

A-10-1



This material is published in accordance with Department of the Army Letter, AGAC-C (M) 461 (28 August 52) AGAM, 20 November 1952, subject: "Dissemination of Training and I & E Instructional Material."

~~CONFIDENTIAL~~

Armed Forces Press Service material appearing herein may not be reprinted without written permission of the Armed Forces Press Service.

Material forwarded by Field Representatives under Circular No. 9, Hq, ASA, 4 March 1953, subject: "Technical and Informational Material" should answer one of these questions:

Does it provide information not available elsewhere about something new or interesting in some technical field? Does it point out better procedures? Does it make known heritage and traditions of Agency service or Provide information of locations where ASA personnel may serve next? Does it record useful experience of activity? Will it aid training, well being, or morale?

WELL??? WHAT ABOUT IT???

1. ARE YOU COMPLETELY FAMILIAR WITH YOUR JOB AND THE DUTIES OF THOSE IMMEDIATELY SUBORDINATE TO YOU?
2. ARE YOU QUALIFIED TO FILL ANY POSITION TO WHICH THE ASA MAY ASSIGN YOU?
3. CAN YOU ADEQUATELY FULFILL THE DUTIES OF YOUR IMMEDIATE SUPERIOR?

If your answer to these three questions is yes, read no further; you are the "one-in-a-million" and this isn't directed to you. This is written for the other 99% of ASA personnel who are aware of their limitations and are eager to do something about it.

Even those of us who have been with the Agency since the beginning, frequently find need for a greater understanding of specialties other than our own. Since each job in the ASA is interrelated with every other job, broader knowledge of the other man's problems facilitates the performance of our own duties.

There are several means of achieving this broader scope, but the easiest and best is through the Army Extension Training Program. The mission of this program is twofold: to enable personnel in Reserve components to "keep in touch" with ever-changing military developments, and to permit active duty personnel to broaden their professional knowledge, thereby

increasing their value to the military service and the nation.

Formerly, extension training was limited to those subcourses issued by the applicant's own branch of service. Today, with proper authorization, subcourses are available from all branches of the service. For example, there are available subcourses in the Transportation Corps and Ordnance. A rather strange, though not unusual, combination is the ASA Colonel who is taking a transportation Corps subcourse in navigation. (He has a power cruiser.)

Each branch of service maintains an extension training activity which distributes correspondence courses and related material to branch personnel. Each extension training activity administers subcourses peculiar to its own branch as well as courses common to the Army as a whole.

The ASA Extension Training Division is
(Continued on page 22)

NOTICE. THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAW, TITLE 18, U.S.C. SECTIONS 793 & 794 AND PUBLIC LAW 513, 81st CONGRESS, 2d SESSION. THE TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

~~CONFIDENTIAL~~

Army Security Agency

The Filing System In An Operational Office

Colonel Jones walks into your office on an official visit, sits down, and in the course of the conversation, suddenly requests a certain letter; written, as he puts it, "Some time during the first part of the year." Does Colonel Jones wait while your filing clerk scratches his head and ponders? No! This, no doubt has occurred in your office at some time or other.

The administrative efficiency of an operational section or branch often depends upon an expedient filing system which will furnish the writer with immediate references. Within any technical correspondence file, there is apt to be considerable decategorizing of the more commonly known operational subjects. This often causes a delay in locating an item.

A test was conducted at Hq, ASA Pacific of three separate filing systems to determine the most suitable one for an operational office which sends and receives a large volume of correspondence, and further, to align each system with a particular kind of filing need. The three systems were:

- a. Decimal system
- b. Subject system
- c. Numerical designation system

The Decimal System is suitable for an office engaged in administrative and personnel functions of a non-technical nature. It is particularly expedient where the exchange rate of correspondence is not high. It is not adaptable to technical correspondence simply because of the necessity for breaking the decimal file into smaller segments, which ultimately ends up with an overloaded file drawer.

The Subject System is suitable for an orderly room, or for those offices which engage in a narrowly confined mission. This confined mission limits the number of subjects which would be involved in the majority of correspondence, and makes it expedient to locate reference material.

The Numerical Designation System is the answer to needs of an operational section. It utilizes numbers as a substitute identification of units within the section's network of correspondence addressees, and aids memorization of those numbers by placing the highest command under the numeral 1 and then, by sequence of command level, precedes on. In these instances where multiple addressees are involved, a "multi-adee" file is established. Non-technical files (for example, Request For Orders etc.) are filed in a separate drawer and utilize the decimal system which is suitable for that need.

The person who seeks a certain letter for reference purposes, may be able to provide only the addressee. In the numerical designation system, this single clue is sufficient. As an augmentation to this system, subject files may be established under special circumstances, as in those cases where a specific policy, study, test, or plan is very frequently referred to. This type of correspondence usually contains highly sensitive facts, figures, or data, and those persons who must utilize these letters need them as a collective reference rather than a single item of correspondence. If this special correspondence were placed in the regular files, the folders would soon be filled with numerous place-markers to indicate the location of these items. A review of any problem would then require the use of several folders, instead of one.

All folders, under the numerical designation system, must be split into separate parts, with the incoming correspondence on the left side of the folder, and the outgoing on the right side (or vice versa). If, during the year, the folder becomes bulky, it can be titled with an "A" and "B" classification of the number, with the "A" embracing the January to June inclusive period, and the "B" the July to December inclusive period.

The next time Colonel Jones walks into your office, will you be ready for his request for a reference?

Discussion Topics

REF ID: A66138

TRAINING AIDS

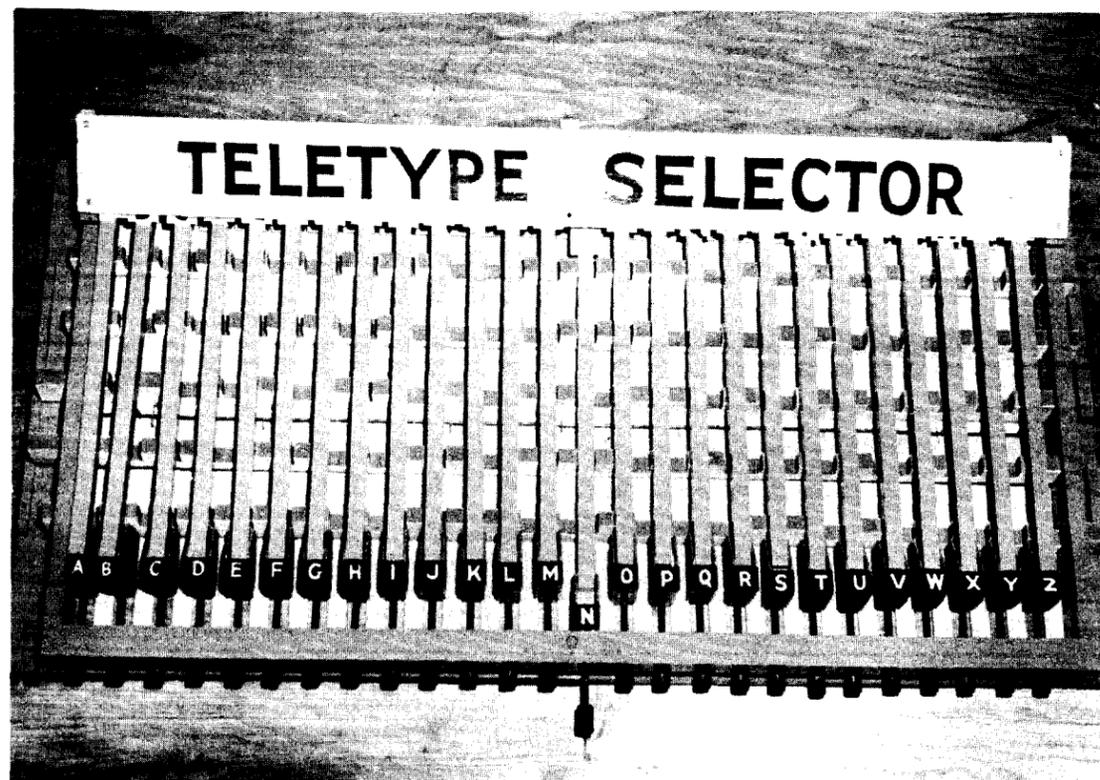
(Unclassified)

The ancient adage "One Picture Is Worth a Thousand Words" could well be paraphrased to read "One Training Aid Is Worth a Thousand Words of Instruction." With this in mind the importance of the Visual Aids Branch of the ASA Training Center is obvious. The maximum use of Training Aids makes it possible to give faster, more comprehensive instruction to personnel at the Training Center than the more orthodox Lecture Method.

