CONTOUR

VOLUME 3 NO. 1 | DEFENSE MAPPING SCHOOL | 16 JANUARY 1976

MANPOWER ACCOUNTING FORMS SIMPLIFIED

"Manpower Accounting," emblazoned in eight-inch high letters across the front of a large flip-chart, has greeted the eyes of anyone brave (?) enough to wander into the PPO office during the Month of January. Emotions ranging from outrage to fear to curiosity have been evident. Obviously PPO was up to something again. In truth, PPO is up to something; and that "something" is another look at our system for recording and reporting man hours (Form 13's).

The purpose of this effort is to:

a. Attempt to make the Form 13 simpler for each of us to use, while retaining the minimum amount of manpower data necessary to manage ourselves and to provide required reports to others.

b. Simplify and refine the definitions of each program category to eliminate the currently popular game of "What column do I use if . . ."

Although still in the preliminary stages, it looks like we may be able to drastically reduce the number of columns on the Form 13 by combining some categories and by eliminating those seldom or never used. But we use all the columns now, right? Wrong! While it's true that as an organization, DMS generally reports some number of hours in each of the columns of the Form 13, any one of us usually uses a third or less of the columns. In addition, instructors mostly work on course related matter (teaching, preparation, course development, etc.) and spend little, if any time on such things as program management and base operations. On the other hand, most of the staff and supervisors seldom spend time instructing. So by custom-tailoring forms to suit the various types of positions within the School, it is possible to. . . end up with a simple short manpower accounting form!

If all this works, it means each of us will have a new Form 13 with 10 to 12 columns (as opposed to the current 33). And, with new definitions for categories we won't waste time and effort trying to decide which of 2 or 3 columns we should log a particular hour.

The end of January is the deadline for "Phase 1" which will be a draft of the new forms and an information briefing for Staff Office and Department Chiefs. "Phase 2" will allow the Staff and Faculty to review and comment. If everything works out, "Phase 3" will be implemented, which will result in a manpower accounting procedure which is easier on us all and will result in an improved management information system.

NO RIF NOW

Final action has been taken by the House and Senate Conferences on the FY 1976 DOD Appropriations Bill. The results were not as drastic for the DMS Budget as previously expected. This does not mean that DMS has money to burn or that the Budget Officer will start saying "yes" to purchase or travel requests. It does mean that we will not have to undergo a RIF at this time. We must all do our part to reduce wastefulness and keep our belts tightened. With this effort on our part and other DOD agencies, the Defense budget may be reduced with little effect on the economy. Keep submitting the cost reduction suggestions, they not only save the Government money but can earn some for you.

ATTENTION CIVILIANS!!!

All DMS civilian employees official personnel folders will be in the Bagley Hall Auditorium within the next few weeks.

All civilians should review their personnel folders to ensure their file is up-to-date.

Watch for Memorandum for date.

from the DIRECTOR

At the risk of setting a tone like Eastern Bloc worker's propaganda, isn't it nice to be back at work after the holidays? In our own case, Christmas was a particularly happy and restful time, but the gurgling radiators of Bagley Hall and the Total Solar Eclipse Simulators (hallways) in Wheeler were welcome after things got back to normal on 5 January. Other agencies also go through a slack period, but nothing gets quieter than a school when the students are gone. Those of us who didn't take leave all made resolutions to "get some real work done," but the first obstacle one encounters is the absolute lack of people to coordinate with. The second is a kind of syndrome that creeps up on you when the halls are quiet, the phone doesn't ring, and the parking lot is nearly empty: Am I the only person here? I wonder who is here. Maybe I'll get up and chew the fat with whoever did come in . . .

There goes the "real work."

The same effect occurs at home. At our house, the place roared from dawn to dusk as the reunited Wintz Boys exchanged tall school tales, bugged each other, and explored underneath the Christmas tree (the latter varied from sly glances, through subtle prodding of packages to, in one case, brute force unwrapping.... followed by a brute force reminder of Christmas traditions). However, once the kids are put on the plane or school bus again, a kind of welcomed sense of normalcy returns. Once again the ringing of the phone just might possibly be for the parents. The cat comes down from the attic, tail intact. The social calendar simmers down until watching Warner Wolf is the most significant event of the evening. One has to be careful in describing the end of the holidays; it's not a sense of relief, really, but a transition from one way of life to another. In the words of one of our NCO's, "Once a year is just about right for Christmas."

Glad to see everybody back safe and sound.

FROM THE EDITOR

The next issue of the Contour will find itself with a new Editor — Cathy McCloskey; our Student Affairs Coordinator in PPO will take over the paper in addition to her regular duties.

Having joined the DMS Staff four years ago as an Administrative Aide, she has worked in both Bagley and Wheeler Halls in TSD and PPO; actually, Cathy needs no introduction. The courses she is taking (Human Relations and Leadership Training, Communication Skills, Personnel Management and Principles of Applied Psychology), plus her interest in "her" Girl Scouts and Sunday School groups, indicate her desire and ability for working with people — surely good background for an editor!

In editing the Contour for the past year, I would most honestly describe that process as always challenging, usually fun, occasionally frustrating, and sometimes downright maddening — in short, it allows one to deal with enough people in enough situations to provide the grist for evoking the full range of emotions. On balance, my memories are surprisingly warm and I will always remember DMS fondly.

Many thanks to all those friends here at DMS who have been so supportive in getting the Contour out.

Ellen Cramer
Editor

I REMEMBER IT WELL...

PROGRESS

by Myles J. Mulholland

Recent articles in the New York Times and the Washington Post reveal a phenomenal breakthrough in TV viewing delivery. The idea is to put the choice of what we're looking at in the hands of the viewer and take it away from the networks. This, of course, has been tried before in the form of pay TV, videocassettes, and, most recently, cable television. The new device is a videodisc and it is envisioned that you will be able to go to the local supermarket or shopping mall and buy the disc of any program you choose much the same as the latest rock record and watch the program uninterrupted by someone trying to sell you dog biscuits every ten minutes.

Now I mention this only to indicate that, indeed, progress is being made in industry, and, although videodiscs may not have a direct application to us as members of the military mapping community, the concept of progress is being keenly felt in our arena because we too are using the same tools - electronics and computors.

The most striking example that comes to mind is the advances made in automated cartography and analytical photogrammetry. These two areas are singled out without any intent to denigrate the advances that have been made in the surveying and graphic arts fields. Particularly, the advances in surveying are to be recognized for having

Continued on page 3.

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Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: LTC Edward K. Wintz
Editor: Ellen K. Cramer

I Remember It Well continued.

taken advantage of the laser and micro electronics in its instrumentation developments.

But in years past cartography and photogrammetry were characterized by the mystique of measuring in a three dimensional model that only the operator, in all his omnipotence, was able to observe or characterized by the individual who was able to maintain a constant lineweight of .004" while drawing with a crow quill pen and using black ink; and these individuals labored hour after hour, and, by rote finally accomplished the task — that was the state-of-the-art; and that state-of-the-art usually led to mistakes that could usually be attributable to the monotonous, repetitive routine associated with the task.

As is wont, time is relentlessly catching up with the old ways and it has now reached the point where replacement in kind for certain pieces of present equipment is impossible simply because the equipment is no longer manufactured.

So, along with other agencies, the DMS is recommending drastic changes in the equipment of the field military topographic units and these changes portend a resurgence of the ability of the topographic units to provide a field commander with timely map products.

The collective recommendations being offered by DMS are known in industry as an interactive system. A controller (mini-computer) will drive a stereoscopic device to extract all the horizontal and vertical detail from a pair of overlapping photographs. The instrument being recommended is expensive but not when you consider that it can accommodate narrow-angle, normal-angle, wide-angle, super-wide-angle photography and focal lengths to 1220 millimeters. Additionally, it will accommodate vertical, tilted, convergent, oblique and panoramic (reconnaisance) photography and it takes into account any type of lens distortion, film shrinkage, atmospheric refraction and earth curvature. The big change is that the instrument will do all the tedious work and the individual will be left to make judgmental determinations, and, just as important, it will not become obsolete in the next quarter century as is happening now.

A digital controller will also drive an orthophoto producing device from the information that was extracted by the stereoscopic instruments - this is another step in the interactive system and again leaves the individual for judgmental determinations.

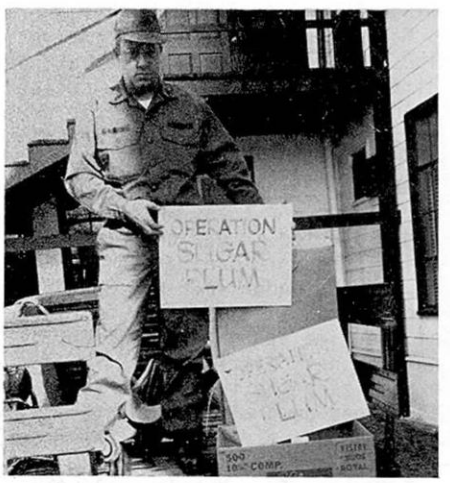
Pursuing the system further we find a plotting table having attached to it a cursor that will activate an interface to display an image of coordinates of every point of detail that appears on the map product graphic. Additionally there will be attached to the digitizing plotting table a cathode ray tube which will pictorially display whatever information is being represented digitally and has the capability to change size (scale) of what is being displayed on the tube. It is envisioned that this part of the system will be the heart of the map revision activity - again the operation directs the operation and the instrument does the work.

A main task of the military topographic units is the drawing and scribing of map information and to satisfy this requirement the interactive system will incorporate a controller that will drive an x and y axis plotting table to graphically portray digitized information. These plotting tables are so precise that their measurements are made in microns.

What intrigued me more than anything else about the table was its ability to scribe a line. It moved over scribe coat at incredible speeds removing the emulsion and not gauging the plastic base and the head could accommodate four scribing tools of varying line weights. This table could be adapted to accept a scribing head that would even scribe letters or numbers of any size or style required by the map specifications. This feature has serious implications on the requirements for type using the standard photo type setting machines or other type producing devices.

What I have documented here is sketchily done so that I wouldn't belabor you with statistics or other minuscule details, but I do hope you have gleaned from the remarks that a fantastic change is about to take place in our military topographic units if our recommendations are brought to fruition. This change can have serious impact on DMS teaching philosophy because we too will have to psych ourselves to be as current as this new proposed equipment.

DMS SUPPORTS OPERATION SUGAR PLUM



SSG McKenzie with a load of toys and food items for needy people.

The people of DMS started the Christmas spirit moving by donating food and toys to the Army Community Service for distribution to needy military families in the area.

Department of Survey people really went all out to insure area families in need would have a Merry Christmas. The Surveyors may be noted for being tough and rugged, but when there is a call for assistance to the underprivileged people of our community, they always come through. Good show, Survey.

WINTERIZE!

NEW APPROACH TO "HUMAN RELATIONS"

by Ellen K. Cramer

Carto Division has enlivened its human relations sessions by developing a relaxed program which allows a less formal approach to dealing with a difficult topic.

The December meeting went something like this. Upon entering the room I noticed that there were a variety of things occurring simultaneously and everyone present was actively engaged with something.

Mr. Imagire, the man largely responsible for this innovative approach, was preparing blintzes for everyone to sample as part of a Hanukkah celebration. Maj Kinnan supplied Hanukkah music plus a minorrah and dradle.

Many attractive books on the various religions of the world and on different cultures were placed around the room. Some people were eating blintzes and browsing through the books.

Barbara Herbstreith contributed her slides of Italy which were being projected in one corner. Other slide presentations that day included "Splendor of the Heavens," showing the stars as they appeared at the time of the birth of Christ, and "Funny Little Man," a story emphasizing the theme that everyone is bogged down with busy activities and consequently forgets the meaning of life.

A number of psychological tests were also available for people to use and discuss. These are always intriguing and evoke good discussion.

Each person received a copy of the following quotations from the various religions of the world -- all based on the basic concept found in the "Golden Rule".

The Hindu:

The true rule is to guard and do by the things of others as you do by your own.

The Buddhist:

One should seek for others the happiness one desires for oneself.

The Zoroastrian:

Do as you would be done by.

The Mohammedan:

Let none of you treat your brother in a way he himself would dislike to be treated.

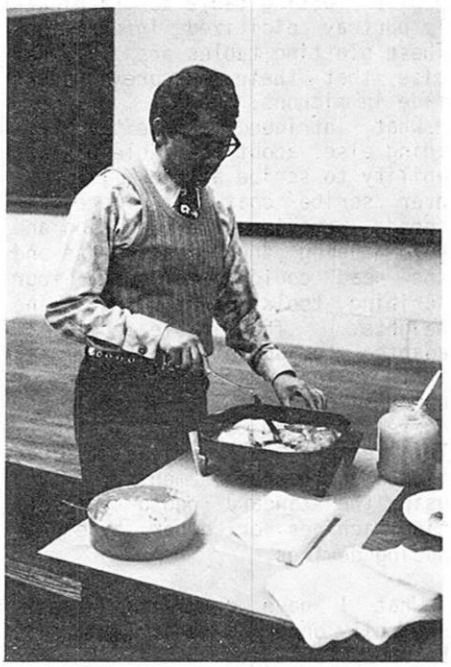
The Jew:

Whatsoever you do not wish your neighbor to do to you, do not unto him.

The Christian:

Do unto others as ye would have others do unto ye.

It was apparent that a large number of resources were drawn upon for the afternoon's session and everything went together to create an enjoyable and highly informative meeting.



..... and if you think this goes into the paper, you've got another think coming ----------

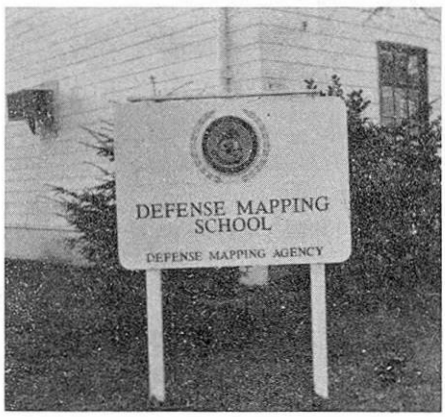
PROMOTION

Congratualtions to PFC Gomes who was promoted to Private First Class (E-3) on 23 Dec 75. PFC Gomes is one of the Instructors in the Terrain Analysis Course in TSD. He is married and the father of 2 year old twins. He has completed the requirements for an Associate Degree in General Studies thru Northern Virginia Community College, and he is now applying for a 4 year degree in Geology through the University of Maryland. PFC Gomes would like to make the Army a career and his sights are set on entering Officer Candidate School in the future.

DMS IS RECOGNIZED

DMS, after 3½ years, has finally gotten, not only informative, but 4 original, outstanding signs erected by Bldgs 214 and 220 to assist the many visitors and students attending the School.

John Houchins designed the signs, and, after many delays in construction, the signs were erected by students and staff of the academic departments.



Above phote: SSG John Batt provides technical supervision to 41K students for sign installation.

ANOTHER FIRST

On Monday, 5 Jan 76, LT Venne reported to Dept of Survey for 3 days familiarization instruction in the engineer level, planetable and transit. After the instruction she will leave for 6 weeks training in the USMC Engineer Officer Basic Course at Camp Lejeune, N.C. LT Venne carries a 1302 MOS and is the first woman officer assigned to the engineer field. DMS wishes her well in all her future endeavors.

DEFENSE MAPPING AGENCY
BUILDING 56, U.S. NAVAL OBSERVATORY
WASHINGTON, D.C. 20305

29 DEC 1975

SUBJECT: Letter of Appreciation

TO: LTC Edward K. Wintz, USA
Director
Defense Mapping School

1. As Chairman of this year's DMA Combined Federal Campaign (CFC), I want to express my appreciation for the strong support I received from you during the campaign. Pledges total $83,778.32 for the Agency as of this date. The Defense Mapping School (DMS) again demonstrated the generosity and dedication of your people to this worthy cause by donating $4,998.05, or 131% of your assigned goal of $3,807.00. I noted with pleasure that DMS was the only DMA Component to achieve 100% participation. Well done in both areas!

2. I would especially like to thank your Chairman, MAJ Boyd R. Baxter, who gave unselfishly of his time and efforts in this campaign. Please pass on my appreciation to him and other key workers for their accomplishments.

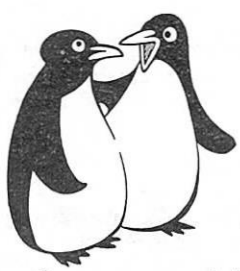
Hilding L. Jacobson

HILDING L. JACOBSON
Major General, USAF
Deputy Director

MC&GOC GRADUATION

Brigadier General John S. Egbert, Deputy Director for Plans, Requirements and Technology in DMA, addressed the MC&GOC graduation on 18 Dec 75. In his talk he gave insights into the future of the MC&G field as he sees it from his vantage point. After his talk he invited questions from the floor.

The distinguished graduate was CPT David A. Maxon.



Energy crunch or no energy crunch, I still keep my thermostat at 68°.

Mr Joe Mills, Chairman of the Commission on Occupational Education Institutions presents Certificate of Accreditation to Lt Col MacKenzie.

SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS
795 Peachtree Street, N.E. • Atlanta, Georgia 30308
Phone 875-8011 Area Code 404

December 12, 1975

Commandant
Defense Mapping School
Fort Belvoir, Virginia 22060

The Commission on Occupational Education Institutions extends to you, your staff, and your faculty congratulations on having attained the status of accreditation by the Southern Association of Colleges and Schools. This newly acquired "status of quality" should be of interest to the service area of your institution, and particularly to occupationally gifted individuals.

Accreditation denotes that an institution has undergone an extensive self-study and a team review, and has been accepted by the Delegate Assembly as meeting the Standards of the Commission on Occupational Education Institutions. Accreditation is granted for a period of one year with subsequent reaffirmation scheduled for 5 years. Each institution must substantiate its accreditation annually through a report which reflects the current status of the school. As you are aware, your institution was accredited by the Delegate Assembly of the Commission on Occupational Education Institutions on December 10, 1975, with reaffirmation scheduled to occur during 1980.

You or your representative were provided, at the Annual Meeting, the Official Motif of the Southern Association of Colleges and Schools. The "Repro Proofs" are for your possible use on letterheads, catalogs, and brochures.

Feel free to contact our office here in Atlanta if we can be of assistance to you or your institution.

Sincerely,

B. E. Childers, Executive Secretary
Commission on Occupational
Education Institutions

BEC/pds

RERC ENHANCEMENT

by George Searfoss

Out with the old, in with the new, could be the theme of the transition taking place in the Reproduction Equipment Repair Course (690-620).

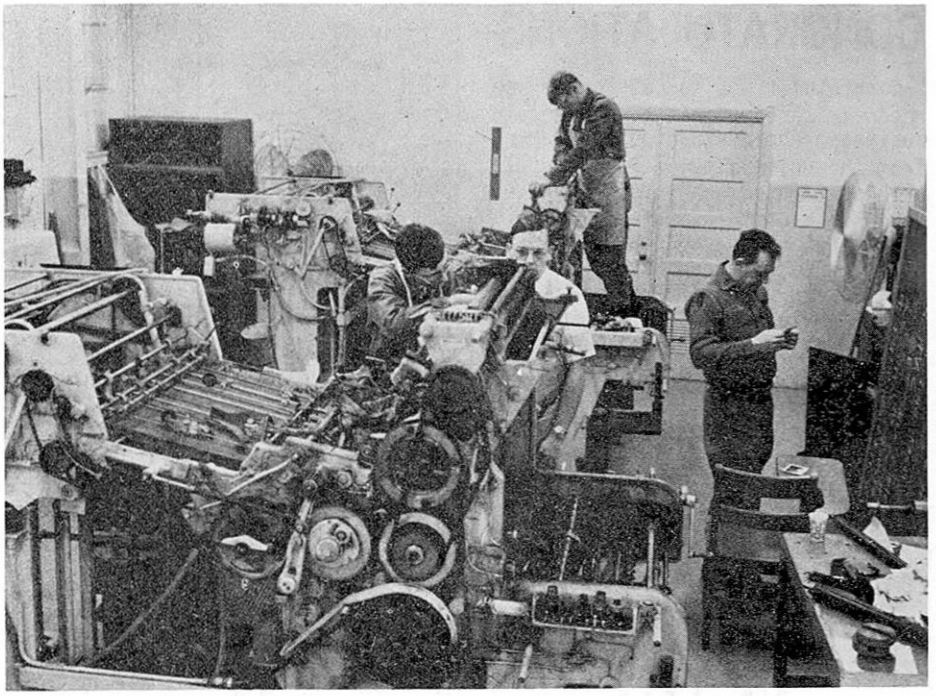
The longest course taught in the Graphic Arts Department, fourteen weeks, 5 days, is now functioning under a revised POI for Class #004-76. Class 003-76 will graduate 30 Jan 76 under the old POI which included instruction on the old American Type Founders, DP Model offset press, which was designed specifically to fit a specially designed van.

With the advent of the Harris Offset Press, Model 129 series being established as the standard authorized offset press for US Army field topographic units, US Marine Corps and US Air Force Rec and Tech units, training on repair and maintenance of the ATF-DP model offset press is being discontinued as a full time block of instruction in the Reproduction Equipment Repair Course. One ATF-DP model offset press will be retained to support US Army Reserve, National Guard or other training requirements on this model offset press.

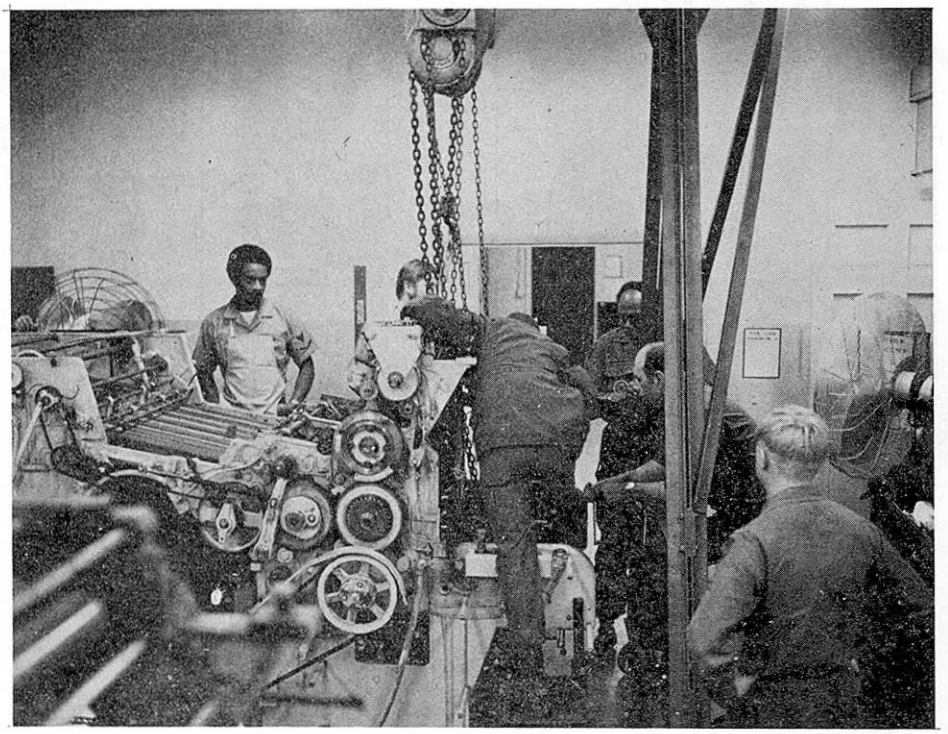
The three ATF-DP model offset presses formerly located in Room 102 ("The Hole") were put in first class shape and turned in to OBS the week before Christmas for further disposition.

The training area was brightened by the installation of new tile flooring and a new paint job. Three Harris offset presses model 129-LXG were moved into Room 102 on 22-23 December by Mr. Connor and personnel from RERD. Two Harris presses acquired from a unit at March AFB were moved from OBS warehouse and one press was moved from Offset Printing Course training room 130 into room 102. The move was made by DMS personnel without incident and at substantial savings over that of an outside contractor moving and setting up the equipment.

The students of Class 004-76 will receive more detailed training than is normally provided if the presses were already set up and in full operation. They are readying the presses for initial checkout and start up for test operation.



Alignment and adjustment of presses.



Preparation for removal of inking assembly.

CONGRATULATIONS

Congratulations to CW3 Parker who recently received his BS degree in Business Administration/Management from the University of Maryland. In tribute to his tenacity, Mr. Parker began work on this degree 20 years ago in Japan, and continued to plug away in such garden spots as Viet Nam, Germany, California and here at DMS where he eventually completed his goal. He has been tentatively accepted for a Masters degree in the education program at the University of Illinois.

DR. POLLING ADDRESSES CIVILIANS

Dr. Carter Polling from DMA came to DMS 17 Dec 75 to speak with the civilian personnel on the topic of "Career Planning" in which he elaborated on the program being developed by DMA to develop people for better jobs and to provide opportunities via cross-training.

How Well Do You Know Road Signs?

CONTOUR

VOLUME 3 NO. 2 | DEFENSE MAPPING SCHOOL | 30 JANUARY 1976

DMS INSTRUCTOR OF THE QUARTER

by George Searfoss

Little did Mr. Anderson realize in 1961 when he graduated from Huron High School, went on to Huron College, and then to South Dakota State University to obtain an Associate Degree in Printing Management, that he would be involved in teaching and training military personnel in the repair and maintenance of photolithographic reproduction equipment.

Little did he realize he would have bestowed upon him the first award of "DMS Instructor of the Quarter."

His career actually began when he graduated from high school and started working in the lithographic field while pursuing his Associate Degree in Printing Management. Also, another action started him on the path that he was eventually to follow, joining the US Army Reserves in June 1964. In August 1964 he decided to team up with the active Army and in October of that year he arrived at the Department of Topography, USAES, as a student in the Reproduction Equipment Repair Course. In February 1965 he

graduated 2d in a class of 12 and upon graduation joined the Reproduction Division as an Instructor. After thirty months as an Instructor in uniform, and the timely advent of civilianization, he decided to shed the uniform and apply for a position as a civilian instructor.

Mr. Anderson's contributions to the instructional mission within the Graphic Arts Department have been many and varied. Besides being a Master Instructor in the Harris Offset Press block of instruction, he is equally well qualified on all photolithographic reproduction equipment. He has performed Lithographic Copy Camera trouble-shooting, rebuilding, and repairing for military and other government agencies on many MTT trips. We are sure Mr. Anderson will continue to contribute in the outstanding manner that he has in the past.

Many favorable comments by Instructors indicate they feel the method now used to select an Instructor for outstanding performance is better and fairer to all concerned. They also feel that the DMS Form 38, 8 Dec 75, "Student Critique of Instruction," better indicates whether or not the instruction and the Instructor was effective in the accomplishment of the primary mission, "getting it across to the students," so they can become better technicians in the mapping and graphic arts community. This method of selection, it appears, has sparked a new interest and drive by the Instructors and all of us to better perform our primary mission.

Another step in the right direction.

THE SPIRIT OF FREEDOM KNEW NO COLOR BARRIER IN 1770

The "Boston Massacre." There are those who have called this incident a martyrdom of heroic demonstrations for liberty by trigger-happy soldiers. There are others who have dismissed it as a self-defense action of occupational troops against a mob outburst. But neither view assesses the true historical significance of this brief incident on the frosty night of March 5, 1770. Perhaps Daniel Webster came closest to a true evaluation with the words "From that moment, we date the severance of the British Empire.

With reason, therefore, it has been said that the five who died in the Boston Massacre were the first to give their lives for the independence of the United States of America. Of the five, the "first to defy and the first to die" (in the words of Irish-American poet John Boyle O'Reilly) was a man of African ancestry named Crispus Attucks.

There has been an unfounded suggestion that Crispus Attucks was not black at all but an Indian. That he had Indian blood is beyond question, his last name is from a Natick Indian word meaning "deer." There is good reason to believe that one of his mother's ancestors was John Attuck, a Christianized Indian who joined the forces of King Phillip in the famous Indian uprising and was hanged in 1676. Attucks may therefore have come by his rebellious nature quite naturally.

What little is known of the early life of this man is surmised from a newspaper ad in the Boston Garette of October 2, 1750:

."Ran away from his master, William Brown, of Framingham; on the 30th of Sept. last, a Mullato Fellow, about 27 years of age...,

("Attuck" - continued on page 3.)

from the DIRECTOR

Just finished looking over proofs of this edition of The Contour, and was struck by the quiet of the post-holiday season. Other forums indicate the same thing; the various reviews and conferences in which we participate at quarter's end contain nothing more exciting than a report on the recent flu outbreak. The Contour also suffers from lack of news from contributors: Mulholland didn't Remember, George's boat is behaving, the Lighthouse is out, and the Old Pro froze. C'mon guys, or we'll start running the Deputy's experiences in auto repair.

Part of the problem is the number of big actions just over the horizon. At this writing, the DMA Director's Conference is in the offing, with its accompanying social and formal exchange of news, viewpoints, and guidance. The Marines are indicating considerable informal interest in a possible officer course on topography. Navy visitors are taking a good look at increased instruction for their lithographers. Army is undergoing a major change in their philosophy concerning military careers, training, and published doctrine, as well as staffing new equipment for topo troops. Most of these DMA and Service activities are now at the preparation or talking stage; definite reportable accomplishments are in the future. Therefore, we report the flu outbreak.

The main business of the School is teaching, and that activity has resumed with a vegeance. Wheeler Hall and the Bagley pressrooms are once again bustling with students, although some phases and classes are still awaiting post-holiday starts. The latter are particularly interesting rooms to drop in on. Where else can you see drafting instructors drafting, or press instructors wrestling with the densitometer? In any case, the recent painting and rehabilitation activity has nearly been completed, and DMS is once again either teaching or getting ready for the major actions ahead. Here's to the successful accomplishment of both.

"WELCOME AB(R)OAD"

by Dale A. Cuave

With all the excitement involving the air conditioning of Wheeler Hall, we've forgotten to welcome ab(r)oad Sue Morson. Sue was retained after graduation from Geodetic Surveying. One of her more prominant aspects is that Sue is a woman Marine. She is now attending ITC and has no doubts she'll last through the course. She must be a Marine; not many feel that confident.

"Buddy" Adkins runs a close second in the field of confidence but comes nowhere near Sue. Buddy was assigned to Optical Survey Instrument Repair after a two year tour in Germany. The old man of OSIR, Billy Joe Deacon, has recently completed ITC, and will give his first class in the near future. Good luck to ya all.

MASTER INSTRUCTOR CERTIFICATE

In a ceremony held at Abbot Hall on the 19th of January LI-1 Freddie Greear received his Master Instructor Certificate from General Roper, USAES, Deputy Commandant.

