Many of them are transferring to it from other reserve sections, principally the Military Intelligence Reserve and the Signal Reserve.

Qualified persons who have served at least one year in these activities of the Army are being encouraged to apply for transfer. Both officer and enlisted reserve sections have been set up.

Persons with the following military occupational specialties or those who have served at least one year in signal intelligence or communication security activities will be considered for transfer to the Army Security Reserve.

Officer

- 0225 - radio intelligence officer
- 0532 - communications officer, special (AH-2)
- 9240 - communications security officer
- 9600 - cryptanalytic officer, general
- 9601 - cryptanalytic officer, code
- 9602 - cryptanalytic officer, chemical
- 9603 - cryptographic officer, equipment
- 9604 - cryptanalytic officer, translations
- 9605 - radio traffic-analysis officer

Enlisted

- 538 - voice interceptor (designated language)
- 543 - radio intelligence control chief
- 709 - traffic-analyst (radio)
- 738 - intercept operator, German
- 739 - intercept operator, Japanese
- 799 - intercept operator, fixed-station
- 807 - cryptographic code compiler
- 808 - cryptanalysis technician
- 6709 - traffic analyst, German
- 8709 - traffic analyst, Japanese

Applications for transfer should be in letter form and outline the training and experience which qualify the applicant for the Army Security Reserve. Major commands are authorized to take final action on applications from enlisted men. Applications from commissioned officers should be forwarded to the commanding general of the Army area having jurisdiction over their re-

serve records. That headquarters will forward them to the Reserve Branch of the Adjutant General's office.

Openings for New Reservists

There is also provision for qualified and eligible persons who are not already members of the Organized Reserve to join the Army Security Reserve under the regulations applicable to appointments and enlistments in other reserve sections.

Reserve officers on active duty cannot transfer to the Army Security Reserve until the termination of their active-duty status. Officers being separated, or anyone else interested in joining the AS Reserve, should address inquiries to the Reserve Affairs Unit of WDGAS-22. Maj. Robert E. Tachoir is officer-in-charge of the unit.

Since demobilization, those who possess specialties of primary interest to ASA, including those who spent the major portion of their war service in signal intelligence and communication security activities, have joined other reserve sections.

The Military Intelligence Reserve furnished ASA with the reserve records of over 500 former ASA officers who accepted commissions in Military Intelligence Reserve, and letters were written to them. This has resulted in about 125 transfers thus far. The same procedure will be followed with Signal Corps reservists as soon as possible.

Geographic Breakdown

Army Security Reserve units will be formed in geographic locations which have not as yet been determined. They will include radio-intelligence and security-monitoring companies but no cryptographic or cryptanalytic groups. Some units will be organized for officers and enlisted men, and others for officers only.

The minimum activity required to hold officer reserve status consists of (1) extension courses and (2) occasional active duty. The budgetary allowance for reserve activity will determine the amount of active duty which the AS Reserve will be able to offer its members.

Beginning sometime in the fiscal year 1948, three kinds of active duty will be available to Army Security Reserve offi-

The Last Days of Pompeii

OR The Fall of Rome

OR THAT'S ALL, HALL

'Twas the fourteenth of August in forty-five
(Year of V-E, atoms, the Baka dive)
When Truman proclaimed a state of peace
Which marked the end of the Nipponese.
Enlisted men and officers fearful
Counted their points, then retired, tearful,
To dream their forty were five-and-eighty
And their lives were filled with matters
weighty
Like post-war plans and demobilization
And thirty-foot cars with gas sans ration.

Meanwhile, civilians, with total immersion
In their private schemes for reconversion,
Figured their overtime-less pay,
Folded their checkbooks and crept away
In reluctant trickles to pastures new,
Leaving the Hall to a die-hard few
Who could then consign the debris of paper
To Cumberland vaults or to formless vapor,
Or could turn their brains to the technical
mysteries
Of never-to-be-read subsectional histories.

The halls grew empty; the wings grew bare.
Just a few old mossbacks lingered there,
Hearing naught but the distant sound
Of the duty officer's daily round
Or the cry of the termite by man unawed
When he sighted a beam as yet ungnawed.

As the walls were crumbling, as the building sank
With a long, slow groan into regions dank,
Into the earth's eternal gloom,
Into the Hall's long-destined tomb,
Came a faint, fey cry, cracked and thin,
"We've made it, boys! We're in! We're in!"

- Ruth Bean

cers: 60 to 90 days at Headquarters ASA for specially selected AS Reserve officers; 15 days with a field unit or fixed installation (as Vint Hill or Two Rock Ranch); attendance at Army Security Agency School for 13 weeks.

Under these provisions it would be possible for a civilian employee of the Agency to serve an active-duty period on his own regular job. However, it is not necessary for reserve officers desiring active duty with ASA to hold civilian jobs in the Agency.

The procedure for a reserve officer desiring to be placed on active duty will be to apply to the commanding general of the Army area having jurisdiction over his reserve records, stating in his application the type of active duty training and the time he desires it.

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