Audio-Visual Aids, 16mm motion pictures and 35mm film strips, are available from the ASATC Film Library to instructors and to units stationed at the Training Center. All films fall into two categories: those of a general nature, common to other branches of the service; and those pertaining directly to the Agency mission. Films in the latter category are produced by the Signal Corps in cooperation with the Army Security Agency. The film Li-

brary has projectionists available for previews and showings in units or sections not having licensed operators. Overhead projectors (Balopticans), 16mm projectors, 35mm film strip projectors, opaque projectors, and sound reproducer units may be drawn from the Film Library when needed. Projector slides as well as graphs, posters and photographs are prepared or supplied by the Graphic Aids shop.

The use of transparent slides for the overhead projector is a comparatively new development and has proven to be more versatile than charts, posters, or the direct slide projector. By simple adjustment, the instructor is able to enlarge or reduce the size of the projected picture at will. He can project all or any part of a picture by masking the slide with opaque material and exposing any portion in order to emphasize specific points of his lecture. Other features of the overhead pro-



jector, in common with all slide projectors, are the simplicity of preparation of the material to be projected, and the minimum amount of storage required for the prepared slides.

There are several methods currently in use for the preparation of slides. The most common practice at the Training Center is initially to prepare a wax-pencil temporary slide on clear acetate, then, when the effectiveness of the subject matter has been established by classroom test, a permanent slide is made. Two processes are commonly used in making permanent slides, plastic ink on clear acetate, and the ozalid process which is a dry developing method employing ammonia vapor to etch the material on translucent foil.

Three-dimensional aids, such as models and mock-ups, are fabricated by the Model shop from plans prepared by the Drafting Section. Models generally fall into two basic categories; scaled-down models of equipment too large for practical use in the classrooms; and enlarged models of equipment which is too small to be satisfactory for class instruction. Examples are: the scaled-down model of Shelter S-56 (Fig. 2); and the enlarged working model of the Selector Bar mechanism of a Teletype machine (Fig. 1).

Instructors repeatedly find the need for new training aids. With the assistance of the Visual Aids Development Officer plans are made for their design and construction. The first step in the designing of any training aid is to determine what type will be most effective in presenting the subject matter desired.

Take for example a Flock Board, Specifications are established by the Development Officer, sent to the Drafting Section where final plans are drawn, and forwarded to the Model Shop for final production.

The Flock Board consists of three plywood panels, each two by four feet, joined together by hinges providing a total display surface four by six feet. The artic-

ulated construction of the board saves storage space and facilitates transporting the board from one classroom to another. Construction of the board is quite simple; first the surface is coated with a liquid adherent and then sprayed with micro-cut nylon fibers to form the flocked finish.

Subject matter is prepared on flannel-backed cardboard cutouts. With the Flock Board resting on an easel, the cutouts adhere readily when the flannel backing is pressed lightly against the flocked surface.

The Flock Board is one example of the type of work accomplished by the Visual Aids Branch. The existing training aids are constantly being improved and a constant effort is expended to develop and produce new aids to meet instructional requirements. Visual Aid developments of other service schools as well as those of civilian institutions are based for possible application within the ASA training program.

The ASA Training Center is constantly improving all its instructional methods to keep pace with Agency demands for skilled personnel to meet the requirements of our expanding mission.



Shelter S-56

ROTATION OF PERSONNEL WITHIN ASA PACIFIC

by Major John W. McMillan

The war in Korea created a special personnel problem for the members of ASA, Pacific. ASA troop units arrived from the United States and immediately began operations in Korea. The war dragged on for month after month with no end in sight. The men in the units began to build up points toward eligibility for rotation to the United States and all began to grow tired of the cold and rain, the heat and dust of war ravaged Korea. There were no troop units available to replace those whose time overseas was coming to an end.

Faced with the prospect of having almost all of the officers and men in a company become eligible for rotation to the United States on the same day, Headquarters, ASA Pacific worked out a plan to gradually rotate those men to other ASA Pacific units outside of Korea and to replace them with men of equal skills and grades from the unit which would receive the rotatees.

Initially the 60th Signal Service Company (now 330th Communication Reconnaissance Company) was the only unit affected. The unit had arrived in Korea in October 1950 and would complete the requisite eighteen months overseas service in March 1952. If the rotated personnel were to serve for any useful period in their assignment outside of Korea, it was necessary that the reassignment take place well before the end of their overseas tour.

Beginning in June 1951, and extending through September, replacement and transfer of all officers and men of the 60th was accomplished. Each day four men of the proper grade and military occupational specialty arrived by air at the company bivouac in Taegu. Ten days later the men of the 60th, who had been replaced, departed for the unit in Japan, Okinawa, or the Philippines, which had

furnished the replacement. During the ten day overlap between the arrival of the replacement and the departure of the rotatee, the job of breaking in the new arrival on the specific assignment was accomplished. In some cases the break-in took longer, in some cases less, but ten days was average for the job.

Within the space of four months, the entire company of nine officers and two hundred forty-five enlisted men were replaced. There was some loss of operational efficiency during this period, but by holding the key personnel to the last and rotating them only when the replacement was determined to be completely competent to perform the assignment, operations continued without interruption.

The procedure was next employed to rotate the personnel of Headquarters and Headquarters Detachment, 303d Communication Reconnaissance Battalion. The small size of the unit made this project relatively easy to accomplish. By December 1951, all personnel of the unit had been rotated to stations outside of Korea.

Meanwhile a voluntary plan for rotation had been set up to operate concurrently with the forced rotation of unit personnel. Men who wished to transfer from Korea to other units of ASA Pacific, were allowed to request transfer after a minimum of six months Korean service. A replacement, usually a volunteer, was provided and approximately ten days after his arrival the rotatee left for his new assignment. This scheme worked so well in the case of the 352d Communication Reconnaissance Company that forced rotation was unnecessary. Sufficient men applied for rotation at varying times to eliminate the possibility of any large group of men in the unit becoming eligible for return to the United States at one time. Returns for discharge played a

(Continued on page 22)

The War In The Ether

THE GERMAN "RADIO DEFENSE"

~~(Confidential)~~

Long before the Second World War people in most European states were convinced that in the future in time of war the battle in the dark between the hostile espionage service and other similar organizations, on the one hand, and the intercept service on the other hand - in this case, therefore, a battle of the ether - would assume gigantic proportions. It was clear that this struggle would not be simple and that it was necessary to call into being in good season an organization which would occupy itself with spotting and evaluating such espionage radio traffic in order to bring the results of this work to the knowledge of one's own command.

Practically, however, in all countries of Europe nothing was done until the outbreak of the Second World War. Only in the Soviet Union did they devote some attention to this question and begin watching such traffic for practice, in order to gather a certain amount of experience which could serve in the event of war for the development of a large organization to combat radio agents.

In Germany they should have had special reason to occupy themselves thoroughly with this question and in a purely theoretical way they did so. But since the general armament and the preparation for war went ahead at far too rapid a pace, and the organization of the German intercept service was weakened rather than strengthened by the constant transfer of trained men, this preliminary organization did not even come into existence before the war.

I said above that in Germany there was a special reason for occupying oneself with such matters; I will add here the following details:

Long before the war the German counter-espionage (Abwehrdienst) had set up abroad a network of radio stations (the so-called A-net), which was to be used by German agents in the event of war for transmitting intelligence. At various points in the Reich, central radio stations had been set up which were to handle the radio traffic with these agents. Before the war this traffic was limited to occasional tests of transmission and reception so as not to unmask the radio net prematurely. Moreover, in peacetime it was always possible to send reports speedily to Germany in some other way. The A-net was to appear suddenly at the outbreak of the war.

Such A-nets had been set up in Czechoslovakia, in Poland, and in France. How far they may have been organized in other states is not known to me.

Along with this A-net a so called J-net had been prepared which was located within the country and was to function in case certain parts of German territory were occupied by the enemy. Then the J-net was to go into action for the transmission of reports, and to have a function similar to that of the A-net.

The Second World War brought at first the very rapid occupation of foreign ter-

Translated from original German materials by
Dr. Ray W. Pettengill

ritory by German Armed forces. With this the limits of German power were greatly extended and the radio agent network was soon behind the German lines. Now both the A-net and the J-net lost their significance. On the other hand, it resulted that the foreign J-nets established in territory now occupied by Germany suddenly found themselves inside the German line.

Hence the occupation of great areas brought foreign radio agents into German controlled territory and the further the German forces extended their lines, the more foreign radio spies got into the zone of German occupation. They were able to work under very favorable conditions since the attitude of the population in the occupied countries was consistently anti-German, and every agent found support and aid wherever he needed it.