LI-1 Greear became the first Navy enlisted Instructor to receive the Master Instructor Certificate from the USAES.

LI-1 Greear is presently assigned to the Offset Printing Division, GAD.

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Director: LTC Edward K. Wintz
Editor: Catherine McCloskey

British troops shooting Crispus Attucks at Boston Massacre

("Attuck" - continued from page 1.)

Crispus, 6 feet 2 inches high, short curl'd hair, his knees nearer together than common."

There is no reason to doubt that this ad refers to Crispus Attucks. The age and physical appearance are in accord. Attucks was in his forties in 1770 and is described by John Adams as "almost a giant in size, "which is precisely what a man of six feet two would have seemed in an era when few men ever grew to a six foot height. But one may wonder how a person of such striking appearance could have managed to elude capture for twenty years. The answer may lie in the fact that, on March 5, 1770, he headed a group composed largely of sailors. If he had gone to sea, he might easily have managed to steer clear of being returned to slavery on land. He was certainly not a Boston resident. One source clearly states that he and a companion were "strangers" in Boston.

The exact motivation for Crispus' action on that fateful March 5th night may never be known. He had no part in the day-long taunting and harassment of Hugh Montgomery, the sentry on guard at King Street. Instead he seems to have reacted to rumors about Montgomery's slaying of a youngster. Actually the beleaguered sentry had only clubbed the boy but the misinformed Attucks harangued a group of disgruntled seamen and others in Dock Square, and lead them on towards King Street. Montgomery, meanwhile, was in a very tense situation and called for reinforcements. It is not clear whether he summoned them before or after Attucks' party arrived, but eight soldiers, including one Captain Preston, answered the call. What followed comes down to us in a confused state, as incidents of this nature often do. Certainly both Attucks' newly-arrived group and the crown that had been at the sentry box earlier were keyed up to the point of provoking the soldiers, and certainly the redcoats were in a nervous enough state to respond by firing. Attucks led the advance on the guard, assuring those behind him that the redcoats dared not fire. But the command to fire was given (apparently not by Captain Preston), and the first shot killed Crispus Attucks instantly. When the smoke cleared, the civilians were scattered in all directions; Attucks, a seaman named Jonas Caldwell, and a Bostonian named Sam Gray lay dead; while Sam Maverick, a young teenager, and Patrick Carr, an Irish immigrant, were writhing in agony, wounded unto death - a death that would come days later amid great suffering.

Samuel Adams' propaganda machine went to work and transformed the five who were slain into legendary heroes; Paul Revere popularized an engraving of the massacre which has remained famous despite inaccuracies; and a public funeral was held on March 17th, in which the bodies of Attucks and Caldwell lay in state at Fanueil Hall, "both being strangers in the city," while the others were buried from their homes.

It has been argued as to whether or not Crispus Attucks was a true hero. It seems that this is beside the point. That he had some appreciation of freedom there is no doubt; he had escaped from slavery and avoided it for twenty years. For the rest, he played a part in history; he precipitated a crisis that was already in building and he became the immediate cause of an event that was to have far-reaching consequences, for it was to culminate in the very birth of a nation. In a real sense, then, he died that a country might be born and was, in fact, the first to die for that as-yet-unborn country. It is for this that he is to be remembered.

GySgt URBAN - PROMOTION

Being transferred to Hawaii during the coldest days of the year is joy enough, but to be promoted along with the transfer brings even greater joy. Such is the case for GySgt Bob Urban who was promoted to his present rank on the 19th of January.

In a ceremony attended by Bob's wife Alice, and Susette one of their three children, in addition to many friends, he received his promotion from Lt Col MacKenzie.

GySgt Urban has completed five years of dedicated service with the Graphic Arts Department. He will soon put to use all of his technical skills with the Force Reproduction Section at Camp Smith, Hawaii.

All of GySgt Urban's friends in the Graphic Arts Department and DMS wish him and his family the best of luck at their new duty station in Hawaii, "Aloha."

MARINE/AIR FORCE WIN MATCH

The Marine/Air Force vs Army Bowling Match on 15 Jan was quite an exciting event for both teams. There was quite a bit of bantering between both teams, but Lt Col MacKenzie's remark to the Marines, "there are DI positions available if you lose this one," must have really been the motivator that spurred the Marines, along with the Air Force, to the big finish! The Marines/Air Force had been struggling thru the 1st and 2d games, losing both to the Army. "Big Gun" Sutton led the charge in the 3d game, winding up with a 234, he must have taken Lt Col MacKenzie's comment quite literally, because he really stroked that 3d game. Even the low bowler, Ron Wenrich (MC), came thru with a 195 to help overcome the 112 pin loss to the Army in the first 2 games, by a 68 pin win. So there it is, after losing the first 2 games, the Marines/Air Force won the match with total pins. Army is already talking about next year's match and vows to take back the honors. Below is a breakdown of the scores:

MARINE/AIR FORCE

Dave Cook	208-173-188	= 569
Bill Sutton	147-170-234	= 551
Ron Oleson	161-168-204	= 533
Wayne Batts	153-186-193	= 532
Ron Wenrich	158-144-195	= 497
		2682

ARMY

Harold Hester	193-214-195	= 602
Don Roberts	206-190-190	= 586
Karl Abt	182-152-161	= 495
Rick Cruz	135-200-148	= 483
Duke Braswell	150-158-140	= 448
		2614

X,Y, Z

Clay Kruck finally has running water in his new house! Now all he needs are the sinks—will they arrive by the Vernal Equinox?

MAJ McClatchey got a haircut! Cost him an extra dollar too — but he tells us the guard persons were impressed.

Did you know that over 2,000 people observed the Star of Bethlehem Program during the Christmas holidays.

The renovations in Wheeler Hall are coming along well — upon completion the new look will be "Early Boiler Room."

The word in Bagley Hall is no noise before 0900 hrs, CMSgt Amedy needs his sleep!

RUMOR! RUMOR! Who's been cleaning up his office so well lately, in preparation for — Retirement maybe?

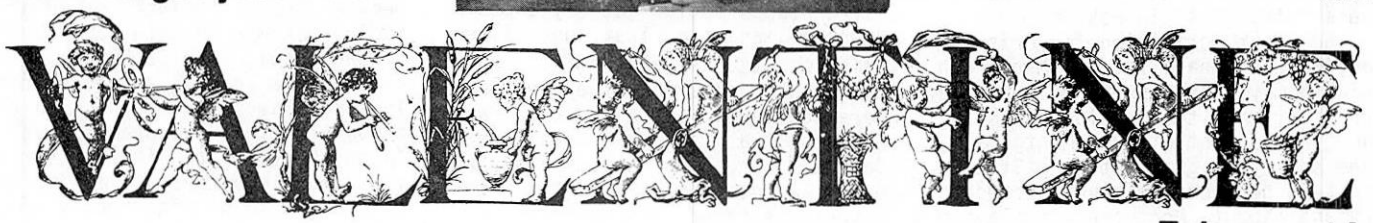
Who was the wise guy that put out so many copies of the State Income Tax information!

Why was the new "C" Editor standing by the Mens Latrine door so long? PERSISTENCY!!

Anyone wanting information on Course Content should contact MAJ Baxter in PRT.

REWARD 5,000 Attapersons for the apprehension of the Reading File sandbagger!!

Don't forget your . . .



February 14

CONTOUR

VOLUME 3 NO. 3 | DEFENSE MAPPING SCHOOL | 17 FEBRUARY 1976

DMS HOSTS THE "LOWE COLLECTION" EXHIBIT

Phillis Wheatley
Poet, 1753 - 1784

In celebration of National Black History Month, DMS, through the efforts of SGM McCray, is fortunate to have on display twenty-two portraits known as the "Lowe Collection."

The "Lowe Collection" was painted by, Samuel Lowe, a Black artist. Lowe was born in 1878 in Lock Haven, Pennsylvania. He started the collection in the 1930's, as a personal endeavor, to record for history noted Black personallities. The paintings were completed in the 1940's after years of research, widespread travel and a dedication to art. The collection includes such personalities as inventor Benjamin Bannecker, explorer James Beckworth, US Army Brigadier General

See "Lowe Collection," page 3.

Benjamin O. Davis, Sr.
General, USA, Retired 1948

THE ROLE OF THE GEOGRAPHER

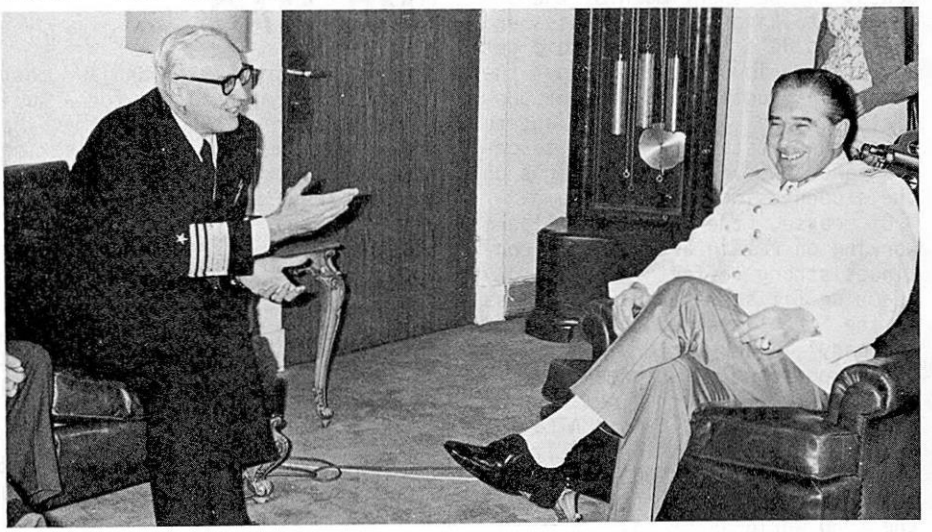
by Wesley J. McMillan

Geographers put back together knowledge about the earth and its inhabitants that several others of the Sciences are busy taking apart. In a very real sense, the Science of Geography provides a connecting line between some of the physical and biological sciences....as geology, botony, zoology, meterology soils science.... and the social sciences and humanities.... economics, sociology, history, politics, anthropology. Although concerned primarily with the affairs of human beings, the geographer studies the distribution of people and their economic, political, engineering, and other activities in the context of the complex interrelationships that exist between man and the physical world of soils, minerals, waters, climates, and the biologi-

See "Geographer," page 3.

PRESIDENT OF CHILE TALKS MAPPING

President of Chile, Augusto Pinochet, discusses the need for accurate topographic maps in the development of oil and timber resources in Southern Chile with visitor Vice Admiral Shannon D. Cramer, Director, Defense Mapping Agency (DMA). The component of DMA responsible for U.S. mapping activities throughout Latin America is Inter American Geodetic Survey (DMA IAGS).



from the DIRECTOR

It occurs to me that the things I'm working on or worrying about on a given day are often different from the concerns of the staff and faculty. We use our staff meetings as a means of bringing these different paths together, but often the informal tone of my activities are lost in the business like (usually) atmosphere of the conference room. Two examples come to mind.

Don and I attended the 30th Battalion change of command ceremonies on 10 February in Specker Field Hourse. COL Cordova, DMATC's Director, and Ken Rinehart from DMA also came down. Try as we might, we couldn't fault any part of the program (it is almost an act of faith in the military to try to find errors in parades and reviews). The topo troops looked fine and the presence of a military band really lent a ceremonial air to the event. A fond goodbye, incidentally, to outgoing LTC Bob Lane and best wishes to incoming LTC Frank Hanigan.

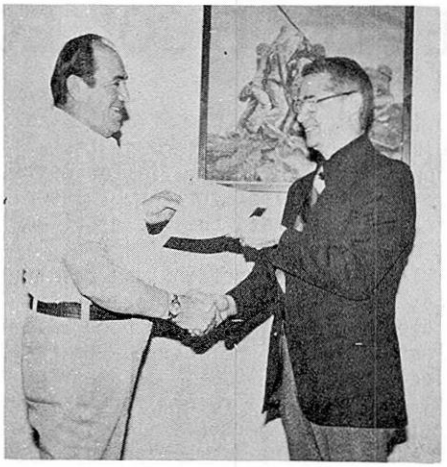
Later in the day, I was asked to give a presentation on DMS to new employees at DMA Headquarters. Despite a preponderance of survey scenes, PPO's new library of photographic vugraphs came in particularly handy, and we were able to emphasize the military aspects of our schooling mission. DMA employees as a rule, and this group in particular, always have a great deal of curiosity about DMS and its students, and we spent much of the afternoon talking about gunnies and specs and JG's and such. I did get a very serious question about the female instructor and student population, and it was a delight to cite our outstanding female teachers and the very capable girls on the student side of the podium.

Of course, the things we all are working on remain active. DMS continues strong effort in day-to-day teaching (it seems that every class in the School started the week of 9 February), Black History Month, Enlisted personnel management staffing for Army, projected new courses for Marine, Navy, and DMATC, and countless other actions. It is nice, though, to get out every once in a while and see what the rest of the topo world is up to.

INSTRUCTORS RECEIVE AWARDS

by Bill Sutton

In a ceremony held on the 9th of February, Mr. McCullough, Ch, GAD, presented awards to Mr. John L. Jacobs of the Photolith Division and Mr. Alfred Josey of the Reproduction Equipment Repair Division.



Mr. Jacobs received an Outstanding Performance Award for the period 11 Jan 75 to 10 Jan 76. During this period, "Jake" consistently displayed outstanding instructional ability and technical initiative. He researched, wrote and developed a highly innovative block of instruction through the media of television and illustrated self-paced booklets which resulted in significant platform instructional manhour savings.

Mr. Josey received a Quality Salary Increase for the period 1 Jan 75 to 1 Jan 76. Mr. Josey distinguished himself as a planner and monitor of the Graphic Arts Department Human Relations Program. His research of the material that was presented and timely invitation of guest speakers created much interest to all personnel in the Graphic Arts Department.

Mr. Josey also devoted many hours of effort to the repair and maintenance of the six copy cameras in the GAD Photo Division. His efforts prevented several hours of equipment deadline of much needed, student used, equipment. He was also called on many times throughout the year to resolve malfunctions on various items of photolithographic equipment.

The Defense Mapping School extends congratulations to Mr. Jacobs and Mr. Josey for jobs well done.

HAPPY BIRTHDAY "MR. MAC"

On 28 January all of GAD and most of the Staff turned out for a surprise "Happy Birthday" to Mr. Mc Cullough, Ch, GAD. The coffee and cake party was really a surprise for him and a great time was had by all. By the way Mr. Mac, is this birthday once or twice around the odometer?

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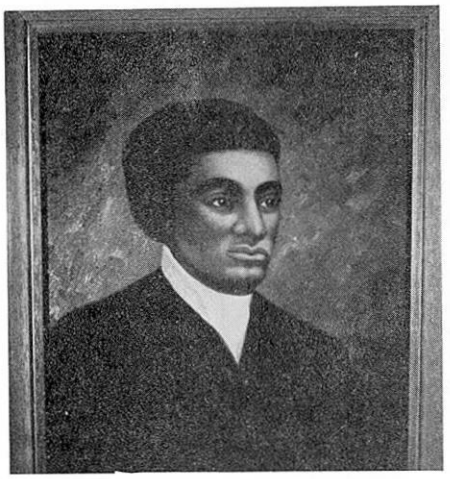
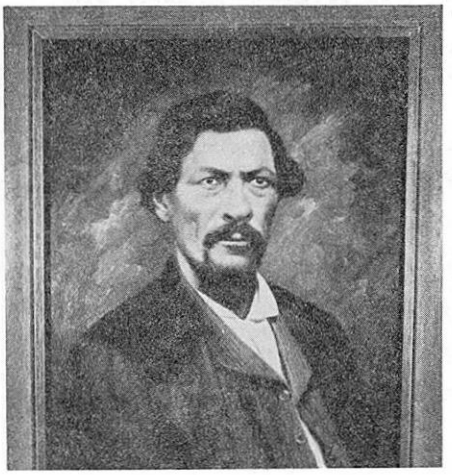
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: LTC Edward K. Wintz
Editor: Cathy McCloskey

THE "LOWE COLLECTION"



Benjamin Banneker
Inventor, 1731 - 1806



James P. Beckworth
Explorer, 1798 - 1867

Benjamin O. Davis, Sr., freedom fighter Frederic Douglas and poet Phillis Wheatley.

After Lowe's death in 1945 the collection was purchased by Mr. I. Merideth, its present owner, who is a successful oilman residing in California. Mr. Merideth restored the paintings to musuem quality. It was not until some years later that the collection surfaced again, when Dr. Benjamin Strong, of Montgomery College, of Rockville, Maryland gained knowledge of its existence.

Dr. Strong contacted Merridith and was successful in becoming trustee of the collection for the purpose of displaying it in universities and suitable public places.

The paintings are on loan to DMS from Montgomery College and may be seen 11-28 February, from 1030 - 1330 hrs, Bldg 214, Room 227.

DMS PERSONNEL RECEIVE AWARDS

On 27 January a ceremony was held in the Bagley Hall Auditorium to present awards to four Instructors who are leaving DMS.

Recipients of the Joint Service Commendation Medal were: SFC Myers (GAD), SSG Nitchman (GAD) and SSG Yell (TSD). SSG Gearhart (CD), received the Army Commendation Medal. We at DMS wish these men well in their new assignments.

Left to right: SFC Myers, SSG Nitchman, SSG Yell and SSG Gearhart

GEOGRAPHER

cal world of plants and animals, all of which ultimately must provide his means of life.

The relationship between people and the environment within which they live and work is a two-way street and serious consequences, both good for us and bad for us; may result from this interaction. For thousands of years humans have been modifying their habitat by building shelters, villages, and ultimately the great cities that now plague us with enormous problems. Humans have cleared forests and grasslands to make way for artificial vegetation in the form of crops and in places woil exhaustion or erosion has led to the downfall of thriving civilizations. We have exterminated animal populations and have overused and polluted water supplies. Only recently have we recognized generally that air as a resource, together with water, is reaching a saturation point of pollutants as a result of human modifications.

Each of these modifications of the natural habitat by man has created problems, some of which have been difficult or as yet, impossible to master. Yet man is now planning still another major change of weather and climate by control techniques; to the geographer any problem of weather modification must be preceded by an understanding of the truth that other patterns of vital concern to our well-being will also change.

In seeking the causes for the differences between areas, it is necessary also to recognize that the combinations of physical and human characteristics that distinguish a particular area today were quite different in the past and will almost certainly be still different in the future. If we can understand the reasons for past distributions it may be possible to create or plan distributions of the future. This is the premise upon which the environmental geographer, and other geographers of today are engaged. Their efforts in finding ways to manipulate combinations of distributional facts will help the entrepreneur sell more goods manufacture products more profitably, and distribute them more efficiently, in least cost to the environment.

MILITARY RETIREES BENEFITED IN ALABAMA

Governor George Wallace recently approved an Alabama law which exempts the first $4,750 of military retired pay, for military retirees and their survivors, from Alabama State income tax. The new law will benefit approximately 24,000 military retirees and their families who are residents of the State.

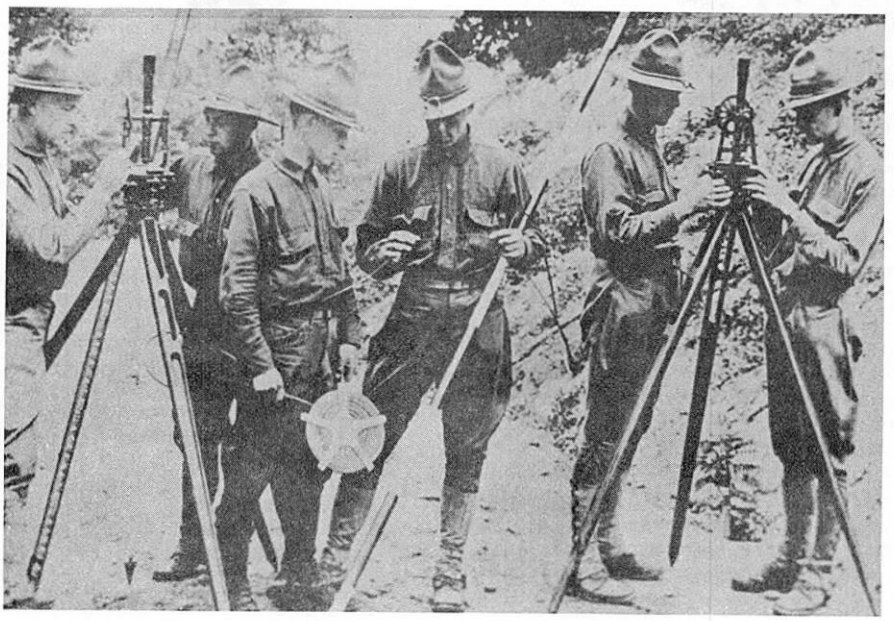
After signing the bill, Governor Wallace said he hopes "that passage of this Bill will be an inducement to the members of our military forces to give Alabama a lot

of thought when the time comes for them to select a home for retirement." Indicating that Alabama is fortunate in having several military installations in the State, the Governor mentioned that Alabama has many favorable factors which are attractive to retirees. He said the state has warm weather 90 per cent of the time, a good system of state parks, and beautiful beaches and recreational facilities along the Gulf of Mexico. He also pointed out that Alabama has a comparatively low cost of living, low property taxes, and great job opportunities because of the movement of industry into the State.

WHAT IS A SIRVAYUR?

A Sirvayur is something that grubs around in the woods looking for little sticks and stones. When he finds them, he does some kind of weerd dance around them with a funny looking 3-leg crutch which he leans on and looks at. When he don't find them he walks around all day like he's lost. Sometimes you see them squashed by cars along roads, espeshelly in the summer when all the other bugs are out. A sirvayur has one big eye and one little eye like popeye. He usually walks bent over all the time which is why he always looks so stooped. His face looks like old leather. He cusses terribul. He can't read because he measures between things and then puts down a number in a littel book which is difrint than wat his littel map says. He always measures to a stick or stone, stops near it, and puts another stick or stone in. He is not too brite because he is always makeing marks on sidewalks and rodes to find his way home. His pants are allways tore from rock salt and his shoes look like they was made of mud. People stare at him, dogs chase him and he always looks wore out. I don't know why anyone wants to be a sirvayur.

From a Grade 8 essay in the MASSACHUSETTS SURVEYOR.



The X, Y, and Z

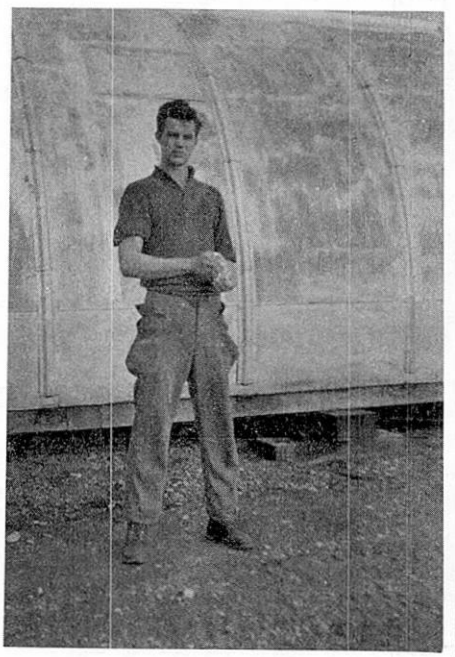
Congratulation to Will Freeze who made the Dean's List at NVCC.

Who is the Instructor in Survey Dept., who bought a new motorcycle but couldn't get it out of first gear - and was surprised to learn it did not have a reverse gear!

He who deliberates fully before taking a step will spend his entire life on one foot.

The DMS Dingbat Dolphins are still swimming and looking for more company from non-Dolphin DMSers.

MSG Locke is planning to use Survey's Laser Geodimeter against Bagley Hall's fruit flies. He says if it doesn't kill them, it will at least sterilize them in flight.



Can anyone guess who this stalwart young soldier is? He's been around DMS for a while, even if you don't see him there's no chance of not hearing him! He walks thru Bagley and Wheeler Halls checking out the troops (civilian as well as military) and if anything is amiss you get to hear from him fast! But in spite of the loud booming voice, that has sent many DMS people scurrying back to their desks - shaking in their boots, he really is a nice guy tho' (well sometimes anyway) and while he doesn't go out of his way to administer T.L.C. to the DMS people, the various DMS plants and flowers are eternally grateful for his green thumb.

DEDICATED TO - The Girls Behind... The Phones

"Editorial Assistant" is what they call them, but "Girl-of-all-Trades, Mistress of Many" is probably more accurate. Among other duties they perform, they are assistant Department Chiefs, NCOIC's, Information Centers, Coffee Maids, etc., etc. They memorize such things as phone numbers, who works where, when Charlie gets back from lunch, etc., etc. "What did we do with that DF we wrote last year about requesting . . ." is a common question, and of course they can nearly always pull it out of somewhere or the other.

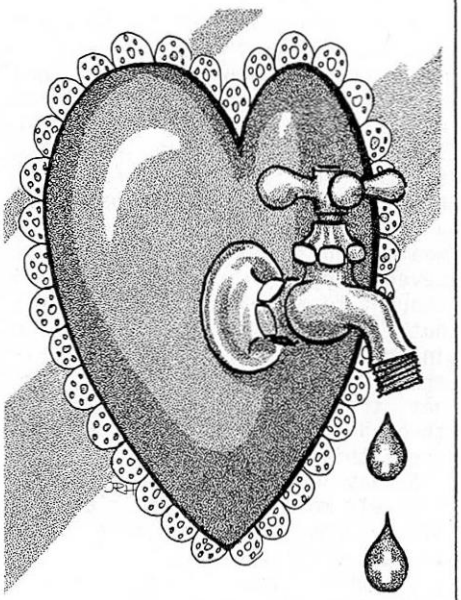
The select group under discussion of course, are none other than Beverly, Daisy, Joyce and Sherry, the photogenic and photographic corporate memory of DMS; our unsung heroes. Joyce (Dear Abby) Zieres is the expert called on when you want to ask "do you remember . .," because she's been here the longest. Next longest in residence is Daisy (Reproduction Is Fun) Cooper who should be enshrined somewhere for surviving the "Gardner Era." Bev-

erly (Giggles) Eppolito drives a Cadillac, what else can you say? And then last (because of the "Girls Behind . . ." she was the latest addition) but certainly not least, Sherry (Let's Have A Party) Bowers. Sherry of course will be enshrined if she survives the "Monton Era."

Ladies, we're glad you're behind us and we who leave and return, only to leave again, salute you. Now, think you could find that DF we wrote last year requesting.....

Donate blood whenever you can the first and third thursday at the Rec Center.

February 19th !!



The February day is coming near
This thursday date the 19th is clear
For you to give your lifes blood gift
A pint donated... a life... a lift

January blood donors include William Herbert, William Toth, Susumu Takaki, Billy Harkins and Glenn Swarthout. A hearty thanks to these New Year boosters of DMS blood bank. Only five donors each and every month are needed to keep the DMS quota up to par.

Won't you add your name to the list?

MYSTERY MAN

In case you haven't guessed who the "stalwart young soldier" is, it is none other than DMS's own SGM Harris. The picture was taken in Cougar Rock, Alaska, when he was 20 years old.

"Wish YOU Were Here"

Amidst grumblings of "Lucky dog," "how do you rate?" and similar comments from co-workers, I got word in mid-January that I was to attend a week long training course in southern Florida. My adrenalin started to flow; WOW! A week in Florida in January - this has to be a Godsend. After all, didn't the weatherman always list Florida as seventy degrees plus weather? I thought to myself, "eat your hearts out," every time someone stopped me in the hallowed corridors of Wheeler Hall to inquire how I managed to get this trip; people are paying through the nose for a week down there this time of year.

Sunday morning finally arrived. A lovely morning - crisp, clear and SIX degrees; seventy degrees sounded better all the time.

At this time, I have to explain something. The slow traffic during the week, on I-95 from Spotsylvania (yes that's in the U.S.), moves at 70 miles per hour. Traffic in the other lanes flies low. My brain knew it was Sunday, but my foot thought it was a weekday and lo and behold! "Smokey" took my picture at 70 plus which got me a lot of unwanted attention and an invitation to the magistrate in Manassas. Could this be an omen? No! Just my own stupidity. Should have seen his setup on the access ramp.

At last, I was settled on the aircraft headed for sunny Florida. I checked my bags through to the local "International Airport." "International," this must be some place! Little did I know. The only air line flying to "my" part of Florida is Air Sunshine, also known as Air Sometimes!! This air line must be unique in American aviation. They have double the complement of pilots. My inquiries as to why revealed that each pilot knows the way from point of origin to destination but not destination to point of origin. The other one knows the way from destination to point of origin but not vice versa. So they have a lot of pilots riding one way and piloting the other way. They fly DC-3's, Gooneybirds! I arrived all right; my bags were still 150 miles away. On inquiry, the clerk told me they didn't have enough room on my flight, and did I really need them right away? Luckily, the "Great Escape" lounge was handy and after calling the OD to let him know I was in, I proceeded to escape. The duty driver came to take me to sign in and get me a room. (He escaped for awhile with me waiting for the next scheduled flight. My bags did arrive on the next flight and I managed to get signed in, and then on to the Air Station Annex fourteen miles away. The aviators apparently have no transient or visitors' accommodations. The transient quarters consisted of a room in the barracks which is used for storage and a receptacle for the dirt swept out of the hallway. Six bunks, four lockers (no handles), a door (no handle - only the hole for one), and no light fixtures. My face dropped and rumbles of "inadequate" and "you must be joking" issued from my mouth. "That's all we got Sarge; see us tomorrow; we'll get you something else." In the meantime, go next door and sign for bedding; and get your name on the duty roster." Tired and hungry, by now this seemed all right; at least get some sleep for tonight. They had a pillow case and sheets for me. On inquiring about blankets and a pillow the good man said, "pillows we ain't got and blankets we don't use, because it never gets cold here." (The Barracks are not heated.) My retort, "it's 35 degrees out" was greeted with "I can give you an extra set of sheets that's all I can do." By now the trip wasn't so much fun. Since the room couldn't be secured, I slept on my suitcase (makes a poor pillow), and socks and shoes (to ward off the cold) in bed aren't comfortable either. School was to start in the morning. On arrival (hitchhiking, no base transportation or cabs) I discussed the problem with the training coordinator. He sympathized with me and made some phone calls, but to no avail. They would not issue non-availability. He assured me that he realized the accommodations were undoubtably not up to "Air Force" standards, but I should appreciate that their normal customers tended to be happy with any hole in the wall, as long as it didn't move. Many phone calls later they did come up with a room for me. One hitch developed. On finishing school for the day at 5 pm, I couldn't get into the promised room because it had to be signed for by 4 pm. The same room I occupied the night before was offered. Some nasty thoughts flashed through my mind. Who the (expletive deleted - see Watergate tapes) wants to unpack and repack his suitcase every day, carry them to work, and back at night. This might become tiresome. So I started to inquire for the Base Commander's and IG's phone number. Well, they gave me a room with a key for the door. Things were looking up. No sooner had I settled in when another thought struck me. For a five day TDY trip one packs a change of underwear per day, brings the dirty back to Mama, and that's that. I was sleeping on my clean changes stuffed into a pillow case, to make up for the lack of a pillow. Do you pull out a clean set every day and have a diminishing pillow? Do you stuff the dirty ones into the pillow case? Do you wash one set per day? Do you wear one set for the duration? I'll leave it up to the reader to figure out which approach I took. (Actually I "borrowed" a pillow from another barracks when they weren't looking.)

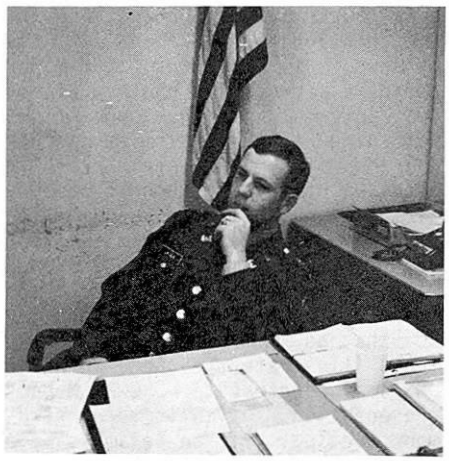
To compound my problems transportation was nonexistent. If you are lucky, someone will give you a lift across the two islands to your quarters; if not, "mox nix." Luckily a phone call to Major (Doctor) Sprinsky fell on sympathetic ears, and he authorized a rental car. Of course, those folks want cash on turning in the car. If you have $150.00 for one week for incidentals and spending money; the dogs take $40.00 because the one you are on heeds natures call during the race, or falls down, or etc.; "Smokey" wants $35.00 for the stupid ticket (mama can't find out)! The car will take $80.00; you soon have .36¢ spending money to last from Tuesday to Friday.

My thoughts soon changed from "eat your heart out" to "wish YOU were here." I hear some more MTT's to exotic places for APPS training are coming up very soon. Send George, Bill, Deidre, or John, but please don't send Ralph.

CONTOUR

VOLUME 3 NO. 4 | DEFENSE MAPPING SCHOOL | 12 MARCH 1976

AN INTERVIEW WITH THE COMMANDER, COMPANY A, 3d BN



by Cathy McCloskey

Company A, 3d Battalion, of the USAES Bde plays an integral part in the life of most of our students. In an effort to better understand "our" relationship with "them," MSG Locke and I had an informative, interesting interview with 1LT LaSala, Commander of Co A, 3d Bn, the Company that houses and supports all of the Defense Mapping School students.

LT LaSala is from New Jersey and graduated from the US Military Academy in 1972 (top 5% of his class), and Stanford University, where he graduated with a Masters in Applied Physics. He attended the Engineer Officer Basic Course in July 1974 and upon graduation was assigned as XO, USAES Student Officer Detachment, Ft. Belvoir. In November 1975 he took over as Commander of Co A, 3d Bn. He is married and has a two year old son.

Company A is one of 6 companies in the US Army Engineer School Brigade supporting Advanced Individual Training students. At present, they have 265 people of which approximately 240 are DMS students. As this is LT LaSala's first troop command, he expected many problems, but encountered few, which he attributes to the high caliber of his NCO's and our students. Company A is unique because it is the only Company in the Brigade that houses and supports students from all the Services, as well as those from Allied Nations. Right now he is responsible for 7 Navy, 24 Air Force, 50 Marines and 2 Allieds as well as our Army students. Twenty of his Service people are women. This means Regulations from all the Services, person-to-person contact with the various Liaison Offices, and, on occasion, reminding himself that, for instance, the Air Force NCO's (E-4 and above), by AF custom, are exempt from standing 2 formations a day, and that beards, dungarees and denim shirts are acceptable for Navy students; it's their uniform and not civilian attire. Again, the serious problems are very small compared to what he had expected.

WOMEN SERVICE MEMBERS

When asked if there were any problems encountered when women Service personnel were allowed to attend previously all male courses, LT LaSala claimed that nothing happened that wasn't predictable. The women live in the same barracks as the men but on different floors. Female barracks are off limits to male soldiers and vice versa. Occasionally, some of the old attitudes are in evidence when, for instance, typing is to be done, and the first thought is to have one of the women do it (you just assume women can type), but he and his permanent party people are overcoming that kind of "role casting."

SCHOOL & COMPANY

LT LaSala feels the relationship between the School and Company is good, and that good communications are important. Holding the Company In-Processing Orientation in Bagley Hall was an excellent idea; students should see the Company and the School working together. He and his staff should be aware of problems in the classroom, as the School should be aware of the Company's problems.

STUDENT COUNSELING

Aside from the academic areas, the Company does a good deal of counseling. The Platoon Sergeants interview all students individually when they arrive. After this initial session, the student can go to the Platoon Sergeant as problems arise. Platoon Sergeants continually try to be aware of problems, even if the student hasn't contacted him - many problems can be taken care of before they become major headaches. Personal problems are usually cleared up through good counseling. Disciplinary problems are monitored closely. The Service member is treated as fairly as possible, their viewpoint taken into consideration, and the student

(Continued on Page 5.)

from the
DIRECTOR

During the past two weeks I had an opportunity to sit in on a pair of excellent classes given by two of the nominees for the last Instructor of the Quarter. Now rest easy, Andy; you won, deserved it, and will keep the pen set. I would like, however, to describe the presentations by Messrs. Shaw and Misurda and relate some pretty subjective opinions on their methods.

Mr. Shaw is usually engaged in teaching the technique of translating three-dimensional wood, concrete and steel onto two-dimensional paper. He approaches his topic with respect and sober enthusiasm. The voice inflection and volume rise and fall with the importance of the concepts he is covering. It is not a reading or recital; the student is always included as the sentence subject somewhere along the line: "If your supervisor tells you it is WOOD FRAME construction, what do you know about...?" His classes are large and confined for the most part, but I've yet to see inattentive students. He was particularly impressive in giving complex instructions at the start of a very long graded exercise: "Now, note that the scale is one we haven't used before. Are there any peculiarities about it? Where can we make mistakes? Where are the shortcuts?" Great! Not a wandering eye in the room.

Mr. Misurda uses a different approach. It's more a case of "Let's you and I take a walk through the thickets of the T-t correction." He obviously enjoys the reduction of geodetic data, and would surely be dumbfounded if anyone else did not. The approach to the student is almost a conspirational one, as Private Jones and Mr. M. together defeat the complexities of spherical and plane angles. There is a paternal aspect to his teaching; he obviously enjoys the presence of his students, and is just as obviously the man in charge. During his presentation on the reduction of angles from the spheroid to the grid, I had to resist the impulse to take notes myself — he does that to you.

ANNUAL ASCM/ASP CONVENTION

by Glenn Swarthout

If you attempted to conduct business on a given day during this past week with specific offices in DMS, you may have gotten a reply like "they are at THE CONVENTION today, can I take a message?" The last of February saw the 42d annual meeting of the American Congress of Surveying and Mapping/American Society of Photogrammetry, held in the Washington Hilton.

Why all the fuss over something as routine as an annual professional society convention? There are as many reasons as there are people attending. Three of the most important reasons are:

1. Where else can you go and view the latest commercially available survey, photogrammetric and cartographic instruments, equipment and tools? The educational opportunities available in civil schools in the survey/photogrammetry fields are also "on display," with booths from the major training institutions offering everything from course descriptions to applications for enrollment.

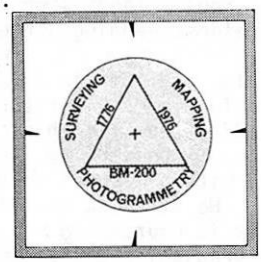
2. The technical meetings involving all the specialty areas in survey/photogrammetry and cartography give you insight as to trends and activities throughout the world. Papers presented in these meetings span the range from theoretical new developments in cameras, theodolites and techniques to experiences of local chapters in such things as base line standardization for Electronic Distance Measuring equipment.

3. You have an opportunity to meet with professionals, both government and nongovernment, those in research, instrument manufacturing and the production of survey information, maps and charts. This is really a two-way exchange of information. We in DMS are interested in how the "other fellow" does his job. He may have a better way of getting that job done. The "other fellow," particularly those in private practice, are interested in the training DMS offers. Many Service people enter the civilian job market with their DMS training as an employment credential. Their acceptance depends upon how the employer perceives DMS training. Non-DOD government agencies are also interested in DMS courses. Such activities as NOAA and the Bureau of Land Management expressed interest in our courses during this meeting.

If you want to add to your present skills, no finer opportunity is available than to devote a part of a day or even a whole day to the goings-on of the ACSM/ASP Annual Convention.

The Surveyors of DMS got into the presentation proceedings in the persons of CW2 Nohe and Major Sprinsky, providing another reason for interest in the convention. According to these gentlemen, "Reduction of Instrumental Errors in Precise Astronomic Longitude Determination" (CW2 Nohe), and "A non-Iterative Improvement Technique for the Inversion of Ill-Conditioned Matrices" (MAJ Sprinsky), were the "meat" of the entire convention. Be that as it may, these presentations illustrate the range in which DMS may contribute. CW2 Nohe's presentation, given in the instrument meeting, is an example of a "hardware" topic. CW2 Nohe's idea is to modify a standard T-4 to eliminate errors due to residual dislevelment. MAJ Sprinsky's presentation was a computation scheme for getting additional significant figures in a least squares solution.

Conventions are informative, interesting and fun besides. Think about making a contribution (of a technical nature) or attending number 43.



TWO CENTURIES OF SERVICE

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Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA. 22060
Director: LTC Edward K. Wintz
Editor: Cathy McCloskey

TECHNICAL EXCHANGE BRIEFINGS

by Don Light

The third in a series of Technical Exchange Briefings was recently held in the Washington area. Forty-four senior technical officials representing ten U.S. Governmental Mapping Agencies attended the sessions which lasted four days. VADM Shannon D. Cramer, Jr., opened the first two days of sessions held at DMATC on 2 & 3 Feb. The 4 Feb meeting was held at the National Ocean Survey (NOS), Rockville, Maryland, and the final day was spent at the US Geological Survey (USGS), Reston, Virginia. The Bureau of the Budget initiated the first of these technical exchanges between DOD and civil mapping agencies in 1967. The second meeting was held in 1971-72.

The objectives of these sessions were to share information concerning the latest technology of new mapping, charting and geodesy systems. Computer aided MC&G systems was a subject of common interest, and all Agencies seemed to sense the trend toward digital methods and the need for the development of large, but economical, storage devices. Doppler positioning systems, the new North American Datum Adjustment and plans for metrification were just a few of the interesting topics discussed during the four-day exchange.

Mr. Emory E. Donelson of the Office of Management & Budget gave a few closing remarks complimenting the three principal Agencies for their efforts. Further, he said that progress toward implementing many of the recommendations in the "Federal Mapping Study" was evident.

I represented DMS at the four-day sessions. Ms. Voelker, Mr. O'Neal and CW2 Nohe attended the USGS and NOS sessions. Agencies represented at the briefings included: the Defense Mapping Agency, National Ocean Survey, U.S. Geological Survey, Forest Service, Soil Conservation Service, National Aeronautics & Space Administration, Dept of State, Office of Budget & Management & Budget, Central Intelligence Agency, Tennessee Valley Authority, National Academy of Sciences, and the Bureau of Land Management.

I Remember It Well.... COMPETITION?

by Myles J. Mulholland

I had a hunch it would happen sooner or later and sure enough there it was — a Self-contained Printing Education Curriculum, SPEC as it is called. So Industry had finally caught up with us and they did it in a big way.

The SPEC is designed for use either by employees being trained in a plant or by students learning in a classroom. It relies heavily on audiovisual aids to supplement special workbooks.

Most of the subjects were selected as the result of a survey of graphic arts employers in three states in the South. They reported which skills were most desirable in new employees coming into the industry or persons presently employed.

The complete SPEC program is equivalent to a two year course involving 1080 hours of instruction. It contains two types of instructional materials. The first consists of 40 narrated sound-slide programs (Self-Instructional Packages or SIPs) covering 10 orientation type topics and 30 performance based subjects.

The programs include a set of slides and a cassette tape and range in playing time from about seven minutes to half an hour. They can be used in simple slide projectors and audio-cassette tape players (shades of the Learning Resources Center).

SIP topics cover seven major areas: introduction to graphic communications, layout and design, copy preparation, and composition, continuous tone photography, reproduction photography, plate and press, and finishing and binding.

Other type material consists of specially illustrated spiral bound workbooks to supplement the sound-slide SIP programs. The how-to workbooks (also called Learning Activities Packages or LAPs) cover the 30 performance based SIP topics.

The idea for this type of self-instructional graphic arts course was conceived several years ago at Clemson University and much of the groundwork was funded by the Department of Health, Education and Welfare. But the biggest push to the idea was furnished by the Printing Industry of the Carolinas, which now markets the program internationally.

The complete SPEC program costs about $2,000 and includes one set of the 40 SIPs and 30 LAPs plus a 426 page curriculum guide for the instructor.

The guide contains behavioral objectives, content outline, lesson plans, student assignment sheets, performance tests and written examinations. It also has complete program scripts for each of the sound-slide programs, so that the instructor, if he desires, can record the SIP material in his own voice for the students' use.

I would surmise the program has a (Continued on Page 6.)

MYSTERY MAN

Who is this sweet faced young man? Note his martial aire. Has the potential evident in his unfurrowed brow been realized? Note his sweet countenance. Has he grown up to be a Doctor of Divinity? No, it is not a picture of the young George Washington, but a member of our organization.

Previous recipients of this man's wit and wisdom have been the Thai's, who thank him for straight roads and beautiful bridges and the Iranian's (is he why the Shah keeps raising the price of oil?). In Thailand, he was known for insisting that bridges line up with the center line of the roads they support. In Iran, he was the planner of field party assignments and checker of field books. Your guesses are due before the rooster crows.

ANOTHER HUNTER AND FISHERMAN JOINS DMS!

Staff Sergeant Gene Cook, his wife Carrie and their three daughters, Cecelia, Elizabeth and Teresa returned recently from a tour in Gelnhausen, Germany. SSG Cook is a good man to get to know. As the Supply Sergeant in OBS, he will act as expediter for procuring hard-to-get items. Welcome aboard Gene!

ATTENTION GOLFERS!!

TC will host a $pring Golf Tourney on 4 June 1976 at Fort Belvoir Country Club Golf Course. Shotgun Start at 0830 hours. Interested persons should contact CPT Hey (664-3473) NLT 5 March 1976. More details will follow.

SPRING TRAINING STARTS S⚾⚾N

The DMS Championship Softball Team will be starting Spring training in the near future and are currently accepting try-out contracts. Negotiations have begun to bring back, by popular demand (players and spectators alike), our Coach of seasons past. It's possible he'll want more money, but OBS says they can handle it as they have their presses running again.

No position is sacred, sewed up, or any other of those "possessive terms," that's why we have try-outs. If you're interested, call PPO, and provide your name and favorite positions to either Boomer Locke or Flash McClatchey. Training dates will be announced.

Sure would be nice to have some uniforms this year. Anyone having any ideas about how that could be arranged, let us know.

X, Y, Z

DO NOT DISTRUB!

Which PPO Secretary is inhabiting the Pool Halls over the weekends? Look out Minnesota Fats!

SFC Dean has some puppies to give away. Heinz 57 variety, will be short-haired, small dogs. Ready for adoption around 1 April.

Can anyone tell us what a task is - - please?

NOTICE! Guess who in PRT has stopped dropping ashes all over his clothes? Stay with it Ed we're all behind you!

Congratulations to MSG Donald K. Monton upon his promotion to Master Sergeant effective 1 March 1976. MSG Monton is the Senior Instructor Supervisor in the Department of Topographic Sciences. LTC Anderson did the honors with Sherry Bowers assisting.

Join the Payroll Savings Plan.
The sooner you start, the more you'll have.

("Interview with Commander" - continued from Page 1.)

is given the benefit of the doubt if at all possible. Again LT La Sala is quick to point out that because of his outstanding NCO's, discipline problems are usually taken care of through counseling, before anything has to be done officially.

SPORTS AND INSPECTIONS

LT LaSala proudly announced that Company A has won the Brigade Commander's Trophy (awarded quarterly) 4 times in a row - quite a feat considering the competition has been in effect only 5 quarters (they lost only the first competition). At the beginning of the competition, the Brigade Commander said that any Company winning the trophy 3 times in a row would keep it permanently. Since then, however, the policy has been changed, and while not being able to retain the "traveling" trophy, the Company will be given a large trophy which will represent their consecutive awards. LT LaSala feels the reason for winning is only in part due to his outstanding athletes; the spirit and participation of the people in the Company plays the biggest role. They are trailing the leader this month due to the increased interest by the other AIT Companies, but he hopes the up-coming "Super Athlete" competition can put them in first place again. Company A also earned an outstanding rating in their Command Inspection for the last quarter. That rating will exempt them from inspection this quarter. Again, LT LaSala is quick to emphasize it's all possible because of the esprit and cooperation between the students and permanent party.

"THEM" AND "US"

When asked how he feels his Company can assist the School, LT LaSala said "...students usually come to the Company with good attitudes, and when they see the School and Company working together, that attitude usually stays." He also feels the DMS-A/3 "Probation List" is working very well. It helps the Company identify, in advance, a student having problems. He can compare the list with the situation in the Company and see if the student's poor performance is due to a Company problem. For example, LT LaSala met a student on the Probation List in the hallway one day and asked him why he was in academic difficulty. The student replied that he could not study in his room because of "one thing or another," and, since there were empty rooms at the time, he was moved to another room. He could study more efficiently, his grades picked up and he graduated. That was an example of one of the ways the Company helps the School, although this case was an exception rather than the norm. Another alternative for the probationary student is removal from the sports program until grades improve. This has to be a good incentive to do better since the student must enjoy sports to volunteer for teams.

OTHER MISSIONS

LT LaSala feels that in addition to housing, health and welfare of the students, the most important mission of Company A is to continue to develop good Service people. The AIT student, in the main, comes to Comapny A from the controlled environment of basic training. While here, he has a little more freedom and is given more responsibilities. E-2's and 3's are, in some cases, Class Leaders. The Company also minimizes wasted effort and needless duty, so the student has more time to study. Some duties, such as CQ, Barracks Guard and Post Guard, are of course essential, as well as being good training for future assignments.

COMMUNICATIONS

We asked how DMS could assist the Company. LT LaSala sais COMMUNICATION is the key word, that we must continue to work together, and improve our relationship whenever possible. If an Instructor recognizes a problem in the classroom and for some reason the student hasn't gone to his Platoon Sergeant, the Instructor should feel free to call the First Sergeant and let him know there is a problem. Discovering problems early is important, even if a student continues to make passing grades. If the problem isn't resolved, chances are it will be bigger and it's solution more difficult for both the student and the Service.

At the conclusion of the interview, LT LaSala again emphasized communication between our organizations. He said our Staff and Faculty were welcome in the Company. "Drop in, have a cup of coffee with the First Sergeant, visit us in Operations, and walk through the Barracks." He also wants his Platoon Sergeants to visit our classrooms, to see first hand the highly technical material the students in their charge are studying. This will help "us," "them," but most importantly, our students.

("I remember it well" — continued from Page 3.)

good and comprehensive curriculum because it is based on a survey of 1900 printing plants to determine first what should be expected of employees with the printing trades. Another measure of the worthiness of the program is the fact that 35 states are presently using it as well as Canada, Sweden and Hong Kong.

I can visualize it as an addendum to our own teaching expertise at DMS and included below is a course outline provided by the Printing Industry of the Carolina Foundation, P.O. Box 4487, Charlotte, N.C., 28204.

SELF-CONTAINED PRINTING EDUCATION CURRICULUM

Sound-slide Programs (SIPs)	Workbooks (LAPs)
Introduction	
Orientation to Graphic Communications Industries	
Careers in Graphic Communications	
Layout and Design	
Design Principles	
Typestyles and Their Uses	
Basic Layout Preparation	Basic Layout Preparation
Measurements in the Graphic Arts Industry	Measuring and Reading a Ruler to an Accuracy of ⅛"
	Measuring and Reading a Ruler to an Accuracy of 1/16"
	Copyfitting I
	Cofyfitting II
Progressive Steps of a Layout	
Copy Preparation and Composition	
Orientation to Composition	
Preparing a Pasteup	Preparing a Pasteup
Pasteup Using Overlays	Pasteup Using Overlays
Scaling and Cropping	
Hand Composition	Hand Composition
Continuous-tone Photography	
Introduction to Photography	
How to Use a Light Meter	
Developing Roll Film	Developing Roll Film
Contacting and Enlarging	Contacting and Enlarging
Reproduction Photography	
Basic Contact Printing	Basic Contact Printing
Advanced Contacting	Advanced Contacting
	Outline Letters
Step and Repeat	Step and Repeat
Filters for Reproduction Photography	
How to Make a Halftone Negative	How to Make a Halftone Negative
Halftone Exposure	Halftone Exposure
Calibrating the Exposure Computer from a Halftone Test	Calibrating the Exposure Computer from a Halftone Test
How to Make a Duotone	How to Make a Duotone
	Fake Duotones
Making Line Negatives	Making Line Negatives
Basic Stripping	Basic Stripping
Two-Color Stripping	Two-Color Stripping
Stripping Line and Halftone Combinations	Stripping Line and Halftone Combinations
Stripping Duotones	Stripping Duotones
Posterizations	Posterizations
Plates and Press	
Orientation to Offset Lithography	
Offset Printing Plates and Their Preparation	
Direct Image Plates	
Letterpress Lockup and Presswork	Letterpress Lockup and Presswork
Screen Printing	Screen Printing Using Hand-cut Paper Stencil
	Screen Printing Using Photographic Stencil
	Screen Printing Using Film Cut Stencil
Imposition: Planning and Producing an 8-page Signature	
Paper Calculations	Paper Calculations
Feeding Stock	
Screen Printing Multicolors on Cloth	
Finishing and Binding	
Finishing and Binding	

INSTRUCTOR'S NOTEBOOK

by Richard Christ

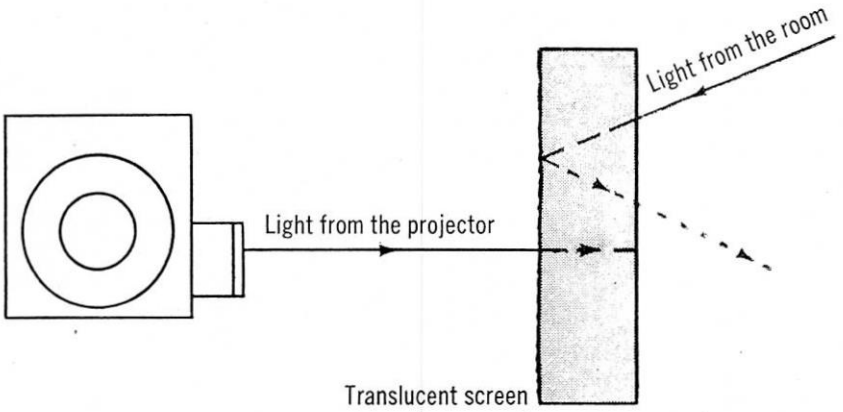
We at DMS get many technical periodicals in the fields of survey, cartography and printing, but very few in the area of education. Yet, education is our business. This is not a new problem, it was identified in our SACS Self Study.

Instructors have two jobs. They have to master a subject area to the point of becoming an expert. Additionally, they must master those skills that allow the Instructor to transfer this "subject matter" expertise to the student.

To correct the periodical imbalance, the Contour will print a series of important articles which have appeared in educational journals. Copyright releases have been obtained and these reprinted articles will be published under the title "Instructor's Notebook." The articles can be removed and saved in a personal three ring binder. We suggest that Instructors maintain an "Instructor's Notebook." To this, an Instructor may add a similar series of articles appearing in the USAES publication "ED TECH."

To make this effort truly useful to our DMS Instructors, suggestions as to the type of information you need may be made to the Educational Advisor. I will attempt to locate an appropriate article for immediate use and to gain a copyright release so that it may be shared by all of us at DMS.

INSTRUCTOR'S NOTEBOOK



REAR SCREEN PROJECTION

If you have anything in common with 190 million other Americans, you are already overly familiar with rear-screen projection. The fluorescent screen of your television set, which bombards you with images of articulate horses and the upward spiral of progress in the soap industry, after all, works only because it is bombarded with a steady stream of electrical impulses, from the rear.

Things were not always this way. In the early days of civilization, the picture came from right out in front of the screen, where the audience was.

In the more exclusive realm of audio-visual presentation we see a perceptible although slow change from the glory of a front screen to the convenience of the rear screen.

The rear-screen system had a rough go of it for many years. No wonder. The screens were usually made of groundglass. This made them heavy and breakable. They offered no particular advantage over front screens, and presented two decided disadvantages. They could not be rolled up, and they had a tendency toward hot spots. Hot spots may sound attractive, but here the term refers to the fact that you could hardly see the picture unless you stood in a position straight in front of the middle of the screen and moved your head around. The audience at the side got edged out in more ways than one.

About this time the television industry was growing

from infancy to gianthood. People became happily addicted to their television, but when they found themselves in pitch darkness munching on the beer bottles and guzzling the popcorn, they started looking for television sets which could be used with the lights on. Quick to please, the little giant went to work on the problem. What was needed was something to get the screen darker and the picture lighter. Gray filters handled the part about getting the screen darker. They are made of glass that transmits only 40 to 80 per cent of the light falling on it. Because room light falling on the screen and reflected from the phosphor has to go through the gray filter twice, transmittance of this light is cut significantly, down below 16 to 64 per cent of the incident light.

Since the television light had to pass through the filter only once, from the inside out, its image suffered only half as much loss. As in the pre-television game of checkers, the side with the more forces remaining at the end emerges the victor.

With the people accustomed to television which could be viewed even in bright surroundings, two things happened. The soap opera became popular on television, and a-v people began wondering why the brilliant ideas which made daytime television possible could not be applied to rear-projection screens for slides, filmstrips and movies.

Just like a TV set

They did something about it. One unit, the Fairway Products, Inc., Vis-O-Matic, indeed, was a self-contained 16mm projector which looked so much like a television set that viewers looked for a channel selector.

Even before the Vis-O-Matic, one of the first popular rear-screen devices was a counter-top viewer for 2 x 2 slides, with a field lens to eliminate hot spots, produced by the Eastman Kodak Company. The Kodak system was a step in the right direction, but it only scratched the surface of the rear-screen potential.

While the field lens of the Kodak system and the others using quite similar principles eliminate the problem of hot spots in these particular applications, they are too limited for most a-v applications. The image is bright all over viewed on axis, but practically disappears if you look at it from off center. The main problem is to increase light scatter beyond what is possible with ground glass. One firm in the business, Polacoat, took the avenue of coating glass or plastic with micro-lens cells which scatter light for a much wider picture area. Others, such as Daylight, HPI, Radiant and Trans-Lux, use modern plastics processed in such a way as to scatter light projected upon them widely enough so that the entire screen area is bright.

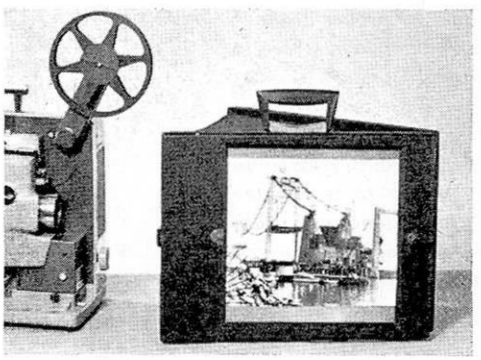
To handle the problem of bright ambient illumination, the screen makers had to take the same course as the television-tube people. They made the screens dark. In fact HPI calls the screens used in their Telescreen and Groupshow a "black" screen, dyed gray to about 80 per cent transmittance.

To show a brilliant picture a powerful amount of projector light has to pass through the denser screens. Usually the problem of getting enough light is handled by moving the projector closer to the screen, and getting a smaller picture.

According to Harold Levitt of HPI, people tend to accept a rear-screen projected image as being much larger than it really is. Perhaps they have been conditioned by television.

Certainly the outstanding success of such rear-screen sound filmstrip projection devices as the Beseler Salesmate or the DuKane Flip Top, which fold neatly into an attaché case, prove that in many a-v applications, a photographic screen as small as a TV set can command considerable attention.

Naturally you can purchase screens or screen material for rear-screen projection in a permanent a-v theater. Producers of the material (Polacoat and Trans-Lux) are usually quite happy to advise customers on the pro-



A compact rear screen system for daylight viewing (HPI Groupshow Junior). "Black" screen kills most light falling on the surface of the screen from room, as shown in diagram page 25. Hinged device contains mirror in its rear section to reflect light from projector to the screen. Web between front and rear sections is quite important. It shields back of screen from room, light which would degrade image. Device is free-standing, folds up for transportation with carrying handle. The unit is available in a number of sizes to suit various purposes. Screen is an unbreakable plastic material.

jection power normally required for their diffusion systems and the degree of density of the screen. Choosing the best screen density for a particular application may require a little experience.

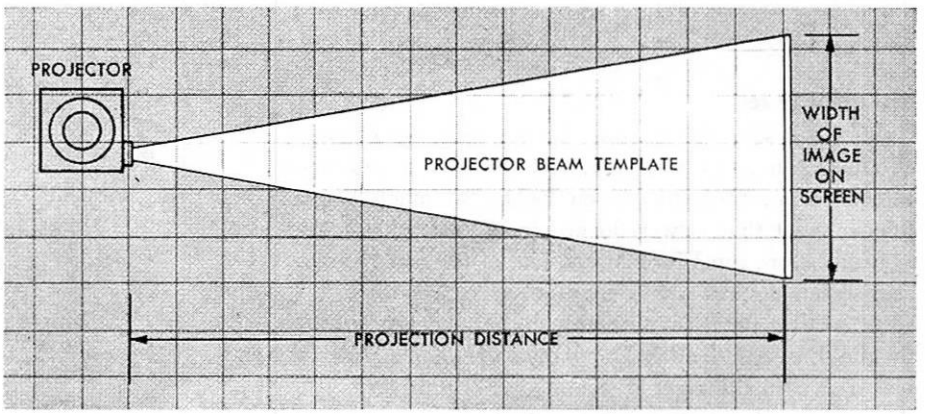
Ordinarily a rear-screen projection system cannot be used without a mirror to effect a lateral reversal of the image, othewise the picture on the screen will be backwards. (Actually any odd number of mirrors can be used for the desired result.)