Only after vast areas had been occupied by the German troops did the question arise in the minds of people in authority in Germany as to the extent to which other states might have built up an organization similar to what Germany had before the war, i.e., A or J-nets. The same agency which had directed the setting up and control of these German agent radio networks was now entrusted with the solution of the problem, how and by what means the presence of such foreign agent radio nets could be discovered in order to combat these nets successfully. The so-called "radio counterintelligence" (Funkabwehr) was created. At that time the only organization available for the work were the radio monitoring stations of the police whose previous task had been watching illegal radio amateurs. These radio monitoring stations were obliged, therefore, to shift to the new field.

Meanwhile, people on the other side had not been asleep. The little networks of radio agents organized before the war which had now been overrun by German troops and were located within the German sphere of influence were now strengthened in every possible way. New agents were either smuggled through with their apparatus or dropped by parachute, so that little by little a very considerable number of radio agents had been established against whom basically nothing could be undertaken, and who were able to go about their work without worry.

The newly established "Radio Counterintelligence," on the other hand, faced an assignment which grew from day to day, and for the mastery of which forces at hand did not suffice nor win any adequate experience. Through the occupation of more and more new territory, the frequency band to be monitored grew wider and wider, and the number of radio agents at work became greater and greater.

The year 1940 passed without any noteworthy success on the part of the German radio counterintelligence with the aid of the police in combatting agents' transmitters. Not until the end of 1940 was an intercept company of the army assigned to the "radio counterintelligence," and this had to be entirely retrained. It was engaged in the west, and it soon appeared that the object of observation had meanwhile assumed an extent which far exceeded the expected limit. Only now were two more intercept companies assigned to the "radio counterintelligence." An evaluation system of its own was set up. The direction finding bases of the navy were placed at the disposal of radio counterintelligence.

It was high time for all these measures, for in the spring of 1941 the radio agents' service had assumed a threatening extent throughout Europe.

During the Second World War the Germans made many very excellent inventions in technical and military fields. But above them all hovered uniformly the watchword: "Too Late!"

At the moment when the German "radio counterintelligence" took up its effective work in combatting foreign radio agents, i.e., in the summer of 1941 -- if we leave out the period of preparation -- it faced the following situation:

In the West (i.e., France, Belgium, and Holland) there existed the so-called LCA-Net which was operated by the British Intelligence Service. It extended as far as Norway and in March 1941 embraced 26 recognized circuits. New ones were constantly being added. By change of frequency and call signs, and by other camouflage measures the attempt was made constantly

(Continued on page 21)

PROGRAM TRAINING FOR REPLACEMENTS

By SFC James W. Clinton

~~(Confidential)~~

As the strength of our operations section has been steadily building up with replacements from stateside schools, on-the-job-training of the newcomers became increasingly difficult. In the past, the average period of time required to train one man on the job has been from two to four months, depending upon the individual's adaptability to the work, or his code aptitude.

In order to get these men into their jobs as qualified operators to fill our expected and existing vacancies, it was thought that a school should be set up where they could be taught the principles of intercept work, procedure, special characters, search, and copying through heavy QRM and QRN; the training time could be greatly reduced.

The idea was soon put into actual operation by one of our experienced trick Chiefs, SFC Anthony Marino, under the direction of the operations officer, Lt O'Sickey.

Permission was obtained from the 354th Comm Recon Co to use their classroom for the purpose of training these men. This classroom needed no special arranging, as it was previously used for operator training by the 354th, and contained the equipment necessary for the training, such as code practice sets, headsets, and some mills.

It was necessary for our unit to supply additional mills, two RD-74/U recorder/reproducers, paper, blackboard, and essential material dealing in intercept work.

The men were given a few days to practice with clear, hand sent signals to acquaint them with the special characters by some of our own operators, using the RD/74 recorder/reproducers.

During the first few days, the code periods were alternated with frequent lecture periods to teach them the basic prin-

ciples of the work, including such subjects as: net structure, procedure, important 'Q' and 'Z' signals, and servicing the traffic/chatter roll.

The next step in the training was to have the men practice copying signals that were recorded directly off the sets in the operations section; this gave them the chance to experience copying through the QRM and QRN and was actually the same as having the man sitting at a position doing the work he would perform were he on trick as a qualified operator. Throughout this second phase of training, the lectures continued, but were not given as often as in the first phase, allowing the men more time to practice the important part of the training - copying accurately through normal QRM and QRN.

All during the training period, as many students as there were available positions in the operations area, were sent up to work on live nets. In this way they were checked on their ability to search and copy.

As the men progressed, each one was carefully watched in the classroom and on position in the operations area; as soon as their work was good enough to qualify them, they were assigned to tricks. The faster they adapted themselves to the work, the sooner they were taken out of school and put on the job.

It has been found that under this system, the time required for training operators has been cut down to a matter of weeks instead of months. The school is continuing, and as long as we continue to get replacements of schools in the states, it will be carried on as long as possible.

This has been another worthy contribution to the operational efficiency of the unit, which will result in increased quantity and quality of the work put out by the Agency.

REF ID: A66138
Cryptographic Training

Problems By Thomas A. Shealy

~~(Confidential)~~

As a continuation of the plan outlined in the last issue of ASA Discussion Topics, another memorandum on cryptographic systems is included in this issue. The cryptograms will involve Digraphic Systems, which will be the subject of this article.

It is suggested that readers work these problems as a unit, since both externally and internally the messages of this set are interrelated. From these few messages a T/A net can be reconstructed; the call sign and frequency systems can be determined, and some elementary order of battle information may be discovered. Plain text of deciphered messages will be of help in the solution of subsequent ones, since the language and the stereotypes will become familiar.

Digraphic Systems are those in which digraphs, or groups of two plain-text letters, are considered as an indivisible unit and are enciphered as if they were a single symbol. These plain-text digraphs are replaced by cipher-text digraphs which are likewise considered as a single unit. Thus, a plain-text digraph EN might be replaced by a cipher-text digraph KU. This does not mean that E stands for K or that N stands for U. It does mean that the unit EN in the plain text is equivalent to the cipher unit KU.

Two of the most common digraphic systems are the Playfair and the Horizontal Two Square. Historically, the Playfair is probably the oldest and most interesting. It was invented by Sir Charles Wheatstone but received its name from Lord Playfair. This system was used by the British Army for several years before the First World War, and it was used by both the British and American Expeditionary Forces for some time during the war itself. The most common Playfair matrix is five columns wide and five deep, although variations of these dimensions are quite

possible. The letters of the English alphabet are inscribed inside the matrix, usually mixed in some systematic fashion. Since only 25 cells are available to include a 26-element sequence, the usual procedure is to include the letters I and J within the same cell.

No digraph containing a repeated letter may be enciphered according to the usual rules of Playfair cryptography. Thus, if a message began OU RA TT AC K, the TT could not be enciphered by the matrix. The usual procedure is to insert a Q or an X between the two T's. The plain text would then read OU RA TX TA CK, and could be enciphered with no difficulty. If the original message had begun AN AT TA CK, it would not have been necessary to insert the X or Q, since the repeated letter T was not contained within a single digraph.

A sample Playfair Matrix and examples of cryptography follow:

Keyword chosen is WHEATSTONE. Matrix is:

W	H	E	A	T
S	O	N	B	C
D	F	G	I	J
L	M	P	Q	R
U	V	X	Y	Z

Plain-text message reads: When will your regiment move west?

Broken into digraphs: WH EN WI LX LY OU RX RE GI ME NT MO VE WE ST WH plain becomes HE cipher. If both letters of the plain text are on the same row, the cipher letter which replaces the plain-text letter is immediately to the right of the letter it replaces. W is followed by H and H by E. (Also, WE plain is HA cipher.) EN plain becomes NG cipher. If both letters of the plain-text digraph are in the same column, the cipher letter which replaces the plain-text letter is directly under the plain-text

letter it replaces. E is above N and N is above G. (Also, MO plain is VF cipher.) WI plain becomes AD cipher. If the letters of the plain-text digraph are not in the same row or column as one another, the first letter of the cipher digraph is in the same column as the second plain-text letter, and the second letter of the cipher digraph is in the same column as the first plain-text letter. In addition, the four letters of the plain and cipher equivalencies will form the four corners of a perfect rectangle.