If you are trying to figure out where and how big the mirrors should be with a rear screen system, you may run into difficulties. However for reasons too complex to explain here (because we don't really understand them) folding a paper cutout of a projector beam will show the size and placement necessary for a mirror. We are indebted to the Eastman Kodak Company for the illustrations used here which show this graphic solution to the problem. The important thing is to make an accurate model of the triangle of the projection throw of your projector.

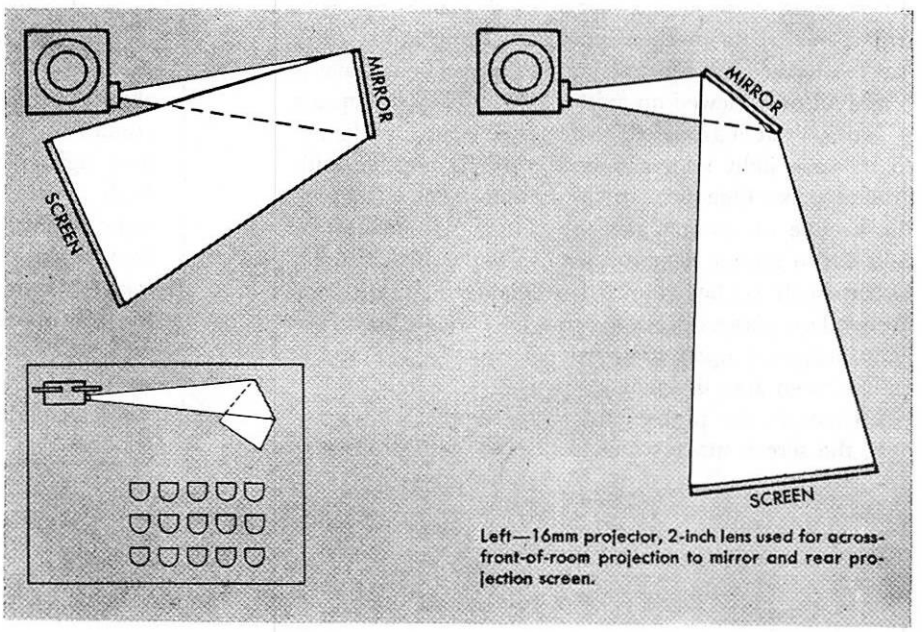
While the black screen is a fine antidote to the degrading effects of room illumination on the projected image, it does not eliminate the problem entirely. Direct illumination on the front of the screen should be avoided, with some kind of shade if necessary. Another problem which a bit of care will solve is that of stray light falling on the rear of the screen. The double filtering action does not exist in this case. Portable screens should therefore be equipped with shades over the rear of the screen. Permanent screens should be designed in such a way that the rear of the screen is a dark room.

The advantages of a well-planned rear-screen device or a-v presentation room are hard to imagine unless experienced. The lights need not be dimmed. The audience can take notes, listen to a lecture between slides or films, engage in a discussion about a film without adjusting themselves to abrupt, artificial twilight and noon. A speaker can watch his audience, read his notes or actually walk over and point out something on the screen—with his finger. With a portable unit, the speaker can keep in front of his audience, and still adjust his machine. In a larger permanent installation, the projection equipment, its bustle, its heat and its noise can be completely concealed from the audience. □

Finding the proper distance and angles from screen to mirror to projector is quite simple if you use a scale template. On a sheet of graph paper draw a triangle to scale representing the projector distance and width of screen image (for normal, front-screen projection).



After you have the template made fold the triangle at the point you want to place the mirror to find the locations of projector and screen. (Drawings courtesy Eastman Kodak Company.)



Left—16mm projector, 2-inch lens used for across-front-of-room projection to mirror and rear projection screen.

CONTOUR

VOLUME 3 NO. 5 DEFENSE MAPPING SCHOOL 29 APRIL 1976

INSTRUCTOR-OF-THE-QUARTER

Gunnery Sergeant Russell L. Cavender, Construction Drafting Division, Department of Cartography, was selected as the DMS Instructor of the 3d Qtr, FY 76. The award was presented by Lieutenant Colonel Edward K. Wintz, Director, DMS, during a special Awards Ceremony in Heitmann Auditorium on 7 April.

Gunny Cavender came to DMS in November, 1974, from the United States Marine Corps Supply Center, Albany, Georgia, where he also served as an instructor. In addition, he performed as a Drill Instructor at Parris Island, South Carolina, for four years. So, being selected as the "Top DMS Instructor", is no surprise to his friends and associates.

Russ is a very dedicated instructor, who enjoys imparting his knowledge and experience to others. He is extremely well-versed in all aspects of construction, and specializes in Material Estimation and Structural Drawings.

Russ hails from West Virginia, but fell in love with Georgia during his tour at Albany. Presently, he is planning to return to Georgia at the earliest opportunity.

It is a pleasure to have Gunny Cavender on board. He has such a "super cool" disposition; he NEVER gets upset! (If you belive that one, I'll tell you another one.)

All kidding aside, Russ it has been great to be associated with you! Congratulations on the recent award; hang in there for another one real soon.

MC&GOC GRADUATION

BG Harry McK. Roper, Jr., USA, Assistant Commandant, USAES, addressed the graduating class of the Mapping Charting and Geodesy Officer Course (2/76) at the Defense Mapping School on 30 March 1976. General Roper emphasized the importance of maps and charts from the user point of view for planning and tactical operation. He noted, however, that general users had no idea of the involved processes required to produce MC&G products. He stated that users also do not field topographic units and consequently do not call upon these units to request the valuable services that they can provide. General Roper stressed the need for the graduates to be effective "salespersons" to educate their customers concerning their units capabilities and assist them in developing their requirements, for in many instances the user may not know exactly what they want. General Roper told the graduates that their prime responsibility was to

(Continued on page 4.)

THE ONLY WAY TO GO

by Gene Crews

Human relations boring? Not in the Defense Mapping School's Department of Cartography! The D/Carto Human Relations Discussion Leader, Mr. Robert T. Imagire, has designed and developed a unique method of capturing everyone's interest and enhancing their desire to attend.

Mr. Imagire's technique of human relations awareness training is not patented, therefore others may want to adopt this exciting style of learning about their fellow humans. Mr. Imagire divided the D/Carto personnel into six teaching teams, appointing one member in each group as the Team Monitor. Teams were directed to conduct a "brainstorming" period to select an appropriate theme for their scheduled month. All teams unanimously agreed to present their training in the form of a luncheon discussion.

Two prime examples of these luncheons were recently held in the Grand Ballroom of the Fort Belvoir Recreation Center, where the provided facilities were invaluable in the food preparation. German culture was the theme on 31 March and the luncheon was a memorable occasion. Most of the credit goes to the precious wives of the team members, who sacrificed their time to prepare the food. The menu consisted of bratwurst, rot kohl, sauerkraut, hot and cold potato salad, black bread, and unsalted butter. Coffee, tea, and various flavors of soft drinks were served as beverages. The luncheon was honored with a guest speaker, Lieutenant Colonel Michatsch, German Liaison Officer, who compared problems in Germany to those in the United States. A 20-minute film, Besuch Nach Deutschland (Visit to Germany,) was shown immediately following the comparison talk. The guest speaker summarized the film and concluded his talk by answering questions from the floor. Greek culture was the theme on 7 April, which provided a luncheon that was catered by a prominent Greek restaurant, located in the Alexandria area. Mousaka, pastitsio, stuffed

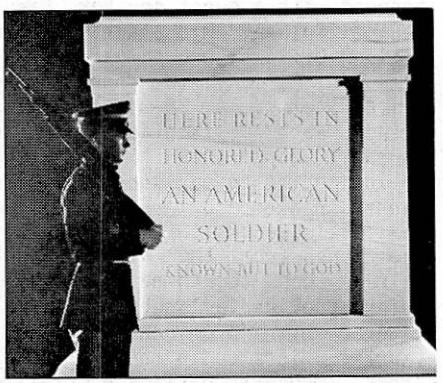
(Continued on page 4.)

from the DIRECTOR

Somewhere in the School there may be an employee who is unaware of the demands placed on the Teaching Departments by the Topographic Support System (TSS) evaluation. The investigations and review of data were voluminous and the entire effort has been capped by briefings at the Director-Commander level to MERADCOM, ETL, USAES, and DMA Headquarters. The professionalism and can-do attitude that went into this project have been just tremendous. On a lighter note, the methods used by the Departments to let me know their efforts have been heroic have varied widely. They range from Major Kinnan's quiet observation that perhaps his "management efforts have suffered a little" to dramatic fainting and crying spells by several warrants. Since it is our position that warrant officers rank in the hierarchy of living things well above plantlife but below the Notochords, the latter actions have had little impact. Seriously, no other organization can boast of a group with more poise and ability than we can of our warrants. They have really put it on the line during the TSS evaluation. Chiefs Swarthout and Nohe, and Chief Emeritus McCullough, were principal briefers during the drill. Perhaps we can rank them with the lesser primates.

I've got to stop that! Somebody is going to come out and want to visit the cage where we keep our warrant officers.

Thanks to all for their efforts in the past weeks.



Tomb of the Unknown Soldier, Arlington National Cemetery.

RISHER'S "WONDERFUL WIDGET" RECOGNIZED

The achievements of one of DMS's most active suggestors was recognized on 12 Mar 76 when the Director presented Mr. Dan Risher with a Certificate for his Suggestion Award. Mr. Risher had previously received his monetary reward for the suggestion.

Mr. Risher, no novice at collecting for his suggestions, designed a jig which allows the instrument repairman in Survey Department's Optical Survey Instrument Repair Division to perform adjustments on the semiprecise and precise levels on the K&E collenator stand. This stand, part of DMS cooperative instrument testing program with the Army's MERADCOM, is normally used to test and align theodolites. Mr. Risher's idea adapts the stand for levels as well. The procedure, normally requiring three to four people, is called a "C" check and would usually take an hour to perform. With Mr. Risher's jig, one man can do the same job in about 10 minutes.

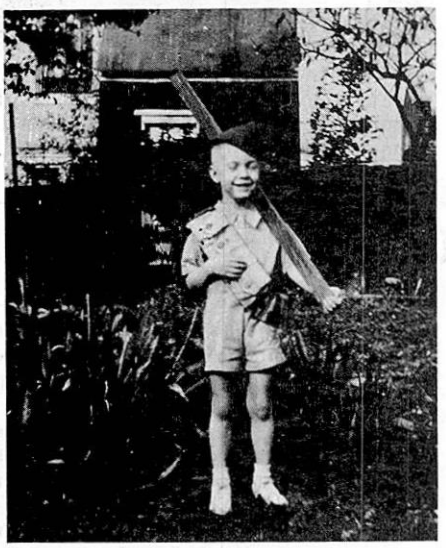
Mr. Risher is very enthusiastic about the Suggestion Award Program (with its monetary award and certificate) but suitably modest about his own achievements.

When congratulated on his outstanding idea by LTC Wintz, Mr. Risher modestly replied "Aw shucks, sir, 'twern't nothin!"

MYSTERY MAN ANSWER

Continued from 12 March Contour

Didn't guess, did you? This fine fellow and model of decorum is none other than the Grand Imperial Dragon (or something like that) of "The Fleas", MSG Charlie Locke.



MOTHERS DAY MAY 9

The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA. 22060
Director: LTC Edward K. Wintz
Editor: Cathy McCloskey

TSS BRIEFING DRAWS KEY ARMY TOPO REPS

by Don Light

A milestone was reached in November 1975 when DA approved a Required Operational Capability (ROC) document to modernize the US Army Topographic Units. DA directed that the Army Materiel Command (now DARCOM) initiate the development of the long awaited Topographic Support System (TSS). This involves both the ETL and MERADCOM in their traditional and vital roles. Concurrently, TRADOC represented by the USAES became the combat developer and trainer for TSS.

System designers at ETL came up with a System Design Study, and by January of 1976 plans were well underway to modernize Army Topography. The goal is to have an Initial Operational Capability by the fall of 1978. At the request of the USAES and DMA's interest in the MC&G combat support system, DMS formed a joint team to evaluate the System Design Study and made recommendations to the developer's which would represent the trainer and user's point of view.

The Director and Technical Director headed up our team of four department chiefs, who called on their instructors to complete the team. After a few internal iterations, the team presented its recommendations to the key organizations involved: USAES, MERADCOM, ETL, DMATC and HQ DMA. The team effort is shown in the pictures below. Picture 1, from right to left, shows LTC Wintz (refueling); Mr. Kirtland, MERADCOM TD; COL Hukkala, Commander, MERADCOM; COL Chandler, USAES; BG Egbert, DMA; COL Kurtz, Commander/Director of ETL; COL Mikle, DMATC in the forefront. Mr. Rinehart and MAJ Cornejo of DMA and MAJ Moran of ACSI are also visible along with others in the background. Picture 2 shows LTC Wintz kicking off the briefing, followed by Don Light's overview, picture 3. Next came the Survey team of MAJ Herring and CW2 Chris "first order" Nohe. Yes, Chris, a surveyor, is actually recommending an APPS here. Picture 5 is Interactive, CW4 Glenn Swarthout calling for an analytical plotter and an interactive graphic system. Look closely and note that Glenn actually eclipsed the moon during his presentation: Mr. "Topo" Mulholland is poised at the viewgraph launcher. Picture 6 is our man from GAD, Mr. McCullough, with WO1 Wayne Ethridge at the projector. Mr. Mac wants those 30 foot vans for his printers, or else. Our hard hitting MGI team of LTC Jerry Anderson, MAJ Shane and MAJ McMillan were unfortunately not photographed due to a shortage of film. Jerry's team convinced us that integrating the MGI teams with TSS is THE thing to do.

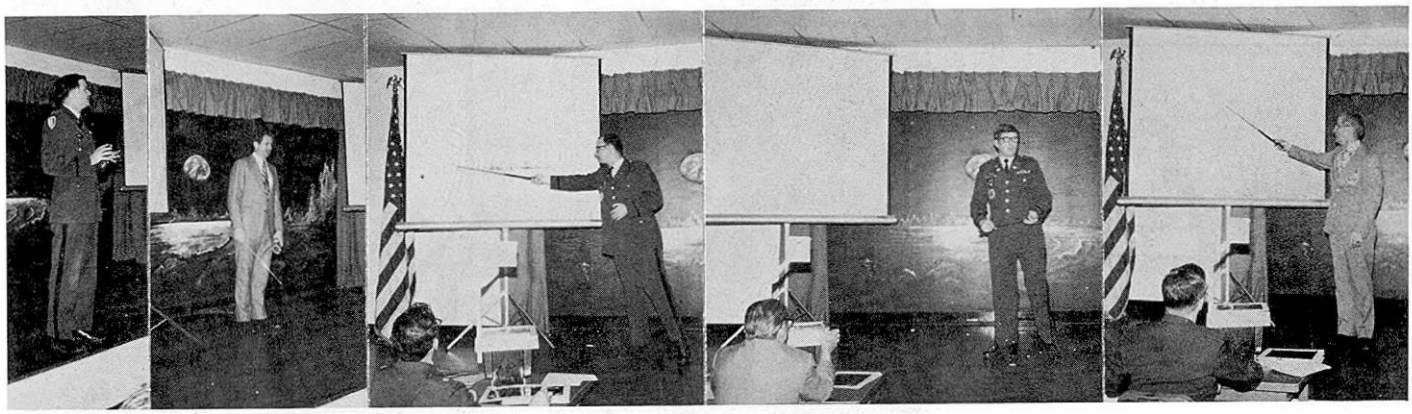
Later, the DMS presentation was given again to Mr. Andregg, Mr. Riordan and Mr. Williams at HQ DMA. The presentation has drawn many favorable comments and drawn attention to some other key areas that need further attention.

The Team enjoyed the work and togetherness it provided and, above all, we hope that our contribution will improve the Army's MC&G combat support system.

"THANK YOU"

I'd like to take this opportunity to thank you all, at DMS and USAES, for the many cards and the lovely flowers I received while I was in the hospital. It was a tremendous comfort to me to know so many people cared. Again, thank you for helping me through a difficult time.

Cathy McCloskey



THE ONLY WAY TO GO

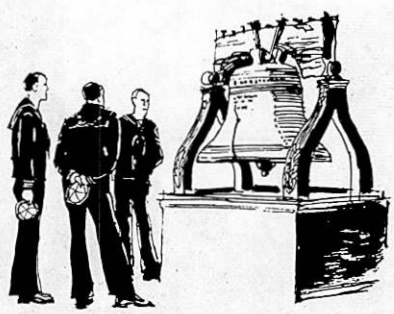
(Continued from page 1.)

Lieutenant Colonel Michatsch.

grape leaves, stuffed tomatoes, stuffed green peppers, and Baklava (a delicious dessert) were on the menu. Beverages included coffee, tea, and various flavors of soft drinks. Major Joseph E. Kinnan, Chief, Department of Cartography, presented a lecture concerning the impact of Greek culture on the Western World. At the conclusion of his informative talk, two films of the Grecian people and countryside ("Butterflies and Beaches", and "Neraidas of Greece",) were shown. Both luncheons were quite successful, thanks to the noteworthy efforts by both teams.

Upcoming themes are: May - American Bicentennial Picnic (Gunston Hall); June - English Culture (Recreation Center); and, July - Latino Culture (Recreation Center).

The luncheons have been so enjoyable that instead of receiving a distasteful "yuk-k-k" at the mention of human relations, the response is a roaring, "Great! When and where is it!"



MC&GOC GRADUATION

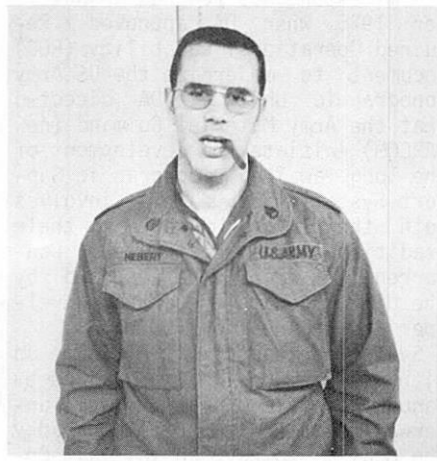
(Continued from page 1.)

BG Roper and MAJ Shane.

provide a "service" to military planners and to combat forces by means of producing quality maps and charts.

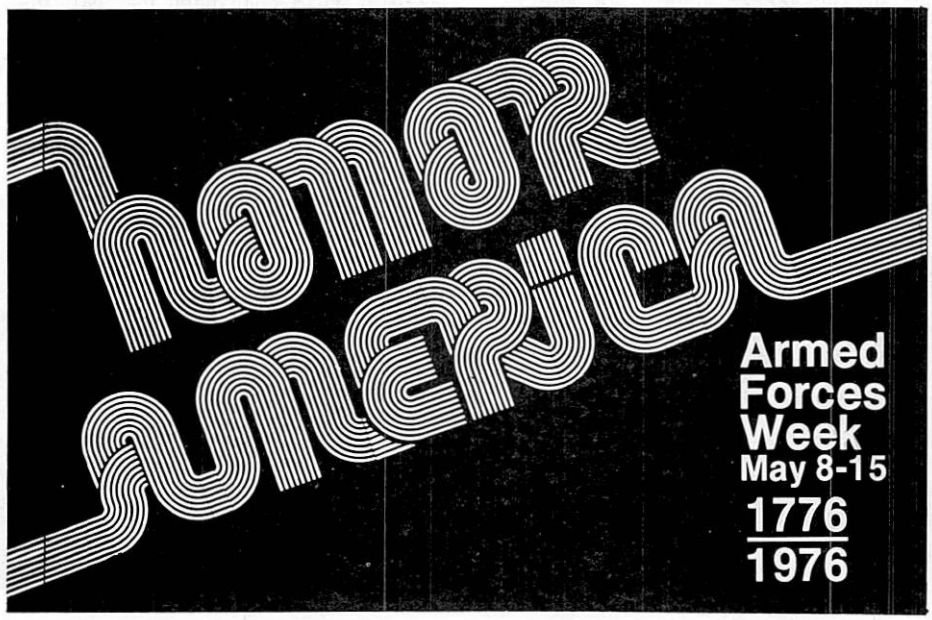
The U.S. Distinguished Graduate was CPT Brent T. Smith whose next assignment will be in Hawaii. The Distinguished Allied Graduate was CPT Basharat Jawaid from Pakistan who is an instructor at the School of Surveying in Pakistan. The Honor Graduates were LT Robert J. Alcaparras, USAF, and Mr. Russell L. Henderson from the Graphic Arts Department, Defense Mapping School.

SURVEYOR PROMOTED



DMS'ers who have occasion to frequent Wheeler Hall have long noticed an intelligent, cleancut surveyor (aren't they all?) with a name pronounced in many ways? The worth of this man, William R. Hebert (Abair), was recognized by the Department of the Army on 5 Mar when he was promoted to Staff Sergeant (E-6). When asked if this has affected his life, Hebert replied, modestly, "Not at all." This reply should, however, be taken with a grain of salt, in view of his reply to the question "Does the promotion from E-5 to E-6 mean more responsibility?" His response "Was I an E-5? It was so long ago, I really can't recall."

DMS congratulates SSG Hebert (A'bair) and wishes him the best of good luck.



5 February 1976

Editor, CONTOUR
Defense Mapping School
Fort Belvoir, Virginia 22060

Sir:

After over twenty-four years and much soul-searching I have decided to retire. I take this opportunity to use your paper to thank the School and the personnel of the School for the many favors that I and the Marine Corp's Topographic Unit have received over the years.

From my first formal school at Fort Belvoir in 1950 to my last one in 1974 I have received the best of instruction and personal satisfaction possible. In addition I have had the opportunity to observe basic Marines trained at DMS and in all cases found these Marines were properly grounded in the fundamentals of their Occupational Field. I know this will be the case in the future. I have also on occasion requested assistance in the form of temporary loan of equipment, publications and special instruction. This assistance was never refused and I am certain will continue to be rendered in the future.

To my many U.S. Army and DAC friends at DMS I say thanks for everything and keep up the good work. To my fellow Marines at DMS I say keep the faith and always push for a bigger and better Marine Corps Topographic effort. To all I extend a sincere invitation to look me up if you are ever in the Lafayette, Louisiana area.

Sincerely,

Jerry E. BUNTING
CWO-4 USMC

EDITOR'S NOTE:

Jerry Bunting is well remembered by many of the faculty in the Department of Survey. The DMS wishes Jerry the best in his retirement.

PROMOTION TO MAJOR

Congratulations to "Wes" McMillan upon his promotion to Major on 1 April.

Major McMillan will enter the Defense Language Institute, Arlington, VA, in August this year, to study Amharic, the official language of Ethiopia, followed by a one year tour in that country. In the summer of 1978, Major McMillan will return to the U.S. Military Academy, West Point, N.Y., for a three year assignment as an Instructor in Geography.

L-E-A-V-E T-I-M-E

FOR ALL SERVICES

It is that time of year again, folks, to begin to be concerned about that annual fiscal year-end leave balancing, if you will have more than 60 days leaves accrued. This year it will be balanced on 30 June 1976 as usual; however, it will not occur again until 30 September 1977 and annually thereafter on 30 September.

So, better drag out the old get-a-way forms (for those who are so fortunate and GET-A-WAY).

ARMY ONLY

Effective 10 February 1976 a military member can be paid for no more than 60 days of accrued leave during his military career. Payments for accrued leave made before this date will be excluded from this 60 day limitation.

CAN YOU GUESS?

...somewhere in Colorado, 1953.....

What can you expect from those far out California college students? They either grow a beard and become anarchists or join quasi military organizations, as did our mystery man. Much to his parents' relief, this quasi-military involvement (fighting for Castro in Cuba? In India with the "King's Own Something-Or-Others"?) was a passing phase. He seriously started working for the government (the U.S. government, of course) in 1955 and has held jobs in Corps of Engineer Districts and in various Washington offices. He also taught, for a period of time, in a small upper New York State trade school run by the U.S. Army. This pattern of often changed jobs has a redeeming feature. Our mystery man has taken time out from his busy schedule of job changes to do advanced work at Geodetic Science's number one, "white hat" university, The Ohio State University.

Who is he? What did he really do on "Project Betty" (and does his wife know about it?)?

THE ENGINEER AND GEOGRAPHY

by Wesley J. McMillan

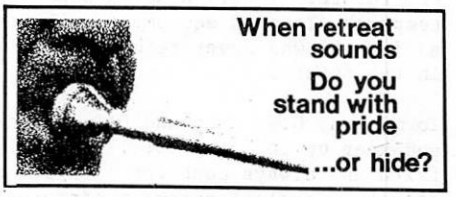
Geography plays an important role in the efficient execution of any Engineer's mission. Engineers rely heavily on the results of geographic analysis and photogrammetric techniques to evaluate alternative locations of levees, dams, and hydroelectric structures; to conduct water-pollution and stream-siltation studies; to search for construction materials - sand and gravel, etc -; and to measure stockpiles of raw materials.

The Engineer attempts to minimize construction costs without sacrificing quality of construction. Intuitively, he knows that bridges assume a wide variety of shapes and designs in accordance with cost, type and intensity of traffic, availability of local construction materials, and underpass considerations. In addition, he knows that topography or local relief may constitute the largest single problem for construction of new transportation links. The Engineer may never visit the actual construction site. He often relies on aerial photographs, map surveys and other geographical studies to provide the general and, in most cases, the specific information he needs for structure design. He also applies a geographic technique, namely, area analysis, in his search for construction materials and for selecting the most economic site for construction.

Soil properties, another facet of geography, is also a major concern of the Engineer. A thorough knowledge of these properties is necessary for selecting those that are best suited as foundation material and, most important, how this selected material will behave under different conditions of stress, weather and climate. Physical characteristics such as size, shape and gradation are important in determining the engineering value of this important commodity.

Military intelligence and research and development are two areas where the Engineer must apply a geographic technique. In military intelligence, engineers provide evaluated regional descriptions to staff planning officers and to field commanders. In research and development, Engineers apply environmental and systematic knowledge and techniques (including photo interpretation) in the design and testing of military materiel.

Modern geography accepts its traditional function as custodian of place names and exploration data. It has also assumed the greater responsibility of examining the phenomena studied by the systamatic disciplines in relation to the places on earth where they exist, not as separate entities, but in association with all other features of the landscape and thus provide a valuable service for the Engineer.



A SPECIAL THANK YOU

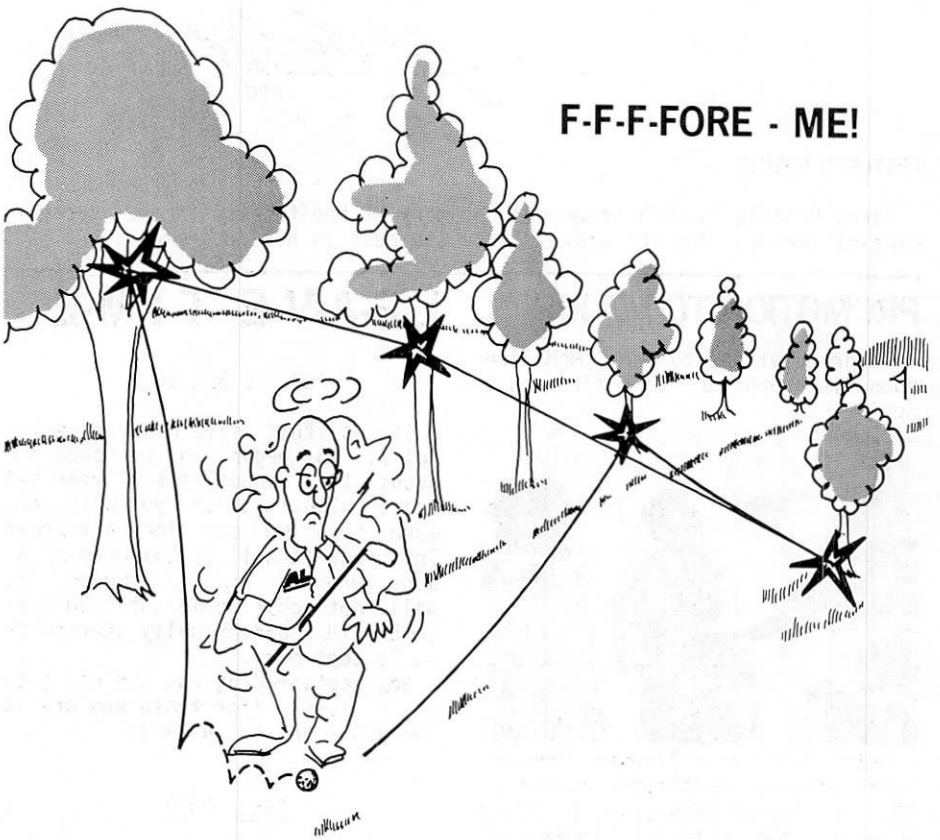
A special thank you to all those wonderful persons who donated blood for our Aunt, Miss Lelia E. Foster and especially to CW2 Nelson who set the donation program up for us.

As you have probably heard by now she is a 76 year old woman who works in an old fashioned grocery store on the 900 block of King Streen in downtown Alexandria. "Miss Lou" as she is affectionately called by many people, was robbed on Wednesday, 25 February 1976. As she was putting money in the cash register, the robber grabbed her and pulled her over the counter and threw her down on the floor breaking her left hip.

She is recuperating nicely in the Alexandria Hospital after what is known as a hip-nailing was done on Friday, 29 February. It just goes to show you can't keep a "Miss Lou" down. The doctors had her walking four days after the operation.

Again, we want to say thank you. It's nice to know you have friends.

Joyce and Richard Zieres



The other day, during a relaxing game of golf, the above shot was actually made and probably will never be duplicated.

Al needed the practice, and I the experience, so it was agreed we'd head for the South 9. As it turned out, we both needed the practice and experienced more than we planned for, to include pruning a lot of trees. The young boys who played along with us learned a complete new language. Watch out for the big tournament in June.

INSTRUCTOR'S NOTEBOOK

KODAK EVOLVES BETTER ASSEMBLY TRAINING

Single-flash photographs and handwritten instruction cards teach Kodak workers to assemble photo equipment

The Eastman Kodak Company of Rochester, N.Y., uses a training system for assembly workers that is so simple people find it incredible, according to Robert C. McClelland, Company Training Director of Kodak. The idea is homely and gimmick-free to the point that visitors maddeningly refuse to believe that anything so primitive will do the job.

Like many of the best ideas, it *is* simple. It consists of a set of cards with slots cut in them. There's an instruction or two pencilled in longhand on each card, and a drug-store color print tucked in the slots. That's it. Material cost: about 25¢ for each card.

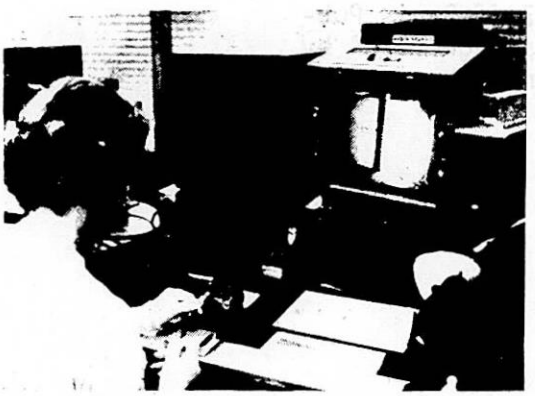
McClelland credits David Carr, a Kodak training specialist formerly in Rochester and now at the Tennessee Eastman Facility in Kingsport, Tenn., with the study and application required to evolve the technique. McClelland says, "We might not take a second look at the idea without the experience of refining it from more difficult and costly but less effective methods."

The problem that McClelland assigned Carr originally was to improve methods training in assembly procedures. McClelland says, "The classic medium for this training at Kodak and elsewhere is what we call the 'over-the-shoulder technique.' The foreman, who's supposed to show the assemblers what they are to do, is usually too busy to explain the process from beginning to end, so he says, 'Mary, you know how to do this assembly operation. You teach Jean how to do it.' Presuming the 'student' Jean has all the requisite basic skills, such as soldering, and a good concept of her role in the company (both of which are correct assumptions at Kodak), Mary probably can do an excellent job of teaching Jean." McClelland won't knock the method: "Often, it's the most practical way."

But he cites definite drawbacks: "If Mary is on incentive, she's torn between getting her work done and being patient with Jean. If Mary is very apt and skilled, she might neglect to emphasize points that are second nature to her, but would never occur to Jean. It's even possible that Mary might not like Jean, or is the type who takes the opportunity to lord it over Jean. And if the work of each assembler is quite complex, which seems to be a trend in industrial engineering practice these days, Mary's instructions might leave Jean hopelessly confused. Furthermore, if the thing being assembled is a new product, there is no Mary around who can teach Jean."

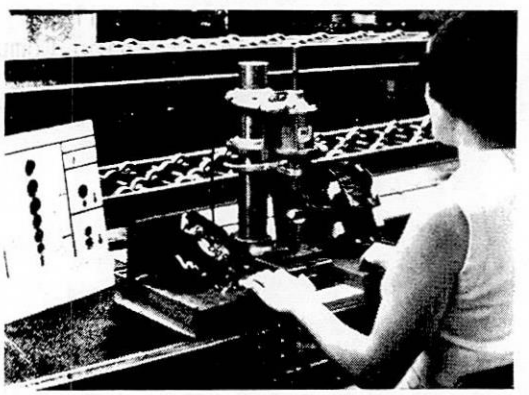
The goal was to cut training time in half. This would be done automatically by providing self-

1



Original method: tape-slide teaching machines. They worked but took up a lot of bench space.

2



Next step was board with actual parts mounted on it; changes meant making new set of boards.

instructional material, leaving Mary to continue her work. A secondary goal was to avoid communications problems, which end up in nonuniform procedures and therefore as nonuniform products. A third goal, which rested on the first two, was to make workers more flexible. This demanded, among other things, a teaching method that would be suitable also for refreshing a worker's memory of a task after returning from another assembly assignment.

Carr tells the story of the evolution of the solution. "We started out using teaching machines that would present operations to assemblers using sound tape and color slides. We used a Graflex teaching machine. We found it very successful from a teaching point of view. The machines really did teach. However, the devices raised almost as many practical problems as they solved for our application.

"Primarily there was the problem of finding a location for the machine. Competition for space on a workbench is about as intense as the fight for shelf space in a supermarket. Special arrangements on the workbenches that would be suitable for the machine pose the difficulty of redesigning the entire work place.

"Nevertheless, we were encouraged. People did learn. They learned at their own pace, but they also tried to learn as speedily as they could so they would no longer need the machines. They also learned total operations, that is, to assemble the whole unit. Thus even if we did not reorganize the work place or the amount each operator did, we could move these formally trained operators around more and more, gaining greater flexibility, simply because they did know the whole thing. If some operators were sick or on vacation, it made assigning work easier for the foremen. It also freed the foreman from having to do any instruction, so he could more effectively handle other aspects of his job. And it did achieve the goal of reducing our training time by fifty percent.

Variations on a theme

"So encouraged, we decided to explore variations on the method. In the first of these variations we started using actual parts on a piece of plywood we called an assembly board. Mounted down the center of this board were the actual parts. Symbols on the left-hand side of the board showed what the left hand should do. Symbols on the right-hand side of the board showed what the right hand should do. People familiar with work-organization technology will recognize the inspiration for this idea.

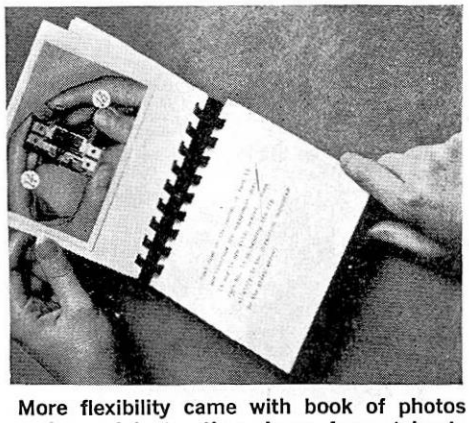
"We taught the operators the symbols used, such as pick up this part, palm that part, dispose to the left or right, and so on, until the assembly was completed.

"The boards interfered much less with work-space arrangement, and were also successful. This was the way we taught operators when we came out with the Kodak Instamatic camera. The method helped many operators assimilate the entire technique quickly, before we got into high-speed production. And this enabled our engineers to make a lot of corrections before we got into the real pressure of production.

"This became a problem in itself, however, because it became difficult to make up new boards to keep pace with the engineering changes. So we shifted again, this time using photographs and typed instructions. We keyed the pictures and text with arrows and numbers. Again we were very pleased with the results. This format permitted great flexibility and very explicit instructions: 'Lubricate the bearing with one drop of oil.' Well, where? Right there where the arrow points on the picture. We used a hook arrangement that kept the instructions paced a step at a time with the operations, yet kept the instructions from interfering with the work space.

"We also found that it was quite easy to prepare the instructions. A

3



More flexibility came with book of photos and typed instructions hung from a hook.

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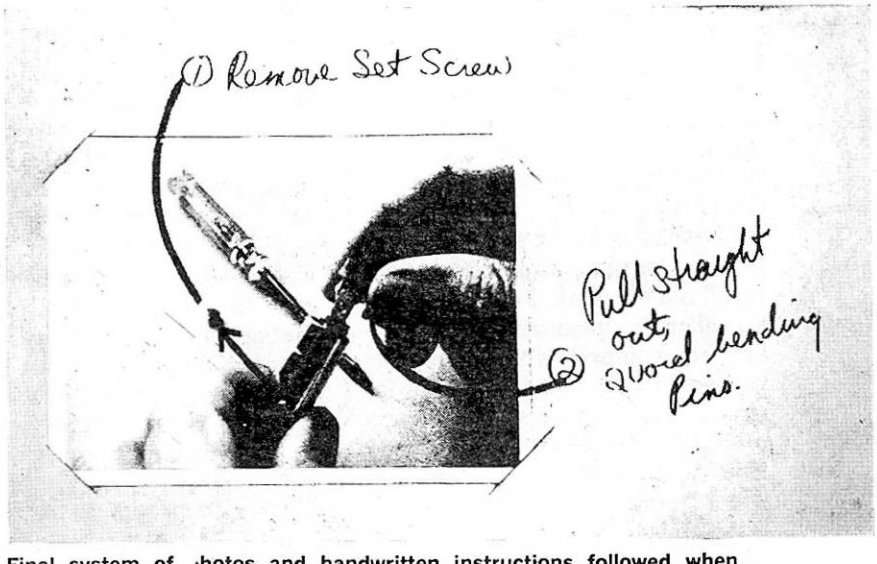


Final system of photos and handwritten instructions followed when foremen showed reluctance to scrawl changes over neat typewriting.

Book on a hook: photographs and written instructions, one operation to a page, take worker through entire procedure one step at a time.

simple one-flash photo technique was all that was required for the pictures, and having the pictures made it possible to write very brief but easily understandable instructions.

"The hook arrangement could be placed without inconvenience at every work station. It was a simple matter to hang the appropriate instructions on it.

Problems of change

"Then, one day, on the assembly of a Kodak electric-eye movie camera, we had about 15 engineering changes. That meant for each one we had to retype a page, remove the old text, replace it with a new one, and in many cases replace the picture.

"We tried to get the foreman to take a red grease pencil and mark the changes on the picture. Well, we found they wouldn't do it. With the nice, neat typewritten instructions and the nicely done pictures, they wouldn't touch them. To them it was like putting a mustache on the Mona Lisa.

"We changed to a less fancy format and wrote instructions in ink. It still did not work. Foremen would not alter the pictures and instructions to conform with engineering changes. Finally we tried pencil instructions, and gave foremen extra prints of the pictures. We told them, 'Don't worry. If you want to preserve the old picture, go ahead and make alterations on the extra print.' This did overcome the reluctance."

Not only does the final system comply with the foreman's psychology, it is unimposing and unthreatening for the operators. Actually, Kodak got nothing but positive reactions from operators with any of the systems. At every stage staff members solicited operator cooperation by explaining that they were attempting an experiment, and asking if the operator would help.

Every attempt is made to make the instructions as simple, clear and sensible as possible. Doing this depends on an exact knowledge of the steps in the correct procedure, which often demands a fresh look at assembly procedure to see if it is indeed optimal, plus a large dose of common sense on the part of those who take the pictures and write the instructions.

Kodak uses simple cameras with closeup attachments for the pictures. The trainers feel color has definite advantages over black and white for conveying the information, but that photofinishing prints are quite adequate. The cost difference between black and white and color is quite small, considering overall costs.

The ideas have many parallels with programed instruction, the most striking being that they provide the operator the information she needs at the point she needs it and that they give her the chance to reinforce her knowledge by using it successfully before going on to the next step.

"One outgrowth we never anticipated," adds McClelland, "was that the technique provided for a continuous review of assembly methods." □

DMS DAY

It's about that time of year again! It is not too early to come up with your suggestions and recommendations for the forthcoming 4th Anniversary of the DMS, 1 July 1976.

This year, with the assistance of all the DMS people, the ceremony will be even more memorable than before. If you have any unique ideas for the DMS Day Ceremony, let's hear them! Forward all suggestions to SGM Harris.

Also, this is the day that three people are honored as DMS People of the Year, representing all the outstanding people of DMS. They are selected by an appointed Selection Board from recommendations submitted by any member of DMS. One officer, one enlisted and one civilian employee will be selected. The basis for recommendation and selection will be as follows:

(1) Individual's contribution to the School.

(2) Work habits and self-development, to include attitude and responsibility.

(3) Must have been assigned to DMS prior to 1 Jul 75.

Recommendations for these awards will be submitted to LTC Radu (Chairman) NLT 23 Jun 76. If you want to insure your most deserving people are selected, make sure you submit your recommendations.

Let's all get together and make this DMS Day Ceremony the best ever!

CONTOUR

VOLUME 3 NO. 6 DEFENSE MAPPING SCHOOL 21 MAY 1976

QUIET, McCLATCHEY AT WORK

Now I know many of you have called PPO about Mobile Training Teams or tech literature and have admired what you thought was our new excuse for not being at work. "Oh, he's programming the calculator" must rank with "he's in the library", "he's out checking the motor pool" and "he just walked down the hall" as coverup excuses. With MAJ Jay McClatchey, however, its the literal truth.

What was the senior DMS gremlin doing up in 218, Bagley Hall? He is swept up in a months long love affair with our programmable calculator, the Wang 2200. Not a day passes that we in PPO aren't treated to a new "discovery." We are informed that "bit and byte manipulation" is fun and works, too. We learn, with a marked lack of enthusiasm, that "it just ate another disc and (tears) we can't recover the coding."

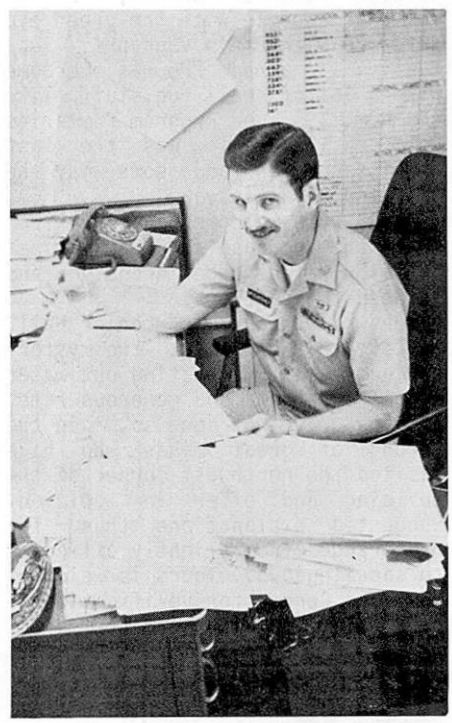
Aside from considerable entertainment for the PPO staff, MAJ Mc Clatchey's efforts have produced some very usable new tools. Those ** Form 13's are manipulated, added and stored in our machine and annoying facts like ** Department spent 90% of their manpower, including overtime, on mandatory physical training are revealed to the world. Yes, that's a good thing.

Another tool is the famous "Mc Clatchey Matrix Muncher," a pack of programs available in our calculator to do those tedious matrix multiplications and inversions done previously by hand at DMS, taught using pocket calculators and pocket change at Purdue and handily done by the huge (million byte) IBM 370-165 at the home of all geodetic goodness, The Ohio State University.

What will he do next, you ask? Well, the sky, or at least a low overcast, is the limit. Our senior elf is designing a program which will automate the update of everyone's favorite document, the Program of Instruction (POI). It will soon be possible to make changes to POI without the laborious retyping now required (we may even get an up-to-date MCGOC POI now).

DMS continues to become more self sufficient administratively and the gremlin is working on administrative record keeping. When we take over the chore from the Engineer School, it will be possible to get fast service on items like class rosters. Teaching Departments should even be able to stop that well known practice of "bundling" individual test scores from a series of exams into one score for record keeping.

The Chief, PPO, makes a not too gracious offer to assist other DMS activities in adapting likely tasks to our calculator. This offer consists of help in programming and trouble shooting, at least in the initial stages of automation.



Planning for our second calculator includes many of the academic tasks presently done in manual mode. These encompass grading of written exams, checking student computation of observational data, and giving each student different starting numbers in written examinations.

MAJ McClatchey, that well known third baseman and senior programming elf, is available to discuss ideas for other applications. Your ideas are what we want.

from the DIRECTOR

Have you noticed how nice the grounds around Wheeler Hall have looked the past few weeks? MSG Altheide and his crew of cartographic landscapers have done a super job in making the School look first-class for the Armed Forces Week visitors. The School will miss the Big Sarge when he leaves in June; it's this quiet, capable kind of guy that keeps things running smoothly.

Readers will note the resumption of the Contour after a brief respite caused by Cathy McCloskey's operation. While Cathy was in the hospital we strove mightily to put out an edition just to prove that nobody is unexpendable. Unfortunately, "Fingers" Sprinsky proved fully as capable with the green eyeshade as with DMA's vugraphs. Actually, I'm afraid PPO was overcome with a lot of swell fun stuff like the POM, TSS, and Program Summaries. Relax, Bill, Galileo was the last Renaissance Man (and some say he was kind of a sissy).

Anyway, we welcome Scoop back and note the increase in PPO civilized behavior. The paper needs you and we need the paper.

Meanwhile, back to Wheeler Hall. As of this writing, the mystery spring is still putting out water at a constant and generous rate. If you have not done so, join the throng of great minds who have visited the northwest corner of the building and offer an opinion. Suggested explanations thus far have ranged from slightly off-color to sacrilegious. Yours is welcome. See John Conner for verification of originality. He's heard them all.

OUR PRESIDENTS SPEAK...

"As long as our government is administered for the good of the people, and is regulated by their will . . . it will be worth defending."

—Andrew Jackson
7th President
1829-1837

SOFTBALL SCORE BOARD

by Coach McCullough

DMS won its seasons opener 14 to 13 by defeating a fine team from Headquarters, 30th Engineer Battalion. As the score indicates it was a rather touch and go situation. The coaches continually chewed their nails back to the quick. There were occasions when the DMS uniformless wonders were ready to give the game away or blow the other team out of the ball park. The snow on Coach Macs' roof comes from our giving clusters of runs to the opponents or dazzling the opposition with our tortoise-like speed on the basepaths, or sterling fielding plays and eight errors which contributed to Excedrin #9 for the coaching staff, and finally providing the other team with sixteen hits in their losing cause. It was a great hour and a half which provided the fans with continuous entertainment and provided many moments of laughter. Like the earth shaking jolly green giant in short field as he dashed madly for short pop-ups causing the infielders to freeze in their tracks as if they were being attacked by a bear; or when the 2nd baseman and the shortstop found they had holes in their gloves and the coach threatened to give them peck baskets to stop grounders. But all in all the team gave a good account of itself. Come out and enjoy a free evening of good entertainment.

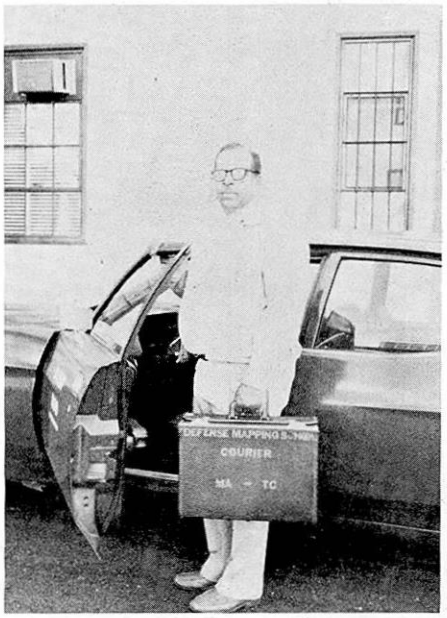
2nd Game

Once again the partially clad uniformless wonders successfully tucked win number two under their belts. While this was a one sided victory, 21 to 8 in five innings, it never-the-less was a well played ball game by DMS. The team has begun to gel and they have the potential to win the league, especially with a quick thinking center fielder whose antics of pulling or pushing the ball through the fence saved two additional runs being scored against us. The coach feels that wonders will never cease, we found a fleet footed runner, who played first, but who was in such a hurry to get to third and then on to home that he forgot to touch second and that cost us a run and a rally. Who needed it with a 21 to 8 game, coach. The left fielder provided a flash of entertainment when he made a, graceful/ungraceful, slide into third leaving his right foot draped on one side of third and the rest of himself on the other side. A quick look at the ballooning ankle area indicated a replacement player was needed and sliding lessons were in order for the removed player. Then the right fielder provided thrills for the opposition by twice being treated to "bad bouncing balls" which saw several combatants freely circling the bases. But wildest of all was the second baseman's clever stutter step when chasing pop flies. Once again the members of DMS should be coming out and enjoying the frolicking fun of a good team.

Congratulations to Gene Cook who was recently promoted to SFC. Doing the honors is OBS Chief Elia Burke.

The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: LTC Edward K. Wintz
Editor: Cathy McCloskey

WELCOME TO DMS



Mr. Johny R. Lindsey joined DMS on 12 Apr 76 as a Messenger/Clerk in OAR to operate the DMS sedan and provide much needed courier service to DMA and DMATC.

Johny was born in Mize, Mississippi, and served in the US Army from November 1950 to May 1973. He served in Korea, Japan, Germany, and Vietnam. His last assignment, before retiring on 1 June 1973 was here at Fort Belvoir.

He resides in Dale City and joins DMS from the Fort Belvoir Transportation Motor Pool where he operated a Radio Dispatch Military Taxi.

DMS will benefit greatly by his service. Welcome aboard Johny.

DMS recently welcomed Betty Reay. Betty is Secretary to Mr. Don Light, the DMS Technical Director, she had previously worked at the Pentagon. Betty is a native Virginian who enjoys gardening, landscaping and traveling. She and her husband James live in Springfield. Again, Betty, welcome to DMS.

BOND DRIVE

VADM S. D. Cramer, Jr., is shown meeting Ralph Edwards during the kickoff rally of the 1976 Federal Savings Bond Campaign. Thomas S. Kleppe, Secretary of the Interior and Chairman of the Interdepartmental Savings Bond Committee, and Ms. Francine I. Neff, Treasurer of the United States, are shown in the receiving line.

The DMA Savings Bond Campaign will run from 1 May to 1 June 1976. In previous years, DMA has been recognized for its excellent participation in the campaign. The DMS Savings Bond Coordinator is CW4 Rottmann, he can be reached on extension 42978.

DMS SLOW PITCH SOFTBALL SCHEDULE

DATE	FIELD	TIME	TEAM
17 May	Pullen	2130	USACSC
19 May	Specker	1900	HHC, 11th Engr Bn
24 May	Specker	1745	EOBC
26 May	Pullen	2130	Dental Co
2 June	Specker	1745	15 CSH
7 June	Pullen	1900	HHC DUSAA
9 June	Specker	1900	HHC, 1st Bn
14 June	Specker	2015	Med Co
16 June	Pullen	1900	Co B, 1st Bn
21 June	Specker	2130	EOAC #2 (A)
23 June	Pullen	2015	Co A, 30th Eng Bn

TAKING THE JOB HOME WITH YOU!

by Tom Green

SGT Romey L. Casto is considered to be one of the best young instructors to have ever entered the purple portals of DMS. In summing up some of his instructor virtues, to him: (1) no student is too dumb to teach, (2) there is no situation perplexing enough to become frustrated, and (3) there is always one method to teach that which is intended to be taught.

SGT Casto believed in his guide lines for teaching and religiously practiced them until he tried to teach his son, Matthew, to crawl.

First Dad Casto went into the theory of crawling through the lecture method of instruction, whereon Matthew went to sleep. To reinforce the lecture he followed up with slides of other children crawling — Matthew enjoyed the show but didn't seem to catch the hint, and rolled over on his back with his big toe in his mouth. By this time ole Dad is pulling out his sure fire method of getting the point across — a combination of demonstration with learning through participation.

Dad places son on the carpeted floor, hands down, knees bent. Dad places self on carpeted floor, hands down, knees bent and proceeds to crawl, hoping son will follow. Son begins laughing, Dad continues to crawl, the more Dad crawls the more son laughs. This same routine goes on every evening for a week, Matthew does not crawl.

The following week a neighbor comes visiting the Casto's who has a daughter of Matthew's age who is already crawling. Matthew takes one look at her, starts crawling and has not stopped yet.

If you see SGT Casto standing in the hallway of Wheeler Hall staring at the ceiling and mumbling to himself, don't mention anything that may rhyme with crawl for he may become violent. We are still trying to help him regain his old self confidence in his teaching ability.

THANK YOU

We would like to extend our thanks to all DMS personnel for your prayers and most generous expression of condolence, received during the recent death of my Stepfather.

TSgt & Mrs. Hedrick & Family

SOMETHING SMELLS FISHY

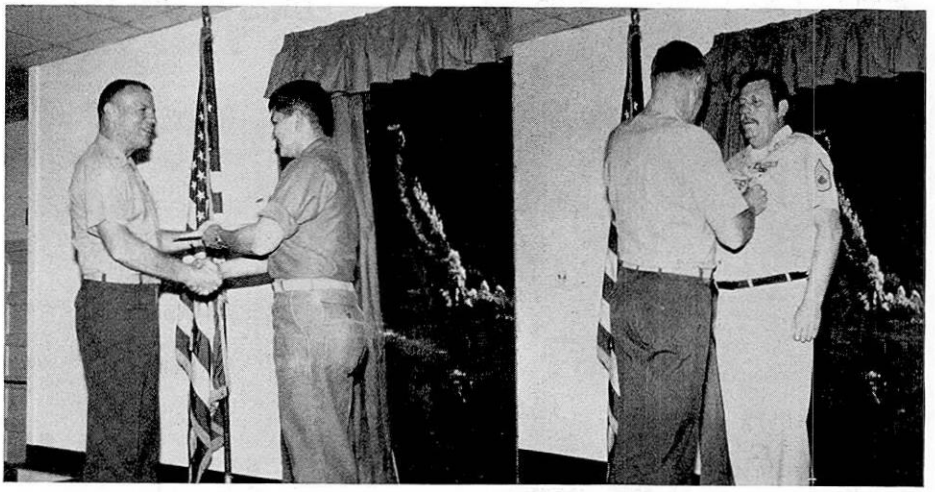
by Cathy McCloskey

Congratulations to Roger Smith, Donald Walters and Bill Sutton, (all members of GAD) who held the winning tickets for the "Fishing Trip Raffle," run by Dick Zieres (also GAD!!). Half the proceeds from the raffle will go toward the DMS picnic, a whopping $60.00.

The people of DMS were very enthusiastic about this money making idea, not only for the chance of winning a free fishing trip, but also because they knew half of all money collected would go to the picnic.

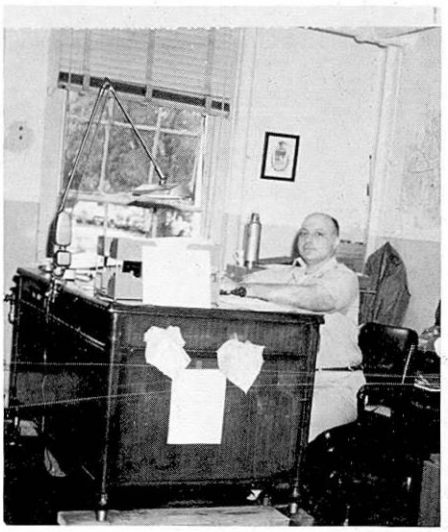
Put on your thinking caps DMSers, we need more ideas like this.

AWARDS



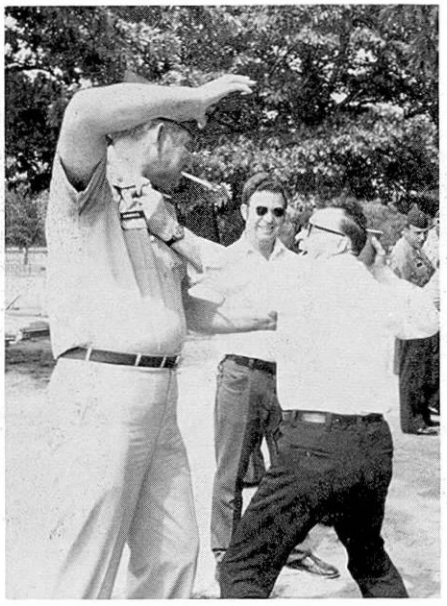
At an Awards Ceremony recently, GySgt Williams (GAD) received a Certificate of Commendation for the outstanding work he did while assigned to the Data Processing Center in Kansas City, Kansas. Also honored was SFC De Geus (CD), who received the Joint Service Commendation Medal. SFC DeGeus retired in April. Lt Col MacKenzie presented the awards.

SILVER FOR SPRINSKY



Congratulations to LTC Sprinsky upon his recent promotion. The staff in PPO thought the occasion required an elevated desk to be commensurate with his higher station in (Army) life. When he makes O6 his chair goes up too! Also if you look a little closer you will notice the two leaves on his desk, to call attention to his new oak leaf insignia, they were plucked from a bush outside of Bagley Hall, again by his staff, painted silver, and presented to LTC Sprinsky to represent his new rank.

DMS SUPPLY IN ACTION



"....And I don't care who you are, you big #@*@*#¢@*, you still need a 3161."

CONGRATULATIONS

by Cathy McCloskey

Almost all of Bagley Hall turned out to congratulate Daisy on her recent marriage to Ed Hutson. Her boss, Mr. "Mac", presented her with a lovely wedding gift on behalf of everyone at DMS (pictured below). Arlene, Bill Sutton's wife, baked and decorated 2 beautiful cakes for the occasion, which we all enjoyed with coffee. DMS wishes the best of luck to Daisy and Ed.

MYSTERY MAN

(Continued from 29 Apr.)

This was a tough one to identify. Don't look at the last sentence yet, but try to identify him from these hints:

- As a company grade officer in Hawaii, he invariably rode in the front passenger seat of his military vehicle, with his feet on the dashboard and his cap pulled low over his eyes. From this strategic perch, he occasionally accused his driver of bikini watching.
- He was the only topographic officer in the 29th Engineer Battalion to wear a 1st Division patch (some mystic significance?).
- He shipped unusual amounts of "snake bite serum" and "cough syrup" to his soldiers on isolated Pacific islands without snakes.
- On a project to position Pacific islands using the Sadano method, he often flew on B50 aircraft as navigator. One day, when an engine caught fire before take off the pilot hit the signal for emergency evacuation of the aircraft, and our mystery man was heard to remark, "Golly (or words to that effect), by the time I got out of the airplane, the pilot and co-pilot were already in the club."

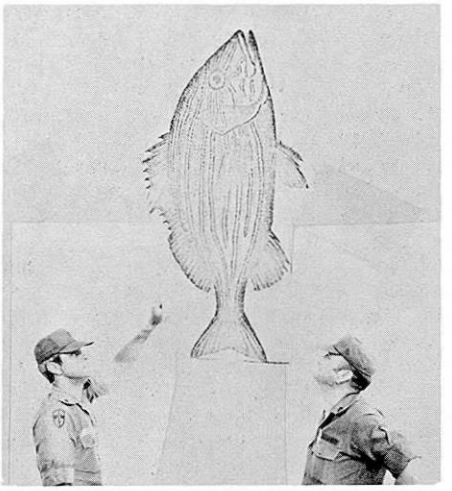
The mystery man is none other than LTC Wintz, our beloved Director.

THE FISHERMAN

The fishing season is here, Ron and Doug took off for a week already and fished Lake Gaston! Of course, when they got back they could hardly wait to start the TALE TELLING.

I understand Doug and his crowd of listners were asked to leave the upper hallways of Wheeler Hall, so the technical instruction could continue without further interruption. To hear them tell it, each caught 6 or 8 large mouth bass per day, weighing anywhere from 5 to 10 pounds. (According to the official fish report on Lake Gaston for that period of time, no fish were caught weighing more than 3 pounds!)