To continue the encipherment:

WH EN WI LX LY OU RX RE GI	Plain
WE NT MO VE WE ST	
HE NG AD PU QU SV PZ PT IK	Cipher
PH CE VF XH HA CW	

Another Digraphic System which has had fairly extensive use is the Horizontal Two-Square system. Actually, the matrix for this system is nothing more than two Playfair Squares set next to one another. There will usually be a different mixed sequence in each of the two squares. Notice the following example:

Keywords: Left - United States, Right America.

U N I-J T E	A M E R I-J
D S A B C	C B D F G
F G H K L	H K L N O
M O P Q R	P Q S T U
V W X Y Z	V W X Y Z

The first letter of the plain-text digraph comes from the square on the left, and the second letter of the plain-text digraph comes from the square on the right. The first letter of the cipher-text digraph comes from the square on the right, and the second letter of the letter of the cipher digraph comes from the square on the left. Again, if the two plain-text letters composing the digraph are not found on the same row, a perfect rectangle will be formed by the plain and cipher digraphs which are equivalent. For example:

MO Plain equals UF Cipher
 VE Plain equals XU Cipher
 YO Plain equals ZK Cipher

If the two letters which compose the plain-text digraph are found on the same row of the matrix, then merely reverse them to form the cipher digraph. For example:

UR Plain is RU Cipher
 FO Plain is OF Cipher
 RT Plain is TR Cipher, etc.

As far as system identification is concerned, all digraphic systems have the same general characteristics. Since the basic unit is two, most repeats will be even in length. (They must be a multiple of the basic unit which is two.) Excluding nulls, added to complete the final group of the message, a cryptogram enciphered in a digraphic system will contain an even number of letters, and the distance between repeats will be even. In addition, since I and J are compressed into a single cell, often the cryptographer will ignore the letter J. For that reason, sometimes digraphic systems may be identified by the fact that the letter J does not appear in the cipher text. There are various statistical tests which aid in identification of digraphic systems which will not be discussed here.

In addition to the general rules given above, a normal Playfair system may be identified by the fact that, after the cipher text has been broken down into digraphs, no digraph will contain a repeated letter, as for example, a digraph LL or TT.

In addition to the general rules for digraphic systems, a horizontal two-square may be identified by the fact that after the cipher text has been broken down into digraphs, about twenty percent of these cipher digraphs will make good plain-text digraphs as TH, RE, IN, ST, etc., if they are reversed. Indeed, often it will be possible, by reversing all the cipher-text digraphs of the cryptogram, to get enough good plain-text digraphs to actually see plain-text words in the cryptogram.

For lack of space, it will not be possible to go into a detailed explanation at this time about the mechanics of matrix reconstruction. However, if the analyst will observe the cryptographic rules for

each system, as outlined previously, should be able to reconstruct the matrix and recover the keywords which were used. Of the four cryptograms included with this memorandum, two are enciphered in Playfair systems and the other two are enciphered in Horizontal Two Square systems. Other digraphic systems will be discussed in some future issue.

18. EJO TND DE AFK 1000 KCS 121200Z

RCAGL OAEPD MKBCY ARIQM
GRBIR IKNMK BCYAR IQMGY
FUYUY BTLGU PEPME FKBRA
CKRCY ARAHR AWAEM VIELA
WCESW CEQEP OMEEM CIOEL
DGUQA PQREL QUYGT TVPBX
CQPEA YFUYB NGONC LDPKR
FLZCI DTKRE AQIGT TVECL
FORLR QAPQX RCAGL

Clues: 1. LHWUB WEN
2. YXQX IFLK
3. YPRGJ JCPW

19. AFK DE PUZ 1500 KCS 12082 Z

DAORP RUDLL BIANU NAPEE
KPRSD RUBHR QAUTE XPNAD
SIAFQ RSTFD LCNSB PRADO
ILBEB FQORN UORIG NUVGE
ZORHT RUBER SZWAQ EGLFN
AAKPQ GDAMR UZAPN BCTEA
IORIG VDCND SSAHT RUSEY
LSBEZ ORAQE GSBSL PVNAG
FSAPE TNRSD SSADH ZXCBD
RRXOT ZHERZ AZXIS SADLQ
HNATG SOPSO LCBOR IGHTR
UEEFA RFBBH GDTXX DAORP

Clues: 1. DKNEV KJPWH PSKOM
QWNA
2. OBZLK KXFPP XKZB
3. QNZC

20. XCH DE AFK 1000 KCS 121215Z

TIAN7 IF10A G7RQG BN10H
WMICA ETR9G 7X3TE KOMIH
WORG7 KHJN5 KRWNA POMII
MVOMI 7TG7K 1PQOW VOTEW
JWI9R Y51MI 739EX KW9VA
G7RQG BNJIY GRY19 E93NN
APKXK X3AEI R97E5 AVKZX
9QPIR K1PQ5 GGQAE IR97E
5AV7K IHK7D 7BNI1 R9G7G
51IIME JFY7 BR9K7 40J1E
BIMEJ FY7BR 9K7CD CS7FR
7OIEA LPK1P OLYQL BI1RR

REF ID: A66138
OG5 1IIME JFY7B R9K7C
LHZ9R FITEM KAGQP IRDJK
7IMEJ 8POPI KQPVT HWPVQ
REBQP K17PD IAN4Q KWIFK
H2IPK M1QI4 QHJHS X9QPO
1ANQ5 HWEB5 GGQVA 57RO5
GRIXX TIAN7

Clues: 1. OETXU OETLH WUBWE
N
2. PCEGK CLR
3. QNZCI TMBSH NM

21. AFK DE EJO 2000 KCS 121235Z

PFVBM ERGPE RTLOO HZHSI
UMHGA PMYUC UVIXO YCXOY
CMBIQ BKSBT SPOXI LLOCT
NRITT GCYHH KTTPI OITNR
EYEH OQRQL OBFSN DLRCH
UOQDI FFOUS CXPTS POMBI
QHKT TPIOIM VEHOV QDVTI
OITER OUDLR CBUOU STUAC
IGSDC QECBB MBRSU EBDLE
RYUIU OZOUX OYCXO YCNDB
KXTND HLBFC HOCAU YQIDS
FSROC NFHKT TPIOI NNXXX
PFVBM

Clues: 1. ELOFW LKQXI QTLPN
RXOB
2. PCDCP CLAC
3. AZSSZ KHNM

Thomas Jefferson - Inventor

Old timers in ASA still remember the Cipher Device M-94, invented by General Mauborgne, former OCSigO. Crypt students are generally familiar with a similar device invented by Etienne Bazeries in 1891.

What is not generally known, in fact known only by a few people, is that Thomas Jefferson around the year 1800 invented what he called the "Wheel Cypher" and which very closely resembled the M-94. In place of metal disks, Jefferson used a cylinder of wood which he split into disks about 1/6 of an inch in thickness.

A description of this invention in Jefferson's own handwriting is to be found in "Item 41575, Jefferson's papers, Vol. 232" in the Library of Congress, Washington, D. C.

SIMULATED TACTICAL RADIO NETS FOR TRAINING

~~(Confidential)~~

A new device to simulate field operating conditions for intercept operators is in use at the ASA School. It has been found that greater proficiency in copying manual speed Morse may be obtained if simulated radio nets for two or more stations are used. The problem encountered was to find a method of giving the students actual receiver tuning in copying manual nets. The type traffic desired for manual copying could not be heard at the School because of the low power output of the transmitters. A method had to be devised to make nets available so students would be required to tune their receivers in order to copy traffic. Formerly the procedure had been to give students the type nets desired by using TG-10 keyers and inked tape, and piping an audio signal to the students practice in copying manual nets, but no practice in receiver tuning; in fact, the receiver had to be turned to the "send position so that very strong signals coming over the aid would not block the output of the TG-10 keyer.

Since the desired nets were classified, it was impossible to put the material on the air and have students actually tune their transmitters in while the instructors sent traffic. The problem was to actually transmit signals for the benefit of the students and still have no signal emission outside the immediate vicinity of the classroom.

The plan was to use the TG-10 keyer audio output to key the RF output of the frequency meter and then "patch" this keyed RF signal to the students' racks through multi-couplers, with no receiving antenna attached. The "make-break" circuit of the TG-10 keyer was not sharp enough to key the frequency meter properly. However, with the insertion of sensitive relays in the "B" plus circuit of the frequency meter power supply and in the audio output of the TG-10 keyer, a sharp "make-break" action could be ob-

tained. This RF output was "piped" directly to the students' racks through a multi-coupler, allowing no RD emission outside the classroom. This method worked perfectly and by inserting a switch across the relay the frequency meter could be used to measure frequencies in the normal manner.