Anyhow, their tales started some warm blood moving through the veins of Cooky, who is a fisherman in his own right (a tale teller too I'm afraid!). Anyhow after a few days of tale swapping, Ron and Doug figured they had hooked old Cooky. But, after one warm weekend and the noticeable absence of Cooky -- well it started early Monday, the stories were strong again - Cooky backed off both Ron and Doug, had 'em mumbling to themselves - from what I hear they were deeply hurt and won't even speak to him about fishing again.



Now Cooky, this here's a fish!

INSTRUCTOR'S NOTEBOOK

HOW TO RATE YOUR TESTS

by H. W. McNEESE

Our firm, as many businesses do, often finds it desirable to administer a written test at the conclusion of a training course. Sometimes such a test is necessary to satisfy company or customer certification or proficiency requirements. Whatever the purpose, any test, good or bad, requires a fair amount of work. We think this work should be avoided entirely unless the test is a valid and reliable one. It is not easy to draw up a good test, and even after the test has been written and administered to a class, many of the questions will require revisions—ranging from extensive changes to small, minor corrections. Therefore our aim is make a good test, but to make test development and evaluation as systematic, as easy, and as expeditious as possible.

A second installment of this article will deal with ironing the bugs out of a test, after it is administered. In the paragraphs that follow, we'll discuss some methods and checks involved in making up a test. Our training operation is presently using these methods, with very satisfactory results. They are hardly revolutionary, but we feel that they work, and are worthwhile.

I should point out that test ideals for any application are more or less the same. Industrial testing, however, often involves certain compromises. In contrast to industrial testing, college tests, for example, may be designed to emphasize basic, conceptual knowledge at the expense of detail. Frequently in industry, on the other hand, much of the information one tests for is a "must know" detail, and the test question concerning it is simply a check to find whether or not the student has this information readily available for recall. When we get to the matter of test evaluation, we'll see that such questions often prove to have low difficulty and very little discrimination, and are therefore hardly worth the bother of asking from a standpoint of test efficiency.

I don't wish to dwell on the mechanics of administering tests, I assume that any of TRAINING's readers would see to it that any test is administered uniformly, fairly and with adequate instructions. Neither is it my purpose to discuss the pros and cons of different types of written examinations, except to say that we feel that for most situations in which we test, the objective test using multiple-choice answers serves our purposes best. One exception to this statement might be a test for a course in writing business letters, in which the key element is the student's ability to organize his thoughts and express them in writing.

We feel that the first job in writing a test is to set its purpose down on paper, for the benefit of the test writer or anyone else involved in decisions about the training.

Once there is a clear definition of the purpose of a test, the next step is to develop a table of specifications. I feel that this is a matter of crucial importance. Such a table contains four things: the subject matter of each subdivision of the course, the objectives in teaching this subject matter, the time spent in this subdivision of the course, and the number of questions in the test which should be allotted to this subject subdivision. Part of the purpose of this table is to force yourself to allot a number of questions commensurate with the amount of time and importance you've assigned to each subject area. A model for such a table is shown here. Before any question is composed, naturally, the entire test table should be worked out.

I've found that a writing procedure which works is to write a preliminary draft of each question, to set it aside for a period of time, then to review it myself, and have others review it.

Writing good test questions, at its easiest, is a very difficult task. Numerous reviews and revisions are part of the game, and there is no royal road to success. The check lists which follow, however, have helped me avoid some of the worst of the pitfalls in construction.

In a forthcoming issue of TRAINING I'll outline a system for evaluating tests after they have withstood active combat with students.

Mr. McNeese is Supervisor of Training, Apollo Site Activation and Logistics, Space and Information Systems Division, North American Aviation, Inc.

Multiple Choice

- ☐ Keep the reading difficulty of items low.
- ☐ Do not lift a statement verbatim from a textbook.
- ☐ Take care that one item does not provide cues for another item.
- ☐ If an item is based on an opinion or authority, indicate whose opinion or what authority.
- ☐ Avoid the use of interlocking or interdependent items.
- ☐ Let the occurrence of correct responses follow a random pattern.
- ☐ Avoid trick or catch questions.
- ☐ Avoid ambiguity.
- ☐ Beware of items dealing with trivia.
- ☐ The stem should clearly formulate a problem.
- ☐ Include as much of the item as possible in the stem.
- ☐ Do not load the stem with irrelevant material.
- ☐ Be sure there is one, and only one, correct or clearly best answer.
- ☐ Items designed to measure understandings, insights, or the ability to apply principles should be presented in novel terms.
- ☐ Beware of slang associations.
- ☐ Beware of irrelevant grammatical cues.
- ☐ Beware of the use of one pair of opposites as options if one of the pair is the correct or best answer.
- ☐ Beware of the use of "none of these", "one of the above", or "all of the above" as options.
- ☐ Use the negative sparingly in the stem of the item.

True/False

- ☐ Must be limited to items that are definitely true or false.
- ☐ Often used for specific, isolated, or trivial facts.
- ☐ Can be used to test meanings and definitions of terms.
- ☐ Has a high guess factor.
- ☐ Beware of "specific determiners"
  a. The question is usually false when "all","always", "no","never," and other all-inclusive terms are used.
  b. The question is usually true when "usually"or "sometimes" is used.
- ☐ Beware of ambiguous and indefinite terms of degree or amount (frequently,greatly,to a considerable degree).
- ☐ Beware of negative statements and double negatives.
- ☐ Beware of items that contain more than one statement, particularly when one is true and one is false.
- ☐ Beware of items where the correct answer depends upon one insignificant word, phrase, or letter.

Matching

- ☐ The items in a set should be homogeneous.
- ☐ The number of answer choices should be greater than the number of problems presented.
- ☐ The set of items should be relatively short.
- ☐ Response options should be arranged in a logical order.
- ☐ The directions should indicate whether an answer choice may be used more than once.

Short Answer and Completions

- ☐ Good for testing knowledge of vocabulary, identification of concepts, ability to solve math problems.
- ☐ Beware of indefinite or "open" completion items.
- ☐ Omit only key words.
- ☐ Do not leave too many blanks in the statements.
- ☐ Blanks are better put near the end of a statement.
- ☐ If a problem requires a numerical answer, indicate the units in which it is to be expressed.

Essay Tests

- ☐ Before writing the question, know exactly what mental process of the student you want to bring out.
- ☐ Start essay question with "compare", "contrast","give the reasons for", "present the arguments for and against", "give original examples of", "explain how or why".
- ☐ Use clear, precise questions.
- ☐ Don't ask "what do you think", or "in your opinion", or"write all you know about"
- ☐ Do not have too many questions for time available.
- ☐ Do not mix essay and objective questions when time is limited.
- ☐ Do not offer a choice of questions to be answered.
- ☐ Make a list of all pertinent points that should be covered in the student's answer for each question. Use these when grading.

CONTOUR

VOLUME 3 NO. 7 | DEFENSE MAPPING SCHOOL | 4 JUNE 1976

DMS TO DEFINE SOLDIER TASKS FOR CMF 81

As a result of overhaul of the enlisted personnel management system, some DMS faculty have been introduced to an instrument of torture more exquisite than the chinese water method, LTC Sprinsky lecturing on Least Squares or the DMS Form 13. This device, a rather large sheet of peculiarly ruled paper, is called the Job Task Summary Sheet (JTSS) and DMS is tasked with preparing these task analyses for Career Management Field (CMF) 81, by the Engineer School.

Before those oldtimers with previous scars from other system engineering schemes for courses do their "roll over and beg" act, it is important to keep in mind that the JTSS is for the CMF, not just the resident instruction presented at DMS. The effects of the program are so far reaching that the Contour asked MAJ Boyd Baxter, the person in DMS with the most extensive foundation in the Army's JTSS requirements, to comment.

Contour: What does the JTSS do for the soldier in the field?

MAJ Baxter: JTSS tells a soldier how to perform the major tasks in his MOS. It gives conditions under which the task is performed, and the standards he must meet. The Job Task Summary Sheet breaks the task down into individual steps of performance with a separate standard for each step, if applicable. The form indicates what materials, tools and equipment he needs, also gives him a specific reference readily available (hopefully!) to him. To recapitulate, the sheet tells him how to perform specific, skill oriented tasks, by outlining:

a. What is to be accomplished.

b. How well it must be accomplished.

c. What resources are needed for accomplishment.

d. How to perform the task.

Eventually the JTSS will become a part of the Soldier's Manual.

Contour: Soldier's Manual?

MAJ Baxter: Well, at least the Engineer Soldier's Manual. The other branches have not yet adopted the JTSS way "of getting there." The soldiers map so to speak, that lays out their career in terms of technical knowledge requirements for promotions including new skills within an MOS and training in other MOS's. In other words, it not only provides the soldier with information on what he's doing today, but also sets out what will be expected to know tomorrow and how to do it.

Contour: Will this apply to all the Army CMF's?

MAJ Baxter: Not everyone in the Army will use JTSS — but TRADOC recognizes it as a good system.

Contour: So the JTSS is not just for DMS course design. What will this document and the material derived from it by DA do for the soldier in a unit?

MAJ Baxter: If a soldier hasn't received training, this material will explain the "how to's and where for's." Even though a soldier receives formal schooling, there are some tasks that will not be taught, and the Soldier's Manual will be the only guide to his learning of these tasks, under an overall unit training plan.

JTSS derived material will provide the soldier who has not done tasks for a while with a ready reference so he will be able to "bone up" for skill qualification tests.

(Continued on Page 3.)

ARMED FORCES DAY AT TOPO CENTER

The Defense Mapping Agency Topographic Center provided an unusual treat for their guests at the Armed Forces Day activities this year. In conjunction with their in-house display for Armed Forces Day DMATC invited the Defense Mapping School to participate by providing a mobile press van. Personnel from the Department of Graphic Arts, DMS, gave the visitors a demonstration of "Map or Chart Reproduction in the Field." To the amazement of hundreds of DMATC guests the idea of mobile printing was a fascinating reality. As they arrived at the first exhibit, the DMS mobile van, they watched an all Service team demonstrate how the equipment operated. DMATC provided beautifully printed map sheets, the 1792

(Continued on Page 4.)

from the
DIRECTOR

LTC Wintz is on leave, his column will resume when he returns on 1 June.

DMA HOSTS FIRST WORLDWIDE DOD MC&G CONFERENCE

A program to establish an improved dialogue between DMA and its principal users was launched during a week-long conference the week of 10 May, hosted by DMA and attended by more than 40 managers of mapping, charting and geodesy from the Department of Defense worldwide and other government organizations.

VADM Shannon D. Cramer, Jr., DMA Director, addressed the group on two occasions. With the prospect of limited resources and ever-tightening budgets, the Director predicted that MC&G people will be facing increasing demands for greater efficiency and production. He pledged a strong effort to maintain a responsiveness by DMA to the needs of users.

"We really can't do our total job of assuring that the MC&G part of the weapons systems will be provided for national security without your strong participation." "Admiral Cramer said, adding that ways need to be devised to simplify and streamline working contacts between DMA and MC&G officers.

The Director also indicated DMA would attempt to come up with ways to improve communication with his MC&G community to reflect in a timely manner what is going on in the entire community.

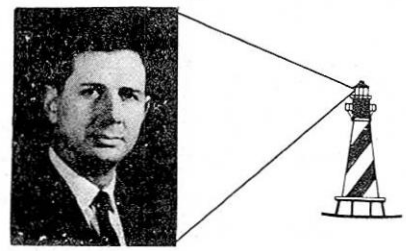
Admiral Cramer stressed the importance of across-the-table discussions between representatives of DMA and key MC&G officers. The visitors were appraised of DMA operations in support of new weapons systems, Agency capabilities and objectives, DMA resources, production procedures, international programs, advanced systems and technological support, and the exploitation of materials.

In return, the guests briefed DMA personnel on their organizational structures and discussed problem areas of mutual interest.

Approximately 30 members of DMA HQ and the Components participated

(Continued on Page 4.)

From The Lighthouse



LTC Wintz and I had the opportunity to attend the DMA Worldwide DOD MC&G Conference during the week of 10-14 May. (See article elsewhere in Contour.) The conference brought together MC&G representatives from the major commands and organizations around the globe. The meeting provided a unique forum for DMA users to express themselves about MC&G problems. The objective being to promote increased effectiveness in support of the MC&G Combat Support System. Notable among the Army and the Tactical Air Command representatives was their interest in special products that depict the military geographic aspects of the terrain.

On the education and training side, several command representatives called for an MC&G orientation course that would provide newly assigned MC&G officers an introduction into the terminology of the MC&G business and the overall DMA MC&G requirements functions. In view of this interest, DMS, in concert with DMA HQS, plans to work up a proposed course of study for such an orientation course. According to the views expressed by the representatives at the meeting, the course should last about a week and should cover particularly the area requirements functions that are performed by the MC&G representatives in the major commands.

Admiral Cramer closed the meeting by reiterating the importance of increased efficiency and responsiveness to our customers on the part of all DMA people.

DMS PICNIC TALK

by Gene Crews

The Fifth Annual Picnic Planning Committee is still actively involved in making this year's festivity a most enjoyable occasion. Presently, there are a few loose ends, but these will materialize during June and July. The food situation seems to be resolved —— thanks to all the wonderful people who agreed to bring a prepared dish. The acquisition of beverages has never been a problem within DMS. The possibility of having a band for the "ole folks" and a professional clown for the kiddies is still being pursued. A well selected assortment of games to entertain all ages is our biggest hangup at the present time. However, the most imaginative minds are continuously at work, and everyone can rest assured that good times will be available to all.

The funding situation is developing quite well! Tickets will go on sale in June. Ticket costs will be one dollar per person, 15 years of age and older; however, it should be noted that charges will not exceed three dollars per family.

Several people recently promoted or selected for promotion have pledged to donate funds to help defray picnic costs. Donors are: CW2 Nelson, Master Sergeants Locke, Monton and Wenrich; Sergeant First Class Cook, Cruz, Ewing and Herrmann. It makes one proud to serve with people like these, that's the team spirit, men! We congratulate you and wish each of you continued success in your future endeavors.

Congratulations are also in order to SFC Zieres for his generous contribution. Dick devised and implemented a keen idea to raise $60 in less than a week.

The planning committee is in dire need of scrap lumber, plywood and styrofoam. If you happen to have any or all of these items, please contact Gene Crews or Glenn McKenzie. Oh, Yes! Anyone planning to throw away any carpeting or rugs? Don't! Contact one of the above persons.

More picnic talk will be following in future issues of The Contour.

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Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

COATES HEEDS GREELY - HOISTS HAT - HEADS WEST

Not so long ago, during a rare moment of leisure, SGM Harry Coates read those magic words by Horace Greely, "Go West Young Man."

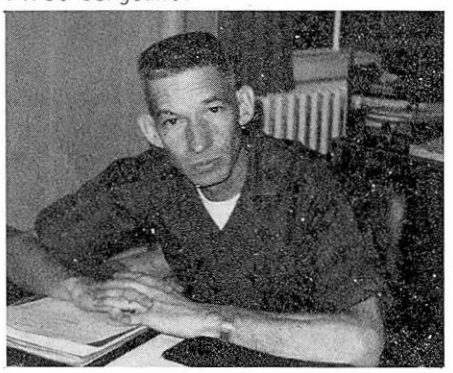
Although no longer "that young," these words must have really fired his imagination. One morning in mid-February, he suddenly blurted out "Colonel, I kid you not, I'm heading back to those hills in the West." All of us in PRT were stunned. We all knew Harry to be a native West Virginian, but from the tone of finality in his voice it didn't sound like a request for leave or an intent for retirement.

After things calmed down a bit, we learned that SGM Coates had been designated by DA as a Command Sergeant Major and was scheduled for posting to the newly activated 19th Engineer Battalion (Combat) at Fort Knox, Kentucky.

During the relatively short period, 14 months, all of us have grown quite fond of this 39½ year old, lean but not so mean, Sergeant Major. All of us will remember Harry as one of the most efficient knowledgeable, and talented senior NCOs we have ever known. He rises each day before the chickens (4:30 A.M.), has the coffee brewing in PRT when we arrive, and is generally the last one to leave at night.

SGM Coates is a man of many talents, who is never too busy to lend a helping hand wherever it is needed, whether it be reviewing course material, MOS tests, etc; preparing correspondence; filing PRT materials, painting or solving electronic problems during off-duty hours.

Our loss is the 19th Engr Bn's gain, since he will bring with him a wealth of experience, (eight years of which were overseas) as a Cartographer, National Guard Battalion Advisor, Army Recruiter, and First Sergeant.



We can almost be certain that the new CSM's first words in his new battalion will be "we have an awful lot of work to do in a short time, so let's not waste time talking."

Best of luck to you, your wife Nancy, and your two boys, at your new duty station in the hills of the blue grass country. You will be sorely missed by your colleagues. Keep your scribe clean, the bubble centered and the tripod firm. Good luck and Godspeed.

DMS TO DEFINE SOLDIER TASKS FOR CMF 81

(Continued from Page 1.)

Contour: This all sounds pretty straightforward, so why the tear staining on some of these JTSS sheets, and all the blood over some of Carto's input?

MAJ Baxter: The objective is a well written JTSS which will leave no questions in the soldiers mind on how to accomplish the cited task. What exactly comprises a task and what are the standards used to measure performance are two questions requiring considerable judgement to answer. It is particularly difficult for supervisors. We in PRT have tried to work with the teaching departments to produce acceptable JTSS, but there have been some revisions required. It is not a simple, straightforward operation!

You should recognize by now how important this job is for everyone in the Army. Eventually, it will drive the design of skill qualification tests, the replacements for the Army Subject Schedule, the Soldier's Manual and eventually DMS's Army approved course contents. As the forerunner to TM 5-237, Surveying Computors Manual, says "....As you sew *(JTSS)*, so shall ye reap ..."

(Ed note: *italics* added by Contour.)

OFF WITH THE OLD, ON WITH THE NEW

The Old:

DMS is "blessed" with an all Service mix of military people. Each Service contributes a unique viewpoint to our courses, publications and day to day existance. Quite naturally, some of our most unique people are members of the USMC ("when you're the finest, it's hard to be .... etc."). Of these, our Deputy, Lt Col MacKenzie, occupies a special place in the DMS scheme of things.

Soon to retire, Lt Col MacKenzie was recently given a farewell party by the staff and faculty at DMS. He was feted with beer, soda, sandwiches, chips and dip. LTC Wintz did the presentation honors, giving LT Col MacKenzie the traditional bronze survey marker. For the occasion he was also given a farewell picture, drawn by John Houchins (caption: "You can always tell a Marine, but not very much.")

We are certainly going to miss Lt Col MacKenzie at DMS, especially his unique approach to mapping, charting and geodesy ("don't bother me with the facts, just give me the products I want") and his outstanding sense of humor! We wish him well on his retirement.

On With The New:

At the same party, Sue Morson was meritoriously promoted to Corporal. We congratulate this new noncommissioned officer, a lady surveyor, and wish her well.

DOD MC&G CONFERENCE

(Continued from Page 2.)

in the briefings. Guests strongly recommended that the Worldwide MC&G Conference be held annually.

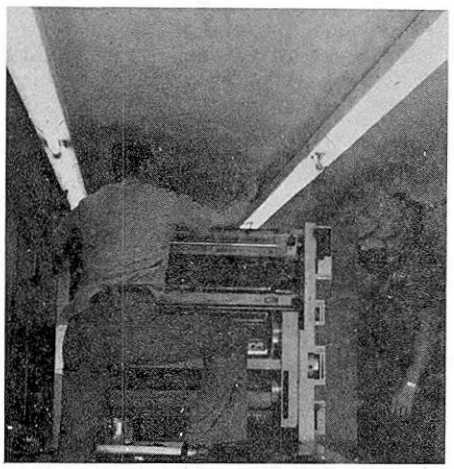
Attendees at the conference included representatives of the State Department, JCS, Army, Navy, Air Force and Marine Corps Departments, the Office of the Oceanographer of the Navy, EUCOM, LANTCOM, PACOM, SOUTHCOM, FORSCOM, REDCOM, DARCOM, ADCOM, SAC, JSTPS, TAC, MAC, NAVOCEANO, CIA, DIA and NSA, as well as observers from the Engineer Topographic Laboratories and the Rome Air Development Center.

ARMED FORCES DAY

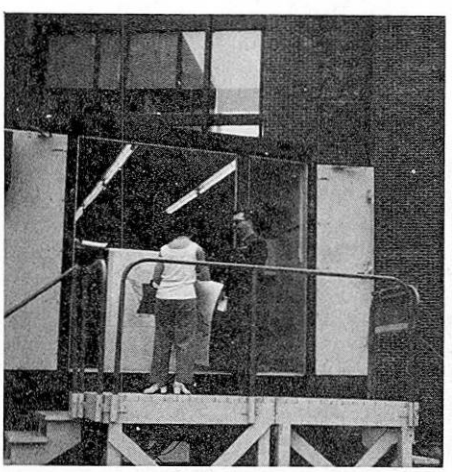
(Continued from Page 1.)

version of the city plan for the District of Columbia, which was distributed to all guests.

Among the distinguished guests visiting the DMS display were COL Cordova, Director, Defense Mapping Agency Topographic Center and most of his staff members.



Ll Smith and SGT Johnson ready presses for Armed Forces Day.



Wayne Ethridge ready to greet visitors.

LTC Wintz, Director, DMS, saw the GAD team off on Saturday morning 15 May. WO1 Ethridge, USA, headed up the team with GySgt Wise, USMC, LI Smith, USN, and SGT Johnson, USA, as the other members of the joint Service team who gave DMATC guests the printing demonstration in a Marine Corps Van. This team did an excellent job and enjoyed talking with the many guests visiting DMS's exhibit.

WWII WOMEN MAPMAKERS HOLD REUNION

Women who in World War II served their country by making military maps returned to the Defense Mapping Agency Topographic Center, 21 May for a nostalgic reunion.

The facility, since renamed, was the Army Map Service then.

The women are fondly remembered at their wartime place of employment as the "Military Mapping Maids" -- the 3 M Girls. That appelation derived from the course each of the women took at any one of various colleges and universities to ready them for their wartime jobs. The course was entitled "Military Map Making". The women who completed the course were first called the "Military Map Making" girls, then the 3M Girls and eventually the Military Mapping Maids.

The Military Mapping Maids, now dispersed in cities and towns across the nation in different careers, returned for a reunion to Army Map Service in 1968 marking the quarter century that had elapsed since the start of their wartime service.

The 3 M Girls timed this reunion with a Bicentennial Year return visit to the nation's capital. They were greeted by Colonel William Cordova, the Center's director; lunched at the Center and were given an update on the astonishing technological advances in mapmaking that have occurred across the past 30 years.

X, Y, Z

Analysis of the Month

FACTS:

1. It takes 37 muscles to frown.
2. It takes only 1 muscle to smile.

CONCLUSION:

Only lazy people smile because it takes less effort.

MYSTERY MAN

by Will Freeze

Enjoying a bit of respite from the rigors of war, this innocent gladiator lies in repose. The rest was well deserved, however, for he has served with General Patton's tank corps in the fatiguing "Battle of the Bulge." He was literally shot out of his tank on three different occasions, once while saving his Captain's life. He is the holder of the Silver Star, and he was awarded the Purple Heart twice.

This ability to sleep on a tank in the middle of the winter is not a picture of laziness but one example of the determination this gentleman possesses. Generally speaking, he can accomplish anything he set out to do, and for the past eleven years he has been doing things for D/Topo and now DMS. The bulldog-like reputation follows him everywhere, but his bark is worse than his bite. Who is he?

What do you think about paying $19.00 to oversleep?

Has anyone heard about the "whales" that got away? Is it true?

EXTRA, EXTRA, Wheeler Hall gets windows cleaned!

If you have any questions regarding the schedule of the softball games, call John Maxwell on 41396 or Mr. Mac on 42285.

THOUGHT FOR THE DAY

Blessed is the man who, with nothing to say, abstains from giving in words evidence of that fact.

George Eliot

ATTENTION ATHLETIC SUPPORTERS

by The Team

The DMS Softball Team wants to thank all of its loyal fans who have been regularly attending our games and cheering us on to victory (see article elsewhere in this issue), and consoling us in defeat (you won't find that story in this or any other issue). Special thanks to Joyce, Gene and Ginny who have stuck with us through thick and thin for several years. For those in the reading audience who've not yet been out to a game, "try it, you'll like it." Win or lose, there's always excitement. Please, just remember the supporters motto - "Cheer, don't jeer," while we do play to win, we aren't pro's. Thanks folks, we really appreciate your fine support and will work hard to earn your cheers. See you at the ball park, and happy supporting.

DMS SOFTBALL STRETCHES SKEIN TO THREE

by Jay McClatchey

On 12 May, paced by "Max" Maxwell's 2 RBI third inning home run, DMS parlayed a balanced eleven hit attack into an 8-6 win over a scrapy A Co, 1st Bn team. The lead changed hands three times before A Co tied it, 6-all in the bottom of the fifth. The stage was set for a typical DMS rally. "Boomer" Locke led off the sixth inning with a slashing line drive single to left. "Batman" Batt lifted one over the short stop for another single, "Boomer" moving to second after Chuck Rottman flied out deep to left, advancing both runners. Ron Dorman's hot grounder couldn't be handled cleanly by the short stop, and both runners scored, "Hess" Hester's single, advanced Dorman to second, but the rally ended with an outfield fly and a routine infield out.

A charged up DMS defense stifled A Co in the bottom of the sixth. The "Batman" made another of his spectacular juggling catches in short field, Chuck Rottman, pitching in relief of Max struck out the next batter on three pitches, and Jim Hey routinely handled a hot grounder to short and drilled the ball to "Boomer" for the final out.

by Gunny Olson

The DMS Golf Team took to the links again Tuesday afternoon for their 3d match in the Battalion Intermediate Golf League and for the 3d time recorded a second place.

Among the strokers for the team were Gunny Olson with a 78, Sarge Easton an 84, Top Sutton an 85, and in the hind quarters, Spec Lynne with a slamming 98. The team pulled in 4 of the total 18 points possible. Sarge Eaton's steady strokin' brought him to a draw with his opponent. Gunny Olson was out to lunch most of the afternoon, his opponent went to lunch also, but stayed a little longer enabling the Gunny to steal 2½ points.

Top Sutton received both barrels from his opponent who fired a super round of 73 at the top. The "Doug Sanders" of the Golf Team, Spec Lynne, was in the woods most of the afternoon. He was only seen on each tee and each green, in-between, nobody knows what went on. The "Bogy man" was out in force Tuesday afternoon. The DMS record stands at 0 wins, 3 losses.

FISHING TALES

Several members of DMS, fondly known as the "Zieres Fishing Crew" took off Saturday for an enjoyable day of Blue fishing on the Chesapeake Bay. The true story of this trip will probably never be known, but I understand "Mac" from Survey took the "pot," a dollar on the first fish. Jake caught the biggest, well not really, he hooked the biggest and then let it go. I heard from the experts that the big fish may have weighed fifteen pounds, but Jake assures me it would have gone at least sixty pounds, in fact, that was the reason he let it go, he did not want to endanger their lives by bringing the fish aboard the boat. Well, regardless of who caught the first or which was the biggest, everyone caught some fish and all had a good time.

Of course, not to be out-taled, Ron and Doug started talking early Monday morning. According to them they float-fished the Shenandoah River for twelve miles, took all day Saturday and on into Sunday morning. During the day, and the early part of the night, each had caught soooo many fish the boat would hardly stay afloat. Being dark and the river very treacherous, they decided to head down stream to the landing and their car. The remaining fish were apparently disappointed because they started jumping in the boat. Both men were wet and cold as they had to get out of the boat to make room for the fish! Doug mumbled something about --- first time he ever threw-em back.

Flag Day

The significance of the flag, and the deep emotional feelings it arouses in a large part of our citizenry, cannot be fully expressed in the two dimensions of a lawyer's brief or of a judicial opinion. But if the government may create private proprietary interests in a written work and in musical and theatrical performances by virtue of copyright laws, I see no reason why it may not, for all of the reasons mentioned, create a similar governmental interest in the flag by prohibiting even those who have purchased the physical object from impairing its physical integrity. For what they have purchased is not merely cloth dyed red, white and blue, but also the one visible manifestation of two hundred years of nationhood—a history compiled by generations of our forebears and contributed to by streams of immigrants from the four corners of the globe, which has travelled a course since the time of this country's origin that could not have been "foreseen by the most gifted of its begetters."

Associate Justice William A. Rehnquist, U.S. Supreme Court

INSTRUCTOR'S NOTEBOOK

Part II

HOW TO RATE YOUR TESTS

The March/April issue of TRAINING *carried an article on planning and writing knowledge tests, as applied by a Division of North American Aviation.*

This section, part II of the article, discusses test grading and analysis. It presents output of a computer program to handle some standard statistical analyses of tests long known but rarely used because of their onerous arithmetic. The program will be published in the next issue of TRAINING.

Although most of us, as students or teachers, tend to look upon tests as motivational devices, a day of reckoning, so to speak, this is but a narrow view of their use. Tests may be regarded much more generally a communication medium. Stated simply, in taking a test, the student tells the teacher what the student has learned. In grading a test, the teacher tells the student what the student has not learned. This article is concerned really with a systematic technique for improving the communication efficiency of any objective test.

How the test is used or how the information derived from it is applied is outside the scope of this article. The judgment of whether the implied threat or reward of a test result is necessary or desirable in an industrial situation is quite beside the point here. This is not to say such a question is unimportant.

Next issue, TRAINING will reprint a computer program for doing the mechanical work of grading and mathematically analyzing tests. Discussion of the financial and technical aspects of this program are reserved for then. Several alternatives to the program, including one which does the same work for about one dollar's worth of computer time at commercial rates will also be discussed.

Meantime, let us take a look at what is required of teachers and students for the program.

Two forms are shown, the Control Card and the Answer Sheet. One of the forms for the Control Card, plus a number of the forms for the Answer Sheet, one for the instructor and one each for the students, are needed to provide the data for the computer program.

The numbers under the boxes are actually for the benefit of the keypunch operator. They indicate the card columns of the so-called IBM card into which the data will be entered. On the answer sheet, numbers 1-75 are the spaces for answers to any number of test items from 1 to 75, as well as card column numbers.

On the control card, below, column 1 indicates the number of possible answers to each question in the test. For true-false tests, obviously, the number would be 2. If the number of answers to different items in the test vary, the largest number of items should be entered, but no correction for guessing in the test can be used.