Using this arrangement, students are given an approximate frequency range to search. The instructor sets the frequency meter to the desired frequency, turns on the TG-10 keyer with the type net desired (inked tape that has been previously made up by the instructor is used in the TG-10 keyer) and turns on the relay that is keyed by the audio output of the TG-10 keyer. The instructor then takes the receiving antenna out of the multi-couplers and substitutes the RF output of the frequency meter. The students' racks are then "patched" into these multi-couplers and when the students tune their receivers to the correct frequency, they are able to copy the desired nets.

By superimposing the training signal generator output onto the audio line to the students' racks, the instructor is able to provide several different types of interference on the nets, thus giving the students another simulated field condition.

By using a TG-10 keyer in conjunction with a modified frequency meter as explained above, the students must tune their receivers before they can copy their stations. Two TG-10 keyers and two frequency meters are used to simulate two different stations. By hearing different tones the students can better understand the workings of a manual net. This is accomplished by taking one properly prepared tape and running it through two TG-10 keyers. Each keyer is attached to a separate frequency meter and tuned to a slightly

(Continued on page 19)



TASATC

ASA Training Regiment

A new, streamlined training program has been implemented for ASA units within the Training Regiment at Fort Devens. Now tried and tested this plan replaces the old thirty-one week program and is designated to produce the highest possible state of operational readiness in only twelve weeks.

The success of this program is attained through the conduct of unit type instruction which closely approximates actual operations in accordance with current operational doctrine and concept. From the very first day of this new twelve-week standard training cycle, the training is functional in nature. This permits each type of unit to train in the duties peculiar to its normal mission assignment. For example, the routine duties of analysis personnel in security and in intelligence type units differ considerably, although no such distinction is made during ASA School MOS Training.

The principal method of instruction is the participation of the unit in a series of four field exercises, which increase progressively in duration and degree of difficulty. One week is allocated between successive exercises for evaluation and critique to enable the unit commander to correct deficiencies and areas of weakness observed during the exercise.

The field exercises are comprehensive, including administrative, logistical, tactical and technical aspects - all thoroughly integrated to require practical application and to embody the principle of "learning by doing." The inclusion of these four aspects achieves a careful balance in the training and insures, through training, that the unit will be able to effectively accomplish its assigned mis-

sion.

For example, a unit may be required to move tactically by echelon, while continuing its operational mission, over a route which has been mined. Training in the removal of mines, replacement of equipment and personnel destroyed or lost through supply and administrative channels, bring out the technical, tactical, logistical and administrative aspects of the exercise.

All field exercises are designed to be presented in the field under simulated combat conditions and involve the use of aggressors, both tactically and technically, to insure maximum realism.

Although the training objective is one of unit type training, individual MOS training is not eliminated. Actually, the first four weeks are devoted to a review of this training, and in MOS testing. Even this training is functional, stressing individual proficiency in the execution of assigned tasks in accordance with job requirements of the particular section of the type of unit to which the individual is assigned. This represents a departure from the MOS job description in a strict sense, but can be justified by the fact that the majority of the technical specialists are school trained in fundamentals prior to being assigned to T/O&E units.

It follows that a given MOS for a Communication Reconnaissance Company (Security) may be trained differently from a specialist of the same MOS of a Communication Reconnaissance Company (Intelligence.)

The initial success of this program indicates that a far higher degree of operational readiness will be achieved with the General Reserve Units and will result in better trained units for employment overseas.

TASATC PERSONNEL CENTER

Almost every enlisted man who spends a tour of duty with the Army Security Agency will someday report to the Personnel Center at The ASA Training Center at Fort Devens. This may be when he first enters the ASA, when he completes his school training, or when he returns from overseas. It could happen all three times.

The Personnel Center was established a few months ago when the size of the various personnel sections within the Training Center made it essential that more efficient means of doing the job be found. As a result all personnel sections, except those of T/O&E units, were consolidated into the newly organized Personnel Center under control of S-1, ASATC. At present, the Center handles the records of all enlisted students, permanent party, and casuals in the Training Center. This means that there may be as many as 5,000 sets of records being maintained at any one time.

The best way to show what effect the Personnel Center can have on an enlisted man is to show just what happens to him after he enters the Army. When the man is recruited from civilian life by an ASA recruiter his first step is a Training Division somewhere in the U.S. where he comes under the administrative guidance of an ASA Liaison Officer. Almost immediately he appears on a daily selection report submitted by the ASA Liaison Officer which indicates, among other information, aptitude area scores, years of schooling and availability date (the latter based on completion of eight week Basic Training.) The daily selection report is sent to the ASATC Personnel Center; so that even while the man is undergoing basic training, pertinent information is available to permit the start of his processing. The information obtained from this report is used to compile ASA School quotas, expected arrival statistics and S-2 clearances. After completion of eight weeks basic, the man is normally transferred to the ASA Training Center and assigned to its Reception Company for processing. This is where the Personnel Center takes over. It will run the man through its assembly line turning

out a potential student for an Army Service school or a man available for direct assignment depending upon his individual qualifications.

After the processing most men are assigned to a school. The school each man is selected for is determined by aptitude area scores received by Personnel Center approximately eight weeks in advance of the man's arrival at Fort Devens, personal interview, and school quotas. Assignment may be to the ASA school, Army Language, Adjutant General, Food Service or any one of the other services schools whose graduates are needed by the Agency.

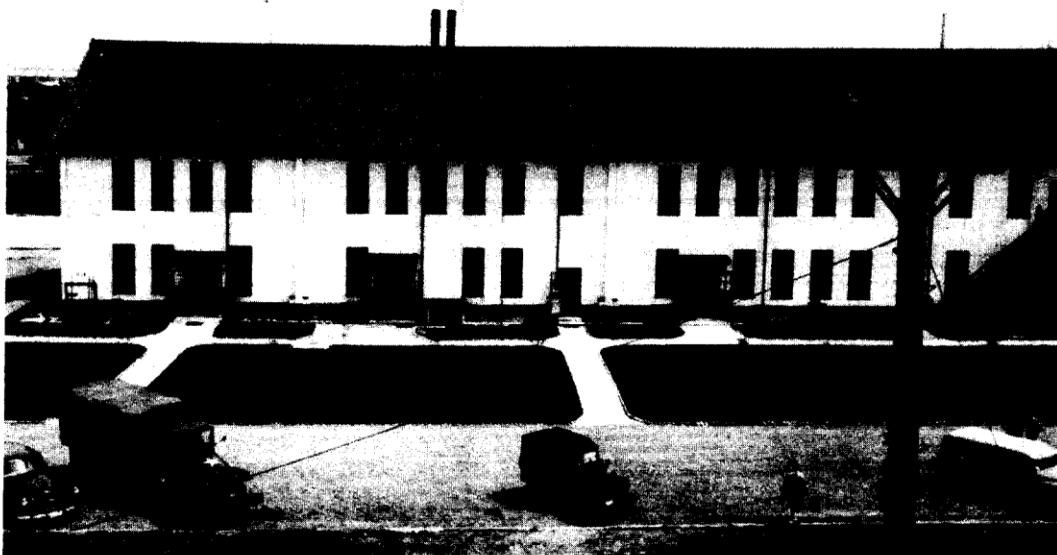
When the student is about to complete his schooling, he is reported back to the Personnel Center for assignment. The ASATC then reports him to Headquarters, ASA, on a "Report of Immediately Available Personnel" and Headquarters, after looking over the world-wide needs, directs his assignment to an ASA unit requiring his specific MOS. The few men who do not go to an Army school after basic training are immediately reported to Headquarters and are assigned according to their qualifications.

After a tour of duty with an ASA unit overseas, a soldier may wind up in the Personnel Center a third time. In this case, he would be there while his assignment in the States was being determined.

During each of these three visits to the Center, the man will get similar treatment. The Center has been divided into nine sections: finance, incoming records, S-2, classification and assignment, POR, outgoing records, troop movement, morning reports, miscellaneous and file. Which of these sections each man encounters on his visits to the Center depends upon his individual needs. The entire arrangement is designed to work as an assembly line so that each soldier may be speedily processed and properly assigned. At present it is not unusual for Personnel Center to process completely 100-150 men a day.

New Buildings Make 8610 Attractive Post

~~(Confidential)~~



Upper photo: General view from top of Operations Building showing from left to right: Headquarters Building, Softball Field, Post Exchange, Heating Plants, Barracks and Volleyball Court. Lower photo: Mess Hall and Barracks.

Construction Story

Since its activation almost two years ago the 8610 AAU has developed into one of the more desirable posts at which to spend an overseas tour. The unit was activated under the leadership of Major Thomas E. Flaherty in the old 126th Area at Fushimi-Momoyama on the outskirts of Kyoto, former capitol city of Japan located on the main island of Honshu.

The unit operated in the Momoyama Area while its present operating site was being renovated and rebuilt. The unit moved to its present location at Fukakusa in August of 1952. An individual who had visited the post at the time of the move, however, would hardly recognize the area today since an extensive landscaping program, begun under Major Flaherty and continued by the present Commanding Officer has made the post one of the most attractive in Japan.

The billeting area consists of three two story barracks of white stucco construction with hardwood floors throughout. The barracks are divided into rooms which accommodate from two to six men each. All barracks space is used to billet troops with the exception of the ground floor of one which is utilized for the EM Mess and Club, Dayroom, Unit Supply, Tailor Shop Barber Shop, and Snack Bar. A smaller barracks type building is used for Quarters for Bachelor Officers, Officers Mess, and Lounge. The station also has a branch Post Exchange, Softball field, hard surface Volley Ball and Tennis Courts, Theater, Photo Laboratory, and Hobby Shop.

Nearby Camp Otsu offers Basketball, Football and Baseball plus bowling alleys, NCO Club, a fine Service Club and excellent sailing on Lake Biwa. Camera fans will also find plenty of subject material around this ancient city of Japan.

The operations building of the 8610 AAU is one of the most modern and up to date in the Far East. The building is air conditioned throughout which makes it a pleasant place to work throughout the winter and summer months. Since most of the specialties peculiar to the Agency can be utilized by the 8610th, an individual due for rotation from Korea or due for a tour overseas would do well to give the 8610 AAU some serious thought when listing a preference for an overseas duty station.

Discussion Topics

852nd

~~(Confidential)~~

New Antenna System

The 852d Comm Recon Det recently completed moving its Radio operations section from the temporary location it had in Camp des Loges, to the newly constructed SHAPE Radio Receiver Site. The Receiver Site, which went into the planning stage shortly after SHAPE was organized two years ago, had just said 'Good-bye' to the last of the construction crews when the 852d started to move in and begin operations.

The biggest job facing the unit upon completion of the move was arranging for a suitable antenna system, separate from the Receiver Section. It was decided, at first, to use the rhombic type antennas which were already constructed for the Receiver Section on a joint basis by means of antenna coupling devices. But after making arrangement for the issue of the multicouplers it was discovered that there were five Double Doublet Antenna kits available which the 852d could use.

The antenna kits and multicouplers seemed to solve the long range receiving problems quite well, providing the choice of five directional antennas for each receiver - but the next problem that of construction, proved even bigger. With the aid of the SHAPE Wire Section and its construction crew for the outside work and with the 852d's one man maintenance section going at full speed on the inside work, the new antenna system is now putting good, strong signals out 24 hours a day.

The antennas were assembled from standard Signal Corps Double Doublet Receiving Antenna Kits. The antenna consists of three strand, No. 12, AWG, copperweld wire which is suspended from 50 ft, wood line poles, transmission is accomplished by use of two wire, 205-ohm, polyethylene transmission cable. The balanced 200 ohm impedance transmission lines are terminated in five Antenna Coupler's, CU-119A/FR, which provide ten coaxial jacks for distribution of the 75 ohm unbalanced output of the coupler. Switching and distribution is accomplished by means of coaxial jacks mounted in the antenna rack and connected to the receivers by means of RG11A/U, coaxial cable.

"We Sell Security"

Upon this unit's arrival in Europe in August 1952, our main efforts were to become effective operationally as this was our first opportunity to demonstrate our ability to work as a team.

We participated in various maneuvers CPX's immediately after our arrival, a "shakedown cruise" which was satisfactory but capable of improvement as our greatest desire was to establish Division Teams.

Division Teams in this theater, in order to cover our mission more effectively, must be physically separate from the Comm Recon Hqs due to the displacement of the Division's Headquarters from Heilbronn, our Headquarters' location.

Our first Team (Team A-3) was situated at Augsburg about 16 February 53 with the 43rd Infantry Division. It is illuminating to note that security and procedural violations from the Division began to decrease in number within a short time after our Team's arrival at the Division.

Team A-3 is billeted in the same military post as that which the Division Headquarters occupies. The Team is quartered and fed with the Division Signal Company, administration remaining with the Comm Recon Headquarters at Heilbronn. The team OIC has established direct contact with the Division G-2 and Division Signal Officer for coordination in the field and in garrison. The Team moves with the Division Headquarters whenever the Division moves without having to consult the Comm Recon Hqs, making for more tactical effectiveness and operational efficiency.

Team A-2 is located at Goepingen with the 28th Infantry Division and its contact and liaison with the Division has been identical with that of Team A-3 with the exception of rations and quarters which are provided by the 28th Replacement Company. Team A-2 has been conducting special problems with Battalions of the 28th Division and finds it possible

maintain it's monitoring mission still. Basic loads of POL and rations for both Teams are provided by the Team Headquarters at Heilbronn.

Security and Procedural Violation reports are rendered by each separate team to the G-2 of the Division which they support. However, during Coros CPX's all teams render their reports to the Headquarters (Corps) Team and a final report is then rendered to the Corps Commander and distribution of information copies is sent to the separate Divisions and Regiments.

As maneuvers and CPX's are held the year around, we have learned much of cold weather operation's, winter driving hazards, and particular logistical problems, some of it the hard way.

We are in happy receipt of a commendation from the CG VII Corps and things are looking up for the mission of transmission security monitoring in Europe. Security monitoring is not easily sold, but once accepted is highly valued, thereby placing great demands for continuing and constant tactical, operational, and administrative liaison with the supported Divisions and Corps.

8609th

New Type Incinerator

Equipment, faces, missions change again and again, but the problem of paper disposal never changes. After years of struggling with an old boiler converted as an incinerator, USM-19 got busy on the problem and came up with what it thinks is the best solution so far.

For more than nine months they have been operating a motor-driven rotating drum built of armor-plate ends and heavy-gauge iron screen. Burning trash once each watch (three times daily) is accomplished in less than 20 minutes - about one-sixth the time required when the old boiler was in use. And more than half of the 20 minutes is collection and loading time.

Built to the station's specifications by

the Air Installations Office (Base Engineer), the new incinerator is 8 feet long and 4 feet in diameter. The horizontal drive shaft rides in bearings welded to the tops of two A-frames built of iron pipe. The shaft extends through a sheet-metal wall and is driven by a 1/6 HP, 1500 RPM, capacitor start motor, the gear ratio of 300:1 drives the incinerator at 5 revolutions per minute. This rotation keeps the burning paper loosened up and blazing merrily.

A door, hinged to open upward in the direction of rotation, permits easy loading. Measuring 3 by 3 feet, it is located in the middle of the drum. Stopping the motor at a position marked on the large drive gear properly positions the door for loading the drum.

When the drum is loaded (a full load handles all the paper thrown out by MS-9 and its orderly room during an exceedingly busy eight hours) and ignited, the motor switch is thrown and the drum rotates. Combustion is completed in about five minutes. Ashes, all broken into scraps less than 3/4 inch square by the wire mesh, escape from the drum as burning progresses. To a degree these ashes scatter over the operations compound, for the heat causes them to rise. The slightest breeze, however, is enough to "police the area," blowing the ashes on to other resting places. The bulk of the ash remains under the drum, from where - after a good wetting down with a hose - it easily is shovelled into trash containers for removal.

Sheet metal walls with gaps at each corner surround the incinerator to a height of 8 feet. They cut down the effect of wind and weather on the burning process and contain much of the spectacular glare from the flames which might alarm individuals unaware of the cause. At first, a sheet-metal roof covered the top of the enclosure, but the flames soon ate it away. Now, the top is covered with perforated portable metal landing strip material intended to keep the flames from shooting too high. The end of the enclosure which contains the drive motor is roofed with sheet metal to provide some protection from weather and ashes for the operator, the guard and the destruction officer.

Making Unit Training Effective

In fifty years and two world wars (plus a border expedition and the Korean conflict) the Army has grown, not only in size but in magnitude and complexity of its responsibilities. By any standard of measurement this growth has been tremendous. The problems of fighting, and providing food, clothing and shelter for its soldiers, are basically the same. But their solution has become more complex because the Army has become more complex in its composition, its mission and its tools.

So what? What are we driving at? In one word, "training"; a small word but it means a great deal. With each new method, with each new tool, someone must be taught its proper use. In our world of today where changes take place almost too rapidly to record, a continued training program must be in progress. A training program is one thing, but an EFFECTIVE training program is something else. A great deal of the dislikes of training stems from the fact that the programs and classes are not given the proper preparation or presentation.