Columns 2 and 3 indicate the number of items in the test. Maximum is 75. If the total number of test items is less than 10, the entry should be made as 01, 02, etc., to 09. Should there be a wrong count, items enumerated

CONTROL CARD

Number of possible answers to each question	1
Number of questions in the test	2 3
Number of individual students (count only those who submitted answer sheets)	4 5 6 7 8
Is a print of student's answers desired with execution of program? Put in a zero if no, put in a 1 if yes	9
Internal criterion? Zero if yes, put in a 1 if no	10
Penalty for wild guessing? Zero if no, put in a 1 if yes	11

higher than the value entered here will be ignored.

Columns 4 through 8 indicate the number of students taking the test. If there are, for example, 40 students then the entry should be 00040 to avoid the possibility of a misplaced entry which would tell the computer there are 40000 students.

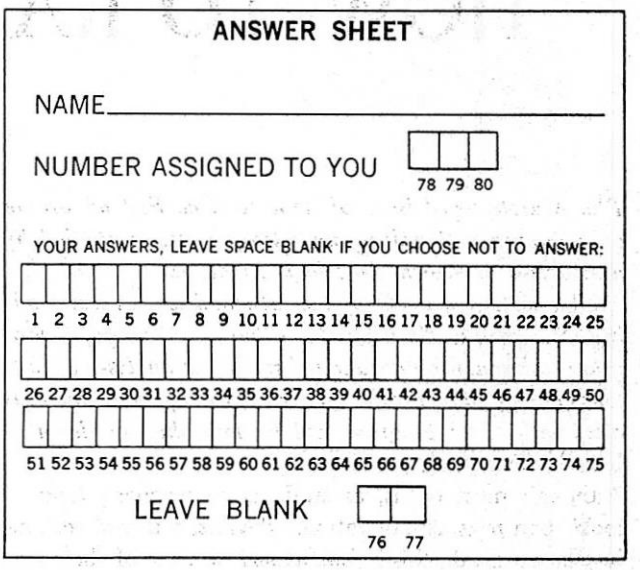
Column 9 is a printout option. A 1 entered here instructs the computer to print out the student's answers as read by the computer. A possible use for such a printout is to guide students to a review of the assignments which gave them trouble in the test. Another use is to proofread the IBM card keypunching against the answer sheets marked by students themselves.

Column 10 is a criterion option. If it is unmarked, the test anlysis is based on the group of students taking the test. High overall scorers are presumed to be the best students, and each item is "judged" as to how well it separates good from non-good students. If a figure 1 is entered in column 10, then an external criterion is used. To use an external criterion, each student must be assigned a value by the instructor, the assigned values to be entered on the individual answer sheets. Any reliable outside criterion may be used so long as it can be expressed in numbers. For example, a very short test could be judged against the scores of a very long test, or test results could be judged against an objective performance criterion. The criterion must be entered as a two-digit number from 01 to 99. Were the test to be judged against sales figures, as one imaginable possibility, and they ranged from 40¢ to $50,000, each figure would have to be divided by 1000, the dollar sign omitted, and any figure less than one (for example the 40¢, which became $0.0004) entered as one. With an outside criterion, the analysis becomes one of validity, or how well the test measures whatever the criterion measures.

Column 11 is an option to take luck out of the score. It is a penalty for wild guessing. Answering true to every item of a true-false test might gain a student a raw score of 50 percent correct. If there is a 1 in column 11, then the program would subtract the chance factor times the wrong answers from the right answers. In this particular case of a T-F test, the score would be found to be zero. A penalty for wild guessing can be used if and only if each question has the same number of possible answers. Theoretically the wild-guess correction only mildly penalizes informed guesses which turn out to be right. Without the wild-guess correction, all students should be told to take a stab at every question. With it, they should be told to answer every question they know, and every one they are reasonably sure of, but not to make uniformed guesses.

The first answer sheet is made up by the instructor. Whatever he writes down on it is regarded by the computer as being the correct answer to the item. For convenience, he may wish to write 000 in the space for the "NUMBER ASSIGNED TO YOU."

The remaining answer sheets are made up by the students except for the "LEAVE BLANK" space, which is reserved for the outside criterion mentioned above. This the instructor fills in. All answers must be numerical, either blank (or zero), 1, 2, 3, 4 or 5. True-false answers require a numerical convention. Suggested is 2 for true, 1 for false, blank for no answer.



For use by the machine, a deck of cards must be keypunched from the forms and stacked in the following order: a control card, followed by an answer card with the correct answers, followed by an answer card for each student taking the test.

After printing out the input data, if that option is exercised, the program prints out a line for each student, gving his identfication number, his raw score (corrected for guessing if that option is exercised), his z-score, the number of questions he had right, the number wrong, the number he omitted, and his external criterion, if any.

IDEN.NO.	SCORE	Z SCORE	NO.RIGHT	NO.WRONG	NO.OMIT	EXT.CRIT.
1.	20.	74.	022	009	000	
2.	15.	60.	018	013	000	
3.	15.	60.	018	013	000	
4.	14.	57.	017	014	000	
5.	14.	57.	017	014	000	
6.	12.	53.	016	015	000	
7.	12.	53.	016	015	000	
8.	10.	46.	014	017	000	
9.	10.	46.	014	017	000	
10.	10.	46.	014	017	000	
11.	10.	46.	014	017	000	
12.	9.	43.	013	018	000	

The z-score (actually a linear transform of the z-score) indicates a student's position among the students taking the test. A 50 is exactly the arithmetic mean, each unit of 10 above or below the mean of 50 represents one standard deviation. With less than 50 students the range should be about 30 to 70; with more than 50, from 20 to 80; with about 700, from 10 to 90.

(continued on next page)

Assuming a normal distribution of students for which the test is well suited, about 70 percent of the students will score from 40 to 60 on the z-score basis.

Following the printout of scores, the program displays the frequency distribution of raw scores, their mean and their standard deviation.

How it fits the group

In the particular display shown here, the mean is 11.078, and the standard deviation 3.576. A test whose difficulty was ideally matched to the group would have its mean exactly in the middle of the total possible range. Since there are 31 items in this particular test,

FREQUENCY DISTRIBUTION OF SCORES

00	000	11	000	21	000
01	000	12	002	22	000
02	000	13	000	23	000
03	000	14	002	24	000
04	000	15	002	25	000
05	001	16	000	26	000
06	001	17	000	27	000
07	000	18	000	28	000
08	000	19	000	29	000
09	002	20	001	30	000
10	005			31	000

MEAN OF SCORES = 11.078
S.D. OF SCORES = 3.576

such a mean would be 15.5. We may conclude that this test is a bit difficult for this group.

In a usual test situation, the test should discriminate at all levels. A conclusion of such a statement is that a perfect score should be quite rare, and yet even the poorest student should be able to answer correctly at least one valid item. Applied to these particular data, a range of plus and minus four standard deviations (or 4 times 3.576, or 14) should be possible in this test. With a mean of 11, such a goal is unlikely since a –3 is practically impossible. This is another indication that the test is too hard. On the upper end, there is considerable ceiling for high scorers. As it turned out, no student bottomed out and no student hit the high scores, so the test had sufficient range to cover the particular group in question.

Question 017, a villain

Next the program prints out an item analysis, (*as sampled, top of page, opposite*). The test divides students into an upper and lower half either on the basis of their overall test performance or their external criterion assignments, and rates items according to whichever criterion is opted by the instructor. For large groups, the ideal distinction is upper 27 percent and lower 27 percent, but this program is based on the assumption that small groups will take the test.

Let us look at the data for the first question, shown, one that perhaps contributed to some of the shortcomings of the test that our previous analysis indicated. Obviously it is question number 17 (don't let the non-suppressed zero in 017 confuse anyone). The left-hand side of the printout indicates the distribution of upper and lower student's answers for the various foils in the question. The correct answer is 3, as is indicated, but many students in both the upper and lower groups were impelled to answer number 2. On the right-hand side of 017's entry, you'll see P = 0.297. P, which actually stands for p, is a simple measure of the ease of a question. It shows the ratio of students getting the question right (minus a correction for chance if that has been opted). It may be interpreted as saying that this question stumped 70 percent of the students. It is a fairly difficult item. The next variables—PHI, RPBI, and RB—are three measures of correlation between correctness of answers on this item and correctness on the test as a whole. Some statistical sophistication is required to choose among the three measures, but since they are in essential agreement and only a test item is at stake, a glance will tell us the story we wish to learn. (For the statistically inclined, PHI is the phi-coefficient, RPBI is the point biserial correlation, and RB is the biserial correlation, theoretically the most apropos for the item pass-fail division of the entire group divided upper and lower. The former two can be employed advantageously if the analysis is redone using the data of top and bottom 27 percent of the students only.) Correlation ranges from minus 1 to plus 1. Plus 1 indicates perfect correlation, meaning all the good students get this one right and all the bad students get this one wrong. Minus 1 indicates a perfect correlation in the opposite direction. It probably indicates an extremely reliable question of fair difficulty which the instructor got wrong on his answer key! A zero correlation indicates a nothing question. Two of the three indicators show a negative correlation on item 17. This test item deserves careful scrutiny. Is it possible that the question was ambiguous so that either answer two or three could be correct? Possible. Is it a trick question? Is it a question on which there is a division of opinion in the field, which was not explored in the class, or not accounted for in the stem of the question? Any of these may be true. If they are, they diminish the value of the communication between student and teacher, and should be corrected. Perhaps the ground was not covered in the course. In this case (we may presume the material was important because the question was in the test) the material should be reviewed by the

QUESTION 017	1	2	3	4	5	OMIT	CORRECT ANSWER IS 3		
UPPER	000	003	004	001	000	000	P = 0.297	PHI = 0.171	
LOWER	000	004	003	000	001	000		RPBI= -0.112	RB = -0.147

QUESTION 024	1	2	3	4	5	OMIT	CORRECT ANSWER IS 3		
UPPER	000	000	008	000	000	000	P = 0.766	PHI = 0.553	
LOWER	001	000	005	000	002	000		RPBI= 0.495	RB = 0.682

QUESTION 001	1	2	3	4	5	OMIT	CORRECT ANSWER IS 4		
UPPER	000	000	001	005	002	000	P = 0.266	PHI = 0.601	
LOWER	001	001	000	000	006	000		RPBI= 0.576	RB = 0.775

class and the lapse corrected in the course plan. Perhaps there is no assignable cause. If this was a fluke, the question should show a different result the next time the test is given.

Question 024, a hero

Now let's look at what appears to be a better question in the test, question number 24. The p or ease level for this question is .766. Only a quarter of the students missed it. We concluded earlier that this particular test probably needs more easy questions. A glance at the distribution of various answers shows that the 3 wrong answers were distributed among two questions. In a multiple-choice test the wrong answers should have about equal plausibility, and it is possible that the item has this quality. All the correlation measures for the item are .5 or better, which is good for a relatively easy question with a small group divided 50-50. It might be worthwhile to take a look at this question to see what there was about it that made it sensitive.

Question 001, tough but fair

Finally, let us look at question number one. Its ease level of .266 indicates that about a quarter of the students were able to answer it correctly. This is one of the more difficult questions. The correlation figures are all extraordinarily high, mostly because only better-half students answered it correctly. Examination of the item might show that choice number five was very plausible, to anyone who did not know the subject, but other foils also attracted answers, which is fine. Examination of the item would probably reveal why it was a good test question.

An analysis of this sort is insufficient to rewrite a test. It can only point to test weaknesses. An apparent weakness can be a freak event, a bad question, a rough spot in the course, or a temporary situation over which no control is possible. Following the numbers blindly is folly. It is not enough for the test overall to be mathematically good. If all the hard questions on a "perfect test" bear on one or two sections of the material, then the test is worthless as a guide to remedial action on the part of the teacher of the students. The numbers should be related to reality.

The ideal test has easy, medium and difficult items in each subdivision of the subject matter. This is important for the good students as well as the poor ones. Such an arrangement makes the test a more reliable guide to the areas in which they need more work. It may tell the instructor when he drove his best students away with tediums. The ideal test is short, as short as it can be without loss of coverage or reliability. But brevity is the first objective to sacrifice to the adequacy of the test as a communication device.

Reliability

Final printout is a measure of test reliability. Two formulas are printed out, the Kuder-Richardson No. 20 and the Kuder-Richardson No. 21. The No. 21 may be safely ignored. The reliability of a test is a form of correlation, with 1.00 being perfection. Test reliability should fall in the .80's or .90's. At .7, below, this particular test is not too bad considering the size of the group and the measures used, but it could stand improvement (by eliminating some of the questions nobody passed, if nothing else). If an external criterion is used, the same formula is used to compute test validity. A test validity of .702 against an independent external criterion would be something to write home about.

TEST RELIABILITY K-R(20) = 0.702

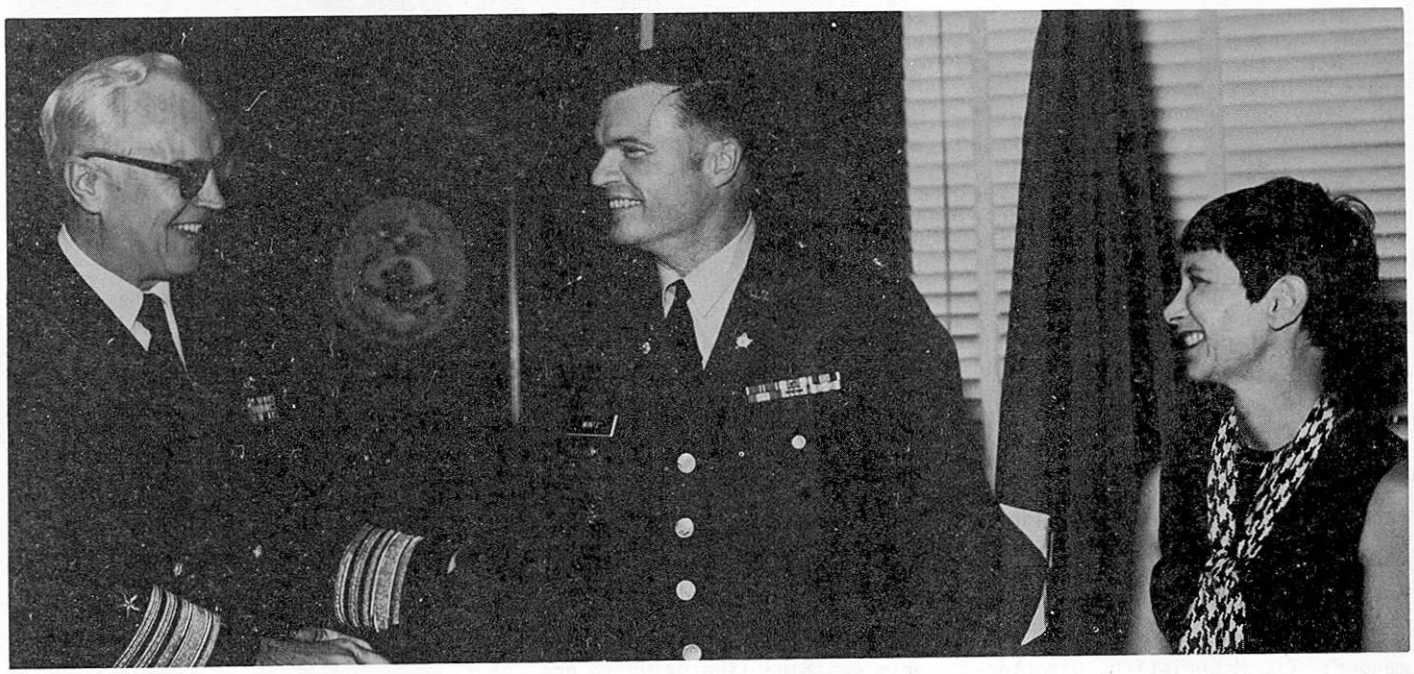
The test analysis can also be used on a matched control group not taking the course or as a pretest—in either case to gauge the amount of information learned in the course.

For such purposes, the test should first stack up well as a posttest. As a pretest, some of the easier questions should be in the range of most of the group. And there should be a distribution of scores. That is, some people should do better than others. If there is a complete pretest washout, there is likelihood that the test concentrates on idiosyncratic or arbitrary information. □

CONTOUR

VOLUME 3 NO. 8 | DEFENSE MAPPING SCHOOL | 18 JUNE 1976

DMS DIRECTOR PROMOTED TO FULL COLONEL



VADM Cramer congratulates Colonel Wintz, as Mrs. Wintz looks on.

Colonel Edward K. Wintz, Director, Defense Mapping School, received his "Eagles" on 1 June 1976 at Headquarters, Defense Mapping Agency. VADM Cramer, who noted the Colonel's many outstanding achievements, with the assistance of Mrs. Wintz, pinned on the Eagles.

Many co-workers from DMS motored to Headquarters and joined the Wintz family for the promotion ceremony.

His first official order came during the pinning on. The order - never to be forgotten by his wife - "FEET OUT"!

From all of us at DMS, Congratulations, COL Wintz.

FOCUS ON THE DEPARTMENT OF GRAPHIC ARTS

The Contour, in future editions, will do feature stories on the teaching elements in DMS. This will share with all Departments, individual aproaches to solving problems common to all Departments. In this article, the Contour interviewed Mr. McCullough, Chief, Department of Graphic Arts. (Ed Note: *italics added by editor.*)

Contour: Like all the students DMS teaches, your graduates are assigned to many locations. Where do some of these young people go?

Mr. Mac: Upon graduation our students receive assignments to many *fascinating* printing facilities: Navy people draw duty on aircraft carriers, cruisers, destroyer tenders and submarine tenders which roam into many interesting ports throughout the world. No, our Navy people do not need "sea legs" all the time, they can and do receive shore duty in places such as Hawaii, San Diego, Norfolk and many Communication Centers. Our Navy graduates are involved in a variety of printing projects such as job shop, or chart printing. Marine graduates are primarily assigned to one of the 3 Marine Divisions located in South East Asia, on the West Coast and the East Coast. They go to Headquarters FMPACCOM (Hawaii) or FMATLANCOM (Norfolk), to the 2d Marine Air Groups and the 12th Marine Corps District Headquarters which support printing requirements of Rescue Elements and Recruiting Programs. Army graduates also receive varied assignments such as Topographic Mobile Map Reproduction Units in Hawaii, Europe and three Units in CONUS. Some Army people go to Psycological Operations Organizations where they become familiar with the web feed presses.

(Continued on Page 4.)

from the DIRECTOR

I've found that two week's leave is just long enough to become a way of life, and a very desirable one at that. Last Tuesday's return to work was extremely wrenching; not only did I have to get up early, but missed the ongoing saga of Green Acres, Dick Vandyke (my youngest thinks there are two stars: Dick'n Dike), and Daytime Hollywood Squares. See, life isn't all peaches and cream in the Director's office!

Another disappointment occurred when I found that the School hadn't collapsed in my absence. About the only sign of decay I noted was that the Warrant Officers ran amok in the last issue of the Contour with remarks about our bikini-monitoring in Hawaii. They will be happy to note that Admiral Cramer mentioned this at my promotion ceremony. That's all right; I'll give them that. They have so little else.

HQ DMA and the local Components seemed to have escaped the majority of reassignment turbulence with the exception of COL Knipling's departure (more later), but the Engineer School is losing some fine friends of DMS. COL Robinson, Brigade Commander; COL McChristian, Directorate of Training; and LTC Williams, Directorate of Support, are all scheduled to leave this month, and they have been a real pleasure to work with. Also, they laugh at my jokes. Godspeed, gentlemen, and thank you for your thoughtfulness and help.

Colonel Lou Knipling is a special case. He and I trudged the grounds of Ohio State together (he chided me for girl-watching as I recall, maybe the Warrants are right) and we both became expert at translating the Finnish idioms as well as enduring a lengthy acquaintance with least squares, Stokes' Theorem, and celestial mechanics. Except for a few more centimeters of hair, Lou hasn't changed a bit -- he's ageless. He is always fun to be around and we'll miss him, both professionally and personally. The School wishes you our best at Monterey.

UNIFORMED DMS WINS

by Chuck Rottman

On the evening of June 7th, the DMS softball team got back to their winning ways by defeating a good team from DUSAA by the score of 11 to 9. This brings their season to 4 wins and 2 losses.

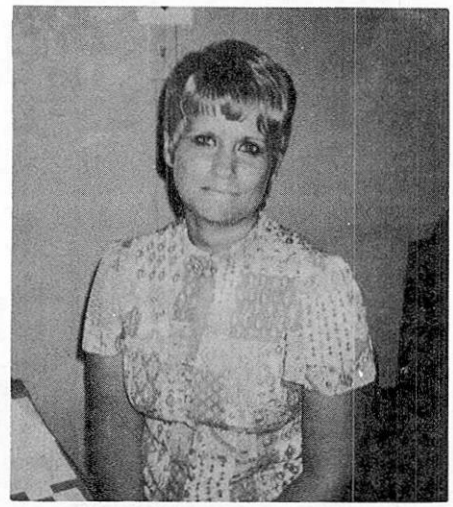
The team finally caught on to the practice of making the opposing pitcher throw strikes before they swung a bat. In the first inning the DUSAA pitcher had trouble finding home plate. Jay McClatchey, Boomer Locke, Orly Keller and Max Maxwell all drew walks. These walks, in combination with a hit by Curly Hester and a long fly by Wes McMillan produced the first three runs in the game.

The third inning was the really big inning for DMS. They scored five runs on six big hits and a fly ball. All was not over however, as they went on to score another run in the fourth inning and two big runs in the last inning. The last two runs, the margin of victory, were scored on a long homerun by Belting Baybrook. It was his second of the season.

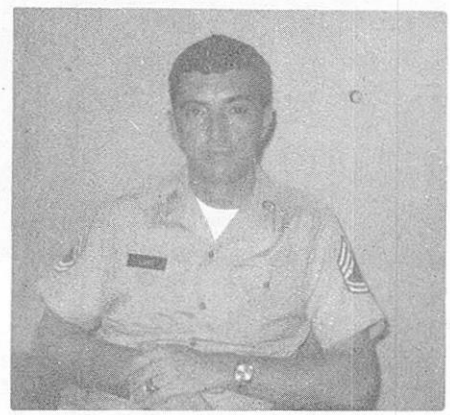
Going into the bottom of the last inning and leading by five runs, it was time to give Whitey McCullough a few more white hairs. DMS was up to it's old trick of giving up scads of runs after they get two outs on the opposing team. This time they gave up four runs before a newcomer named Wrentmore caught a palm smashing line drive to end the game.

There had been rumors going around the School that DMS couldn't win because they looked so pretty in their colorful new uniforms. Not true as this game proved. The real scoop is that DMS only wins when the "Boomer" brings his jug of ice water. They lose, when he leaves it on his kitchen sink.

WELCOME TO DMS



On 31 May DMS welcomed Pat Adamski. Pat is the new Admin Aide in OAR. She hails from Virginia and lives with her husband Tom in Garrisonville. Pat came to DMS from the Department of Mechanical and Technical Equipment, USAES. Again, welcome aboard Pat.



OAR recently welcomed SFC Bill Luke. He will be working with SFC Keller as the Travel/Security NCO. Before coming to DMS he was a full time student at the University of Maryland, where he graduated with a BS in Business and Management. Bill enjoys golfing in his spare time and shoots in the low 90s. DMS welcomes you Bill, and your family and hopes your tour here will be an enjoyable one.

The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.

Address all communication to:

Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060

Director: COL Edward K. Wintz

Editor: Cathy McCloskey

"SO LONG CHARLIE"

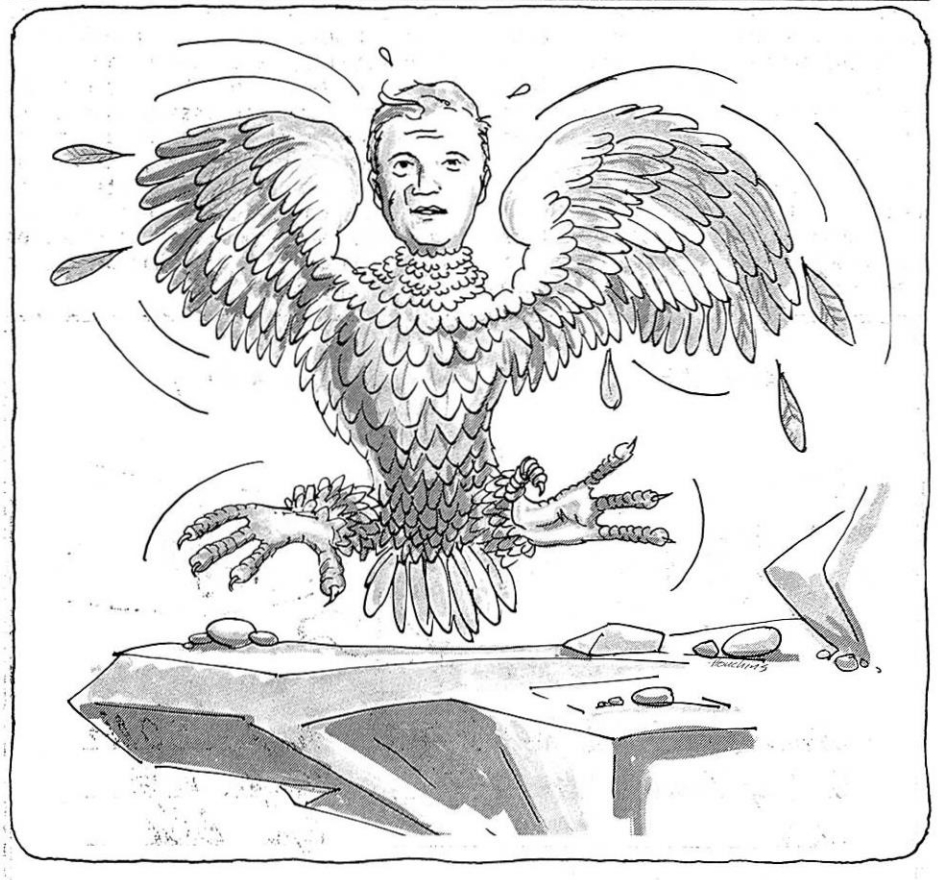
An end to an era is occurring on the 30th of June. That era, in effect was the opening of the door of the old USAES, D/Topo to staff positions and chief of teaching departments to members of the other Services. Of course, we always had enlisted members of the other Services as instructors teaching some of the courses, but it was always an Army Engineer Officer that usually headed the teaching departments or were on the staff.

But when USAES, D/Topo became DMS one of the first members of the other Services to serve on the faculty was Major Ramirez and he indeed left his mark.

Hardly a Staff Meeting went by when an uncomfortable question would be posed or a proposition made that was in apparent opposition to the status quo, and that question or proposition was usually offered by the old Taco Snatcher. They weren't offered just to be anti or against or in opposition, no indeed, they were offered to lighten the load, to enhance the stature, in defense of, and especially out of loyalty of his teaching department, which came first to him. He really pioneered the cause that espoused the philosophy that the student came first and those individuals that taught the students came next — everything and everyone else was in support of that ultimate effort.

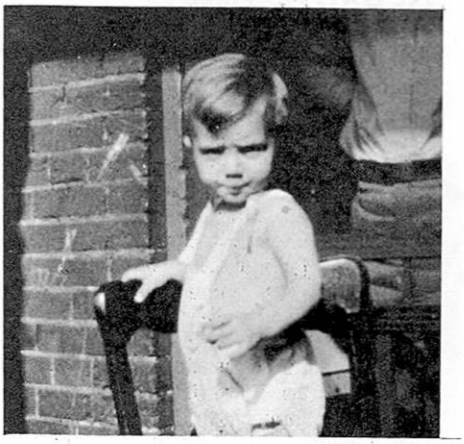
So it is with a certain nostalgia that we in "Carto" say "Au Revoir" or rather "Hasta la vista" to our Minority friend and we really mean it when we say we're happy, that through all the travail of job hunting, he finally came out smelling like a rose — good luck, Major Ramirez.

All your friends in Carto



FEET OUT, FEET OUT!!

MYSTERY MAN



This person has, from time to time, appeared in number combinations like 1-3, 1-5, 1-4, 1-6 and even 1-2, but never 1-7. Assignments within DMS during this tour (another clue) have included two different Departments. A previous tour was to yet another Department. A well rounded individual, wouldn't you say? This individual has also occasionally been associated with a "girls best friend." Finally, the last clue which, due to the ensuing time lapse may take some hard remembering, concerns the Christmas holiday period he (whoops, a clue within a clue) was so tied up he couldn't get away from his desk for hours. If you can't figure out who our mystery person is, pick up the next great edition of our Contour.

(Answer to 4 June Mystery Man)

If you had trouble in recognizing our mystery man from the description, blame Will Freeze. This angelic face fronts the famous (infamous) Troll of Wheeler Hall. That evil elf who delights in saying no, even to such simple requests as "What time is it?" or "Where is the men's room?". A supply type, he has been known to request a 3 part form be filled out so some unfortunate can borrow a pen to fill out a requisition for pens.

Our mystery man is none other than the resident dragon (fire and all) of Room 108 Mr. Robert Nonnemacher.

MSG "AL" ALTHEIDE DEPARTS DMS

by Mr. Shaw

On 1 July MSG "Al" Altheide departs DMS to attend the Sergeant Major's Academy in Ft Bliss, Texas. Selection to the Academy by Department of Army is evidence of a Non-commissioned Officer's outstanding career development potential. MSG Altheide joined DMS for his second tour (he was here when we were D/Topo) in Sep 1973 from USASTRATFOM-EUR. He was assigned to Construction Drafting Branch until his assignment as Chief, Instructor Supervisor, Department of Cartography. MSG Altheide enlisted in the Army from the Granite State of New Hampshire in 1956 and has had various duty assignments to include: Carlisle Barracks, Pa., 540th Engr Group, Germany, DIA, Arl, Va., HQ, USARSUPTHAI, D/Topo, USAES. DMS and Ft Belvoir will miss "Al," he has been a keystone in the day-to-day operation of D/Carto and Ft Belvoir's Baseball community. Good luck in school, next time we meet, will it be SGM Altheide?

WHAT IS A DUKE?

In medieval times a Duke was nobility. But for DMS it is a short round, with 3 up and 1 down. The Duke loves to ride a motorcycle even though it is bigger than he is. He also loves to bowl, so his right thumb is larger than his left from all the lofting that he does. Aside from that he has a mustache that has longer hair than he does on the top of his head. Duke took up a new sport this spring, the only problem is the grounds-keeper issues him a 50 pound bag of grass seed to repair all his divots. Duke is a great Hearts player even though he has one major problem, that is telling the difference between the Queen of Hearts and the Queen of Spades.

Now to the more serious matter of saying Adios to one great guy, Staff Sergeant Charles Braswell, known as "The Duke." Duke reported to DMS on 1 Dec 72. Since he has been at DMS he has distinguished himself as a Master Instructor and a fine individual. On 11 June, Duke was recognized for his talents and received the Joint Service Medal.