Here at the 330th, in all instances where it is possible, people dealing most directly with the subjects were utilized as instructors. For example, the class dealing with "Enemy Weapons and Material" was given by the X Corps Assistant Technical Intelligence Coordinator, and the Corps Provost Marshall was called in when a class entitled "The Corps Provost Marshall came up.

Future classes, such as "Preventative Maintenance for Motor Vehicles" are to take place in the motor pool where the men will actually learn by doing, under the supervision of skilled personnel. Plans are also under way to conduct special classes for the First Three Graders.

With these classes and other continued improvements the training at the 330th Communication Reconnaissance Company will continue to remain a beneficial addition in assistance to the company mission, as well as something more than just the usually cut and dry lecture.

New Chapel Helps Unity



Chaplain (Capt) Cloma A. Huffman, 502d Comm Recon Group

The 502d Communications Reconnaissance Group culminated nearly a year of outstanding community relations at Heilbronn, Germany, June 8, when the Chapel of the Three Stones was dedicated. Brigadier General Eugene B. McGinley, Stuttgart District Commanding General, officially presented the new place of worship to Colonel John Watt, Commanding Officer of the Group.

"Here is one of the finest examples of soldier-community cooperation I have ever encountered in all of my years in the service," declared Lieutenant General William M. Hoge, Seventh Army Commanding General, at the ceremony. American soldiers from the Group and German civilians

labored together for the better part of a year to complete this unique chapel, which was converted from an old German artillery stable.

The "Three Stones" were collected from Catholic, Protestant, and Jewish churches destroyed in World War II. They were placed at the base of the altar, which was built to symbolize the rolled-away Stone of the Resurrection. On the altar above each of the respective stones appears the word "Holy" in gold leaf letters of Latin, English, and Hebrew to symbolize the three faiths.

The Protestant stone was donated by St. Kilian's Evangelical Church, Heilbronn,

from the sanctuary area of a 13th century Gothic cathedral, oldest church in the city. The cathedral was badly damaged by fire resulting from an air raid in December, 1944.

St Augustine's Church, Heilbronn, donated the Catholic stone. This church, too, was destroyed by Allied bombers in 1944. The Jewish stone came from the Stuttgart Synagogue, which Nazi SS troopers forced the Jewish congregation to destroy with their own hands November 8 and 9, 1938.

The two-ton altar was obtained from Aukirche, an Evangelical Church at Heilbronn. At first the gift aroused the hostility of the church laymen, but as they came to understand symbolic unity of their donation, their attitude changed to friendship and assistance. The altar is now finished a gleaming white, with black granite supports. Set on top is a stone of deep red, nearly ten feet long, 39 inches wide, and six inches thick.

Above the altar is a large black granite cross with gold leaf edges, hung between maroon drapes, which cover the cross for Jewish services. A blue silk cloth, with

the Star of David embroidered in gold, was prepared by a Jewish seamstress in Stuttgart to cover the Resurrection symbol during Jewish services.

The ancient symbols of the Christian and Jewish religions appear to be suspended in mid-air at either side of the altar. The illusion was created by indirect lighting of figures carved in plexiglass. At the left is a cross, and at the right is the Table of the Ten Commandments.

Two hand-wrought vigil lamps were donated. Stained glass windows were largely paid for by donations made by Group soldiers and were made by a German craftsman who designs and installs such windows in cathedrals.

Group soldiers voluntarily spent many hours carving the stones, cementing them together, painting, and decorating. German craftsmen did much of the other work.

The symbol of unity was emphasized further at the dedication by the participation of Catholic, Protestant, and Jewish chaplains. Distinguished guests included Col. H.C. Johnson, Chief and Col. W.C. Roberts, Deputy Chief of ASAE.

Simulated Tactical Radio Nets For Training (cont'd. from p. II)

different frequency. The results of this procedure are "patched" through a multi-coupler to the students' receivers, where they must tune to the stations before copying.

In the preparation of the tape for use in this system, the oscillator of a TG-10 is keyed by hand (two operators simulating net traffic) and "patched" into BC-1016 recorder and then the other by means of the control panel switches, different "transmissions" may be recorded for the "station" selected:

The second BC-1016 is situated on a low table near the first; the space between

the recording heads is adjusted as near as possible to the exact distance between the photo-electric cells of the two TG-10's mounted one above the other. By allowing the proper intervals between recorded "transmissions, net-effects may be obtained. The photo-electric cells in the TG-10 keyers are adjusted to pick up either of the two "stations" on the tape and the net is ready to be "patched" to the students' positions.

The tape is threaded through the lower keyer in normal fashion except that the tape is run from the drive pulley over the first idler pulley on the upper machine and then in the regular manner to the take-up reel. Starting the keyers simultaneously gives a smooth performance and is an excellent training medium.

REF ID: A66138
8604th Educational Program

An educational survey was completed recently here that covered the entire personnel of USARS, Asmara, Eritrea. The purpose of this survey were two-fold. First, an accurate estimate of the educational attainments of assigned personnel was obtained, and secondly, personnel were given an opportunity to indicate the extent to which they desired to participate in the Army education program as it is operative at USARS. With these two goals in mind it was discovered that, using high school graduation as a standard, 92 EM were non-high-school graduates, and that more than 145 EM desired or were participating in one or more phase of the Army Education Program, e.g., Army Extension Course, USAFI Correspondence and self-teaching course.

Since it was considered that high school graduation would be a desirable minimal educational achievement for all EM assigned to USARS, personnel who were not high school graduates were encouraged to submit applications for the USAFI General Educational Development Test, High School Level. The great majority of these EM did subsequently make application for the test, a large percentage passed it and received certificates from USAFI, Europe, and those who did not pass were advised that they could re-take the test within 6 months. A continuing effort is being made by the I & E Section to assist EM, including newly assigned personnel, in attaining the minimum educational goal of high school graduation or its equivalent.

In addition to those taking high school level GED tests, 51 persons made application for the College GED tests. The purpose of the I & E Section in encouraging EM to take these tests is that they are concrete evidence of ability, are a source of personal satisfaction to the individual concerned, and indicate to both military and civilian authorities the capabilities of the individual.

As a second result of the survey, interest in the various phases of the Army Education Program was stimulated to the extent indicated below:

Army Extension Courses - 69 EM were enrolled in non-resident training divisions

of various Army Branch Schools. Applications for Infantry, Sig C, ASA, AG and PMG Series 10 have been made.

USAFI Correspondence and self-teaching courses - a typically wide range of interests was shown by personnel taking USAFI courses. They range from vocational subjects such as Auto Mechanics to college level chemistry and mathematics. 36 EM are furthering their education through USAFI, and in addition, 4 persons are taking courses through USAFI from cooperating Colleges and Universities.

University of Maryland Overseas Program - current subjects being offered at the Asmara Education Center by the College of Special and Continuation Studies of the University of Maryland are American History, Economics, and Italian Grammar. The Program has 49 military personnel enrolled at Asmara.

Group Study Classes - because the Italian language is indigenous to Eritrea, 30 persons have taken advantage of this fact to learn the Italian language in group study classes conducted by qualified local instructors.

In March, 1953, a Post I & E Center was established at USARS to be used for classes and study purposes of Post Personnel. Maps, Books, Charts and other informational media were placed in the I & E Center and furniture was provided to make a comfortable reading or study room. A large news map was posted and news items are kept up to date.

A weekly post newspaper, called the "Weekly Gazelle," was established for the first time at USARS, and has filled a long felt need for such a publication.

New Snack Bar

The men of the 8605th now have a place where they can get refreshments. A badly needed snack bar, complete with juke box and pin ball machines, was opened at Helemano in June, giving the men a place to buy short orders, fountain drinks, and beer. A section of the 8309th Army Unit supply room was remodeled to make room for the snack bar and the PX, which was moved down from the first floor of the barracks.

8611th

(Confidential)

Life In West Germany Interesting

Field Station 8611th AAU is located about 2½ miles from District Headquarters, Baumholder, Germany and high on a windy hill of about 1200 feet elevation. We are a "lodger" unit of the Baumholder District, being under command of ASAE.

Baumholder is in the French Zone about 30 miles West of Kaiserslautern and about 75 miles East of Luxembourg City. The village of Baumholder is very small, while the camp, "Camp De Baumholder" to the French is large, in fact, one of the largest in Europe. The camp was used by the Germans as an Artillery and Tanker Training Center and is being used by the Americans and French for the same as well as other purposes. Units of the Second Armored "Hell on Wheels" Division are stationed here as well as many other units. The artillery ranges and field training facilities are used by many units stationed in other parts of Europe. The cantonment area of the camp has been expanded greatly by the Americans and the French, especially during the past eighteen months, with some construction still under way.

The immediate vicinity of Baumholder offers little in the way of recreation facilities, however, many interesting places are within reach of a pass or short leave. Paris is only a 9-10 hour journey; Amsterdam approximately the same; Luxembourg takes only 3 to 4 hours. Travel across borders has been made much easier all over Europe by a great reduction in the red tape involved. All that a serviceman needs in most countries is a written pass or leave along with his ID card. Groups of men from this unit have recently visited some of the cities mentioned above, traveling by chartered bus. This has proven very economical and convenient.

A round trip to Paris costs only \$13.00 when a group of fifteen or more travel in this manner. A deterrent to travel by private auto has been the poor condition of roads in the immediate vicinity of Baumholder. These roads are being repaired or rebuilt at the present time and soon will compare favorably with other roads

in Europe. For points South and East, the Autobahn begins at Kaiserslautern, making for smooth sailing when traveling to the recreation areas of Garmisch, Berchtesgaden, or Austria and Italy.

In our own unit area, we have a small PX, Barber shop, and Tailor shop which are adequate for the usual daily needs. We also have an EM Club which like the other facilities mentioned is a branch of more complete facilities located in the main post area. These other facilities may be reached by free bus service. A new NCO Club is under construction on the main post which will alleviate the crowded conditions at the present clubs.

War In The Ether (cont'd from p. 6)

to render the task of German monitoring more difficult. The control station for this service -- a great agents' radio central -- was in the region of Bristol, England.

In the "Generalgouvernement" (Western Poland) existed a widely branching radio agents' service which was likewise controlled from England.

In the "Protectorate" (Bohemia and Moravia) an extended net of the Russian intelligence service was functioning.

Another Russian radio agents' net extended over all Europe. In May 1941 it already had more than 20 stations.

Shortly before the outbreak of the war with Russia the traffic on the Russian agents' net grew like an avalanche. In June 1941 there were 78 stations operating in this net. The net had been built up long before the war, but had been kept completely concealed by radio silence.

What a mass of radio agents had to be combatted is clear from the fact that in the Soviet Union alone from June 1941 to June 1944, 120,000 agents in round numbers were trained for use in German territory, among them some 30,000 radio operators. About a third of those employed succeeded in carrying on their work for a longer or shorter period. The western powers made no such mass employment, but the intelligence and quality and hence the danger of the agents employed was in general higher.

Well?? What About It??
(Cont'd. from inside front cover)

located at Fort Devens, Massachusetts, the site of the ASA School. Here subcourses prepared by the ASA Training Literature Division and those from other military sources are distributed to Agency personnel, both active duty and reserve, throughout the world. Each year thousands of lessons and examinations are graded and returned to members of the widely scattered student body. Here too, applications from ASA personnel for subcourses from other arms and services are processed and forwarded.

Students of this "college with a world-wide campus" range from the private in basic training preparing for OCS with the Ten-Series to the stateside major brushing up on tactics with the Fifty-Series;

PREPARE FOR THE FUTURE WITH EXTENSION TRAINING - SIGN UP TODAY

Rotation Of Personnel (cont'd. from page 4)

part in spreading out this group which would have normally gone home together.

By February 1952, all units were manned by personnel whose scheduled time for departure from the theater was so spread out that no overwhelming loss would be necessary at any one time, and rotation was on a strictly voluntary basis.

It would appear odd that many men and some officers would prefer to serve their entire overseas tour in Korea rather than rotate to the comparative comfort of an assignment in Japan, Okinawa, or the Philippines. A number of factors, however, contributed to this preference. The normal tour was shorter, eighteen months as compared to thirty-six months in Japan. The men had pride in their units. They enjoyed the prestige of serving in a combat zone on a job, the value of which was readily apparent. An income tax exemption and, recently, combat pay for some, meant more dollars in the pocket. Promotions were more rapid.

22

REF ID: A66138
from the college ROTC senior studying elementary cryptanalysis in the Twenty-Series to the public utility president (a reserve colonel) on the west coast, temporarily stymied by a Sixty-Series logistics problem.

Subcourses are prepared and written with the technical advice and assistance of experts in each specialized field. Each subcourse includes all of the necessary manuals and supplementary information needed for its completion.

Applications for enrollment will be submitted through the next higher headquarters in the case of active duty personnel. Reservists, not on active duty, will submit applications through Senior Army Instructors. Applications for non-ASA courses will be processed in the same manner.

They were reluctant to leave a familiar unit for service in a strange outfit. All of these reasons led many men to remain voluntarily in Korea. In addition there was the knowledge that if a man wanted to leave, he had only to request rotation and a replacement would arrive within a few weeks to take over whatever advantages and privileges there might be to this assignment.

Today rotation from Korea is well established within ASA Pacific. Approximately ten officers and fifty enlisted men are transferred each month from the 501st Communication Reconnaissance Group and its subordinate units to ASA Pacific stations throughout the Far East. These men have acquired skill, experience, and confidence in the field under combat conditions. As a result of nearly two years of operation of the rotation plan within ASA Pacific, most officers and a substantial portion of the enlisted men are veterans of Korea. Their background of recent service in the field has been of definite help in maintaining high standards of performance throughout the command.

Army Security Agency

~~CONFIDENTIAL~~

Solutions To Crypt Problems In The Last Issue Of Discussion Topics

~~(Confidential)~~

Problem 13.

PTO DE CRY 1000 KCS 061920Z

ATTACK WILL BEGIN AT ZERO SIX ZERO ZERO TOMORROW MORNING IN VICINITY OF CROSSROADS SEVEN SIX SEVEN STOP YOUR REGIMENT WILL SPEARHEAD ATTACK STOP DIVISION COMMAND OF FOURTH DIVISION WILL BE MOVED FROM CROSSROADS THREE ZERO THREE TO ROAD JUNCTION EIGHT SEVEN SIX STOP ONE ONE REGIMENT IS DIVISION RESERVE

Keyword: CRYPTOGRAPHY

Key: $A_p \equiv Q_c$

- Clues: 1. D I V I S I O N
A F S F P F L K
2. R E G I M E N T
N A C E I A J P

Problem 14.

CRY DE BDE 4000 KCS 062025Z

ENEMY MOVEMENT OBSERVED NEAR HILL SEVEN THREE ONE

Keyword: CRYPTOGRAPHY

Key: $A_p \equiv Z_c$

- Clues: 1. E N E M Y
B K B J V
2. S E V E N
O A R A J

Problem 15.

CRY DE GAH 3000 KCS 062210Z

CASUALTIES HEAVY IN MY REGIMENT

Keyword: CRYPTOGRAPHY

Key: $A_p \equiv Z_c$ (Reversed)

- Clues: 1. R E G I M E N T
O B D F J B K Q
2. C A S U A L T I E S
Y W O Q W H P E A O

Problem 16.

CRY DE PTO 2000 KCS 070645Z

ATTACK JUMPED OFF THIS MORNING AT ZERO SIX ZERO ZERO IN VICINITY OF CROSSROADS SEVEN SIX SEVEN STOP WILL NOTIFY YOU WHEN OBJECTIVE TAKEN

Keyword: CRYPTOGRAM (Transposition Mixed)

Key: $A_p \equiv A_c$

- Clues: 1. V I C I N I T Y
S F Z F K F Q V
2. C R O S S R O A D S
Y N K O O N K W Z O

Problem 17.

GAH DE CRY 1000 KCX 07030Z

REENFORCEMENTS HAVE BEEN SENT TO YOUR REGIMENT AS REQUESTED STOP EXPECT ATTACK ON ROAD JUNCTION TWO ZERO THREE

Keyword: CRYPTANALYSIS (Transposition Mixed)

Key: $A_p \equiv L_c$

- Clues: 1. R E E N F O R C E M E N T S
O B B K C L O Z B J B K Q P
2. A T T A C K
W P P W Y G

Discussion Topics

~~CONFIDENTIAL~~

23



**MAKE
ASA
SPELL
ECONOMY**

Exercise care with equipment and caution with procedures.

Conserve expendable supplies.

Overhaul material up to echelon of maintenance permitted.

Note lost motion in processing and systematize activities.

Observe every phase of every operation which may affect results.

Make team work pay - push tasks on which tasks of others depend.

Yoke up intelligence - accuracy - persistence - and speed.

Anticipate wasted effort before it is expended.

Secure sound results by attention to small matters.

Apply first priorities to first things.