Duke will be missed by all in GAD, we know he will do an outstanding job in his new career as an Army Recruiter. Good luck to you, Barbara and your two girls.

FOCUS ON THE DEPARTMENT OF GRAPHIC ARTS

(Continued from Page 1.)

The balance of our Army people are dispersed into special TD printing positions or into AG printing activities whose products include movement orders. Last, but not least, our civilian graduates return to their specific Agencies.

Contour: What, in your opinion, has been the strongest teaching method your faculty employs and how do you see the TV and self-paced study programs tying into your curriculum?

Mr. Mac: Since we present instruction in trade skills, we find our students learn best when they work right on the item of equipment. This is one of the reasons our basic courses are designed to have 85 to 90% "hands-on-the equipment" training. "Hands on" is not a panacea but one effective method. Our use of television tapes has been limited, by design, to those particular areas on equipment where students can not readily see the adjustment or parts functioning. Self-paced textual material and 35mm slide programs are most effective for students whose capabilities allow them to progress faster than the normally paced class. In addition to using these training materials for the fast learner, the programs and TV tapes have an effective use in remedial training, as an aid to reenforced learning and for MTT activities. I think it is important to realize that these TV tapes and self-paced programs are researched, developed, written and produced by the faculty members of GAD.

Contour: How do you rate these instructional methods compared with standard platform instruction?

Mr. Mac: I believe they have an important role in the development of technicians, but they remain as supportive training devices. They can, in certain instances, play a solo teaching role for an entire lesson, but, as a general rule, in trade skill training the human exchange of knowledge is stronger. I do not believe these programs can, or will, replace standard platform instruction. However, I do believe we have made maximum use of these programs in GAD, partially because of the limited number of pieces of video equipment.

Contour: Tell us something about the *glamorous* MTTs that seem to be unique to GAD.

Mr. Mac: Yes, GAD's MTTs have taken our faculty members to some interesting countries. However, let me point out that in addition to the exotic foods, dream vacation trips and dancing girls, there is lots of work to be accomplished. For example, last year's famous MTT to a far away South Pacific nation, Indonesia, was to assist Indonesian Army Personnel in setting up printing equipment. There, instead of dancing girls, we instructed officers and enlisted people in the operation and repair of reproduction equipment. The trip was unique in

(Continued on Page 5.)

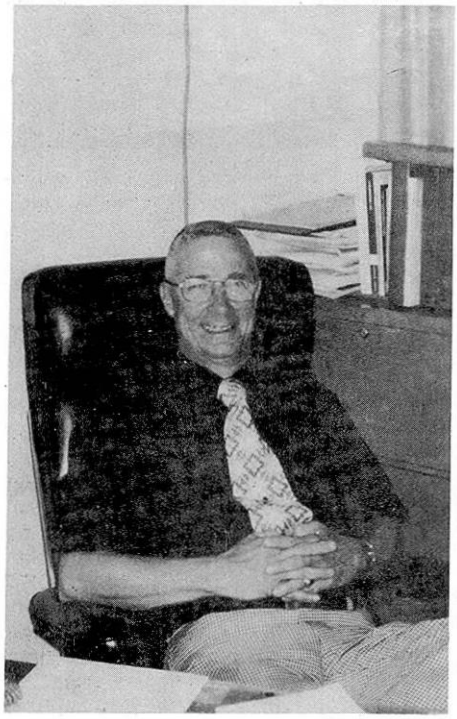
Chief, PPO is proud to announce the birth of a

Name: Charles William Locke II *Weight:* 150 lbs.
Date of Rank: 1 June 1976 *Length:* 6 ft.
Hair: _____ *Eyes:* Blue

FOCUS ON THE DEPARTMENT OF GRAPHIC ARTS

(Continued from Page 4.)

that our people were called on to teach letterpress and silk screen printing. Both of these technical skills had many years ago disappeared from the printing field in the Army. In addition, they taught the operation and repair of the Offset Duplicator. I feel that some fallout from this trip has been the call for us to support,



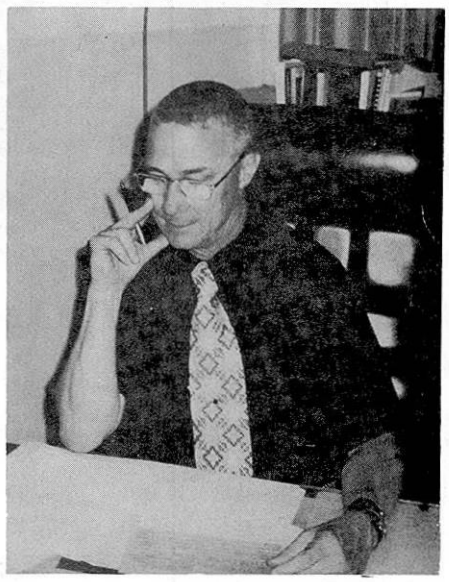
technically, trips to South America and probably the Middle East.

Contour: How do you perceive the military/civilian interface within GAD?

Mr. Mac: First let me say we are all highly motivated and professional technicians. GAD is a cohesive and harmonious workforce, where each person not only assumes his/her responsibility but is always ready, willing and able to help out where and when needed.

Contour: How can you say "help out where and when needed" when GAD has different technical skills?

Mr. Mac: Simply because of the desire of our faculty to be proficient in all aspects of our technical field. When our normal resident classes hit a slack period like Christmas holidays, the faculty members are afforded an opportunity for cross training in the other Graphic Arts disciplines. As an example, we recently ran two 80 hour courses, one in process photography and one in offset printing. Faculty members who taught or worked in press for a number of years took the photography and platemaking course. Those in the photoplate division took the offset printing course. We required our people to complete examinations and produce products meeting the same high standard expected of our resident students. These courses were not "gentleman's" courses and only those who passed the exams and completed the work were awarded graduation certificates. I feel the net results of this continuing cross training program are that it not only prepares instructors to teach in other areas, but it also provides a ready pool of instructors who can effectively teach a combination of GAD skills. Of course, most of you are aware that this program is over and above the regular Wednesday afternoon college



courses which teach job-related subjects. The college effort in GAD has been going on for the past two years.

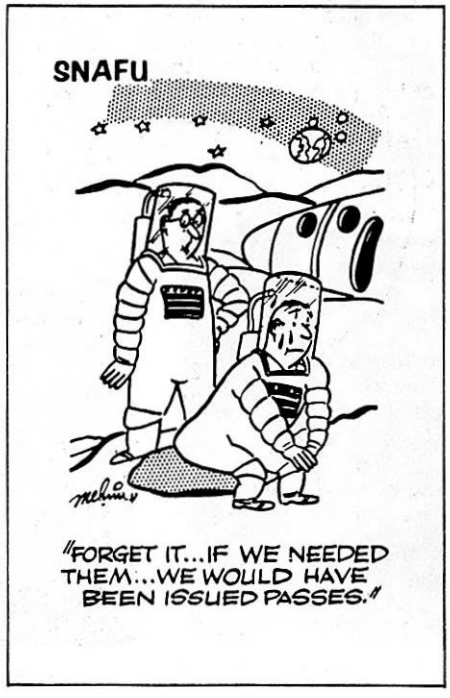
Contour: Have you noticed a change in the quality of the resident students you receive? Have you changed tactics and/or material to accomodate todays soldier?

Mr. Mac: There has been a noticeable change in our students. In many areas they seem better prepared but in the nuts and bolts aspects of education, reading, writing and arithmetic there is a definite weakness in basics. While "hard technical skills" can stand some deficiencies in these areas, they never the less cause us problems. In order to cope with them, we request students for additional evening training sessions. I believe we have changed some tactics in teaching todays soldier, such as in the lesson on Lithographic Stripping of Reproduction Flats. Here, we have incorporated a TV tape and illustrated work book. This has helped that lesson area and lessened the need for additional training. *Our obligation to the student is to be ready to change in order to discover the vehicle which will enable us to accomplish our mission, produce a viable technician for Unit Commanders.*

Contour: What are prospects for applying GAD skills in the civilian labor market?

Mr. Mac: All of our technical skills have direct application to civilian printing plants. I have traveled around and discussed the transfer of military training into civilian Graphic Arts practice. I find most employers are anxious to hire Service people. They realize these men and women have received a solid and sound training base and a variety of production experience not often found in photolithographers, lithographic offset press people and reproduction equipment repair people.

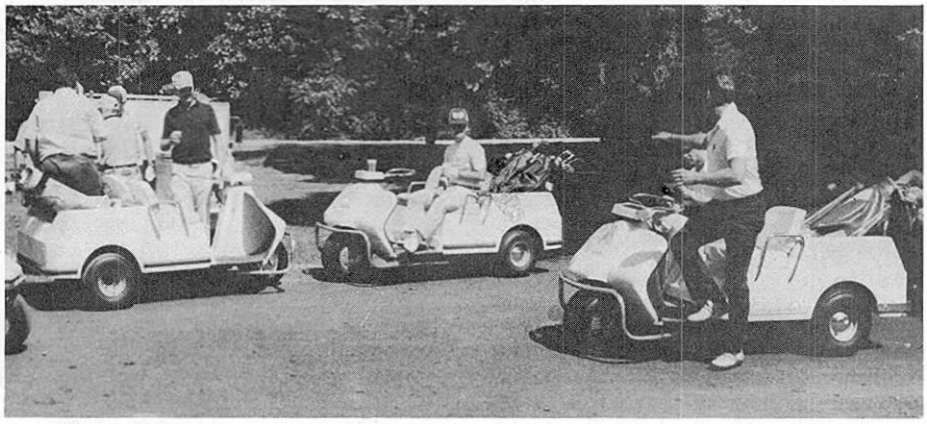
Right on, GAD and Mr. Mac.



DMA GOLF TOURNAMENT

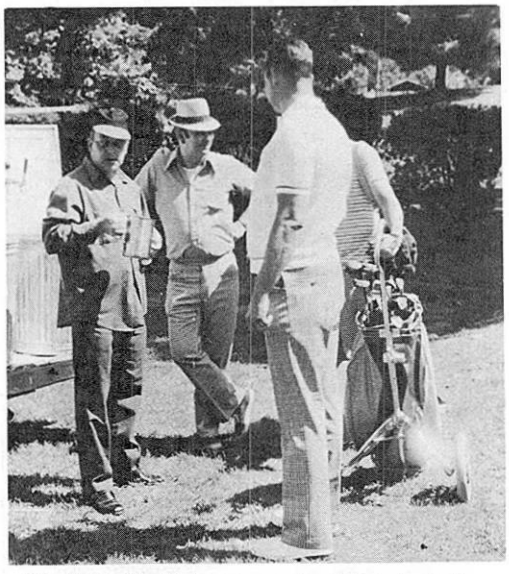
Under the watchful eye of Tony Grande, coordinator for the DMA Golf Tournament, the DMS guys went out for a great day of golf on the 4th of June, and they don't know for sure who won what, but everyone appeared to have a good time. All in all it was really a fine tournament and DMS with CPT Harkins as Coordinator, will host the next golf tournament this fall.

The next issue of the Contour will carry a complete listing of winners of the DMA Tournament.



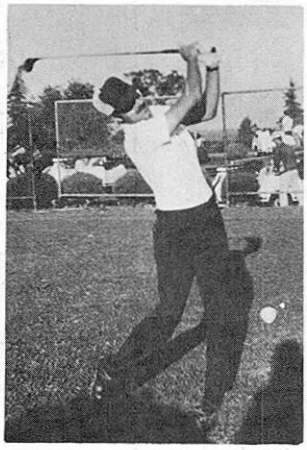
"Gentlemen start your engines."

"You gotta hit it sometime."



"I thought this was a hunting trip."

Going?.....



Going?.....

Gone????

A DMS SAILOR RETIRES

Old sailors never die they just retire, ask a five time, good conduct award winning sailor named Freddie Greear, of DMS. The scuttlebutt is that after twenty years Freddie never got caught doing anything wrong — even in 1955 when he started out as a process photographer at Patuxent River, Md. The Navy even saw fit to award him two "geedunk" medals (National Defense Service).

The USS Everglades must be the cause of Fred's dream to get to Florida. Since duty aboard that ship in 1956 Fred has been trying to get there. In 1960 he got as close as Norfolk, Va. That wasn't good enough so he boarded the USS Orion to play nursemaid to submarines. Perhaps he was really hoping for an underwater hop to Florida — no such luck.

In 1966 Fred took refuge from his Florida quest by going aboard the USS Sanctuary, a hospital ship. But the Navy is full of surprises and the Sanctuary steamed off to Viet Nam. Being amid ships in 'Nam was not Fred's idea of Florida's peace and quiet. Even if the temperature was right the fantail of a ship in 'Nam is no place to get a sun tan! But because Freddie is 4.0 all the way he served as a faithful lithographer and earned the Viet Nam Service and Viet Nam Campaign ribbons along with a Viet Nam Meritorious Unit Commendation Gallentry Cross.

1970 and getting closer to retirement Freddie again tries for Florida's warmth but overshoots his mark landing in Guantanamo, Cuba. That's getting close.

But now after three cold winter years at DMS Freddie can go where he chooses. Freddie retires as a top notch twenty-two year man. Good luck and think of us as you bask warmly on the Florida sands.

INSTRUCTOR'S NOTEBOOK

RECIPE FOR A FILMSTRIP

Realize that you're dealing with a visual aid

Determine your objectives

Keep all details relevant to your objective

Immerse yourself in content

Organize a logical outline

Simplify your content

Identify with your audience

Don't move faster than your audience can absorb

Ask audience for action

Repeat and reinforce

Include appropriate techniques for learning

If, on the basis of the evaluation you have made, you decide that a filmstrip is best for your presentation, then, *before* any production begins, two most important questions must be answered: *"What* do you want to tell? And to *whom?"* It is absolutely important that you establish, clearly and concisely, the filmstrip objective. *Never* try to make a filmstrip that has "a little bit of everything and a lot of nothing!" A confused objective, a filmstrip that tries to do too much, a dreary unimaginative presentation, and failure to aim the message at a specific target audience—these are the tombstones that mark filmstrips that have failed! Don't underestimate the medium. When preparing a filmstrip, be careful and thorough. Tell a complete story. Most successful formats follow the famous dictum reiterated by Jam Handy, well-known film producer: "Tell 'em what you're going to tell them, then tell them, and, finally, tell them what you told 'em!"

Careful planning and preparation are vital in creating a good filmstrip. Because of its simplicity, a filmstrip is like a magnifying glass. It makes all errors in judgment glare like a neon light. Poor taste is clearly exposed. It always seems to have a frightening ability to reveal to an audience that the person who created the script didn't really understand either his audience or his subject well enough.

Here are important guides you should follow to assure a forceful, effective filmstrip presentation:

Define the problem. The problem has no essential relationship to dollars. Either the problem is going to be solved or it isn't. Define the problem on paper. This forces you and the people you are working with to think clearly. Conversation too frequently deludes us into thinking there is understanding or agreement when there really isn't any at all!

Define the audience. It's easy to say that an audience consists of "electrical engineers in large companies" or "tellers in banks." An almost unavoidable habit of mind is to think in terms of the average man or the "faceless" audience, thereby lumping people together and disregarding the fact that each individual in the audience reacts differently to the same message. That doesn't do you any good. What you want to know are their problems—in depth! Remember, audience reactions to a filmstrip are based not only on what the filmstrip brings to the audience but on what the audience brings to the filmstrip. Such factors include intelligence, formal education, age, sex, previous experience with the subject, and prejudice or predisposition toward the subject.

Realize you're dealing with a visual aid. A filmstrip is primarily a visual presentation. Narration or commentary should reinforce the message. Too much talk may reduce the effectiveness of the film and not accomplish the objective you had in mind. Remember there is nothing worse than a filmstrip which should have been a pamphlet. A filmstrip which has more text frames than pictures, which has three or four lines of caption under each visual, or which has a wordy narration to accompany it, should never be made! Research studies indicate that, in some cases, a musical background adds nothing to the training value of the filmstrip, though it may add to the cost.

Determine your objectives. If you don't know your objectives, it's sure your audience won't either. Be specific and make sure you have only one primary objective. One clear message is as much as you can expect any medium to carry. At this point, you have no investment in materials, labor, or processing costs. Shaping the objective doesn't add, in any way, to the cost of making the filmstrip, yet it has everything to do with its final success!

Keep all details relevant to your objective. Anything that does not bear directly on the point being made can be distracting and may reduce learning. You can save time and production costs if you include only relevant material. However, this can be done only by a thorough analysis of your objective.

Immerse yourself in content. Nothing is more wasteful than to grind out creative ideas before you know what you're talking about. Unless you master your content, you won't create an effective filmstrip for an audience of experts. You may be creative, but you won't be effective.

Organize a logical outline. Now, take that mass of content and organize an outline which is, in effect, a logical statement of the filmstrip's argument. Content outlines that don't contain all the "bits" of information in a logical sequence are useless. Remember, when you create a filmstrip to solve a specific problem, you must always put the problem first. Be sure the filmstrip accomplishes its purpose!

Simplify! Most problems in business and industry are complex. The most valuable contribution you can make is to extract from your source material the essence needed to move an audience to a specific action. The more you simplify your content, the better chance you have to achieve effective communication.

RECIPE FOR A FILMSTRIP

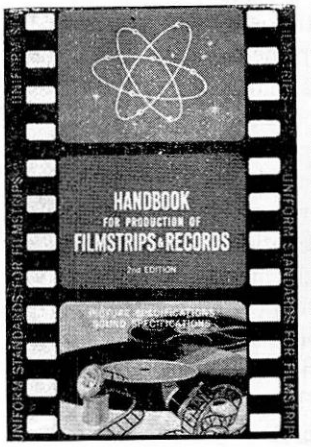
Identify with your audience. You can use whatever setting or point of view you choose, but learning will be most effective if your audience can fully identify with characters, situations, and problems. The degree to which the audience becomes involved is the degree to which it will learn. It can become involved only if it can accept the role and personality of the actors and find them credible.

Don't move faster than your audience can absorb. Producers of filmed materials sometimes pace instruction at a rate far more rapid than learners can absorb. Often they proceed at the rate of an entertainment film, ignoring the fact that one learns slowly and that speeding up the material does not speed learning. Learning simply cannot be speeded beyond the natural rate that the capabilities of the audience allow. Production costs of a filmstrip may prove to be somewhat higher than you wish, but reducing costs by speeding up a message does not speed learning, and may defeat your objective.

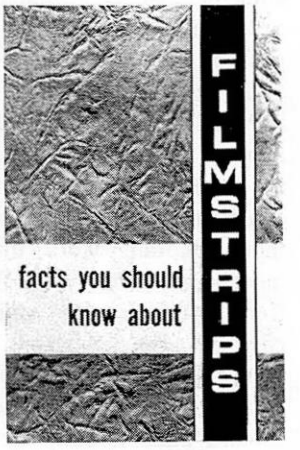
Ask for action. Make sure you end the filmstrip by asking the audience to take some form of physical or mental action (e.g., ask for greater safety awareness or improved office efficiency, etc.)

Repeat and reinforce. Better results are achieved by showing the same filmed material several times. Each viewing adds to the knowledge or modifies the behavior, and makes the message clearer up to a point. Each time the learner is directed to look for something or to answer certain questions, there is an increase in learning. Several exposures to the same message may reinforce the message, especially if there is preparatory and follow-up material. Considerable research indicates that we cannot expect any one film or exposure to modify behavior or attitude for very long. Even when radical changes seem to occur in the individual at the close of the exposure, a follow-up interview during the next few days shows an almost total reversion to former thinking or behavior, almost as though the experience had not taken place. The filmed experience has to be reinforced with further exposures to the message in a carefully created training program that affects his learning before, during, and after the exposure. Spelled out, this means you can't make a one-shot filmstrip, show it, and automatically expect to get maximum results. You should prepare your audience for the viewing, direct them what to look for, and then provide a follow-up review and discussion.

Include appropriate techniques. There are procedures that can be very useful with training filmstrips. It is desirable to orient the learner so that he can locate himself with regard to the material in terms of time, place, etc. A degree of anxiety produced by the announcement that there will be a review-quiz at the end of the showing is useful too. Sometimes saying the same thing in different ways helps to make a point clear and lasting. Encouraging the learner to participate or practice by any appropriate means helps to reinforce learning.



Want more? DuKane Corp., St. Charles, Ill., just updated this reference. $2.50



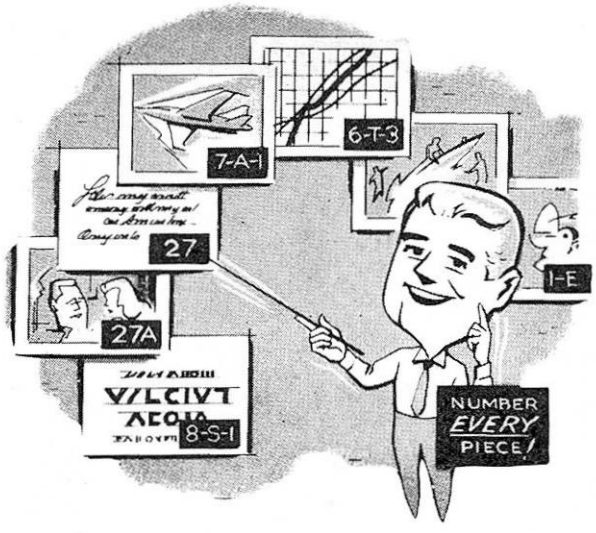
New manual excerpted here: Frank Holmes Labs, 1947 First St., San Fernando, Cal.

It's easy for us to say, "Plan carefully . . . gather your material . . . and organize a logical effective outline."—What you'd undoubtedly like to know is . . . how do you actually do it? Here's an effective method that is often used:

Writing the script

Contact the department or activity for whom you are planning the filmstrip and "brain-pick" everyone who is interested in the project. Then read thoroughly all available research material. When the message and

film objectives are completely clear to you, start writing down—on small individual memo sheets—every thought and idea and technical note relating to the project. When you are through, you may have a hundred or so little pieces of paper. Now lay them out on a table without any relation to their order and study them individually. From one paper, you may discover the ideal "opening." Transfer this to the upper left corner of the assembly and follow it with appropriate material until finally the "picture" appears in proper informational sequence comparable to a pictorial



storyboard. Clip these together, or tack them in sequence on a wallboard and begin your first script draft or your script outline.

It is important that your filmstrip quickly establish in the consciousness of your viewers—right at the beginning—the "carrot" or reward to them personally for taking their time and giving their attention to the film's message. They should clearly understand what the film's information can do for them. Your script must make them want to watch and listen. After it has clearly set up the reward, the script should continue with the visualization of the picture's objective, followed by a careful development of the film's principal theme or message. The conclusion may repeat visual elements as it summarizes the information and emphasizes the important values that will result for the viewers from the action proposed.

Preparing the storyboard

Once you have developed a rough outline, you should consider the possible ways to illustrate and dramatize the material. Sometimes a filmstrip will consist entirely of photographs. It may be that a sequence of still photographs is the only method of gaining the desired result. Often, however, you may want the authenticity of a photograph, but it just doesn't have enough "zing" all by itself. That's when you should consider superimposing artwork on that photograph, or using part photo and part artwork.

As soon as your script is ready, it is desirable to have your artist prepare rough black-and-white thumbnail sketches of each frame, indicating what each picture will show, whether it is to be a photograph or artwork, or a combination of both. These sketches can best be made on a series of small cards (e.g., 3x4 to 5x7) with space at the bottom to indicate the particular passage in the script that the sketch is intended to illustrate. These cards should then be arranged in the same sequence as your script and mounted on a board. This setup is known as a storyboard. It may be extremely rough or it may show considerable detail.

You should not start production of any filmstrip without first putting the script in storyboard form for the following reasons: First, it helps you to visualize what the job will look like in its final phase prior to any extensive production effort, and thus gain assurance of the effectiveness of the end product. Secondly, it enables you to spot likely trouble points before you are actually in production. Putting the script in storyboard form tends to reveal any inconsistencies in the total presentation of your subject and to point up any ideas which are presented out of context or which are in conflict with other ideas expressed in the script. Thirdly, the storyboard is an excellent way for the scriptwriter and artist to get together on their ideas as to how the filmstrip should be illustrated. Lastly, since it may be desirable to ask management to review the storyboard before you start production, you avoid the risk of having to scrap a nearly completed job because it fails to get approval. □

CONTOUR

VOLUME 3 NO. 9 | DEFENSE MAPPING SCHOOL | 2 JULY 1976

NEW USAESBde COMMANDER

COL Hugh G. Robinson, Commander, United States Army Engineer School Brigade, has been reassigned as District Engineer, US Army Engineer District, Los Angeles, California. DMS takes great pride in publishing this Letter of Appreciation from COL Robinson.

DMS welcomes the new Brigade Commander, COL Charles A. Debelius. We wish him well with the difficult job of managing, not only our students and Army faculty members, but also those of the entire Engineer School.

DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY ENGINEER CENTER AND FORT BELVOIR
FORT BELVOIR, VIRGINIA 22060

ATSE-TP-CO 9 June 1976

SUBJECT: Letter of Appreciation

Defense Mapping School
US Army Engineer Center and Fort Belvoir
Fort Belvoir, Virginia 22060

1. As I depart Fort Belvoir after two years in command at the US Army Engineer School Brigade, I am very pleased to express my gratitude to you and your entire organization for the support rendered to me and my organization.

2. On every occasion when it was necessary for me to contact you personally or any member of your organization, response was always prompt and results were always outstanding. I can honestly say that I have never worked in harmony with a finer group of officers and men. Your dedication to the Army, to the Engineers and to Fort Belvoir has been greatly appreciated during my tour here.

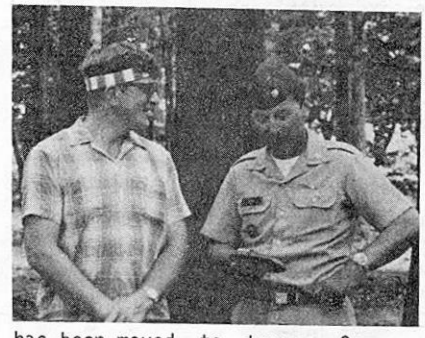
HUGH G. ROBINSON
Colonel, CE
Commanding
US Army Engineer Center Brigade (Prov)

STATE BONUSES FOR VIETNAM VETERANS

New Hampshire is the latest state to authorize the payment of a bonus to Vietnam-era veterans and to members of the Armed Forces. Individuals must have served for a period of 90 days or more on active duty between 5 August 1964 and 15 August 1973, or have served in the Vietnam area at any time between 1 July 1958 and 5 August 1964 and earned the Vietnam Service Medal or the Armed Forces Expeditionary Medal, with all such service under honorable conditions. State residence at time of entry into active duty and at time of discharge or release, if applicable, is also a requirement for eligibility. The bonus payment is $100.

"MISTER CARTO"

Only certain individuals can be dubbed with the accolade, "Mr. Carto". One of those rare people is departing DMS this month for sunny Hawaii. CW4 Glenn Swarthout who has served in every conceivable Cartography Department job position, will be sorely missed by the Carto folks and many other friends at DMS who have grown to depend on his expertise and good counsel. Major Kinnan could only recall two occasions during his lifetime when he



has been moved to tears: One was when his puppy ran away (August 8, 1948) and the other was when he learned that CW4 Swarthout was on orders for Hawaii. All sobbing aside, Major Kinnan said that CW4 Swarthout's historical and progressive insight into the cartography field has been an immense asset to the entire School. Glenn was recently honored as a member of the "One Gallon" Club — one gallon of "what" you ask — for his generous donation of blood to the Red Cross. He also gave quite a bit of blood to the development of a TSS proposal for the School during the past year. Glenn was noted for his daily physical fitness program (he walked to and from work each day). In fact, his determination was evident in every task he undertook. For example, the time that he lost his glasses and groped his way to work (it took over one hour). He proceeded to deliver a magnificent lecture to the assembled audience concerning Relative Orientation as Applied to Analytical Photogrammetry, for which many of those pres-

(Continued on Page 2.)

from the DIRECTOR

We are entering the period of reassignment turbulence this summer with a real vengeance. A visitor returning to DMS in a year would find a fresh set of faces in many of our key positions, and I think he would also note a change in the corporate personality of the School. It will be interesting to see what that personality will be. The value of our civilians during these reassignments is particularly appreciated; they're the ones that remember where things are filed and who to see when there's a problem.

PRT has been particularly hard hit. MAJ Baxter, Maj Ramirez, and CSM Coates took a tremendous (and often unappreciated) amount of expertise with them when they left. Ms. Crismond and SGM Locke have succeeded in picking up the EPMS ball and inducing femininity into the formerly barracks-like atmosphere (Note to WO's: SGM Locke on EPMS, Ms. Crismond on femininity).

LTC Sprinsky claims mixed emotions on leaving PPO (he says he's torn between joy and rapture), while both MAJ McClatchey and SGM McCray have that curious "I'm-about-to-get-my-orders" look in their eyes. The assignment of SFC Brabetz to PPO has lowered the db (decibel) output of PPO to "extremely hazardous" by OSHA standards.

The Teaching Departments are in the same boat. Sergeants Hermann and Braswell have already moved from GAD, and Mr. Levine joined the military exodus by deciding to retire. Survey is about to lose Chiefs Takaki and Nelson, but these two promise to remain long enough to impress their replacements with the unique standards of bearing and courtesy characteristic of the Military Surveyor. Although TSD will greatly benefit by the assignment of LT Leath (USN), they are bracing for the absence of MAJ Mc Millan and Chiefs Rottman, Parker and Lee. Perhaps Carto has been hit hardest of all, at least on the managerial side. Chief Swarthout and Sergeants Altheide and Windland are all mainstays and will be sorely missed by both Maj Kinnan and myself. However, Carto has been fortunate in the recent assignments of CW3 Maxwell and MSG Hester. There are big changes coming in the trenches.

Finally, Lt Col MacKenzie has decided to retire, as everybody knows. We're delighted that Lt Col Westphal will continue the Marine tradition at DMS, and I think this illustrates the mixed feelings that occur during personnel changes: Godspeed, old troops! Welcome aboard, New Guys!

"PRT, MS CRISMOND SPEAKING"

Ms Crismond, AKA Ruth (SGM Locke will probably have other names when she's more settled in), late of Department of Cartography, joined the amiable PRT staff on 7 June. Soft spoken (time will take care of that, with some help from Mr. Ed), Ruth is beginning to feel at home. A bit apprehensive at first about joining the "magical" staff, she soon learned everyone she had to fear were all in the same office, PRT. Ruth's husband works for that other Defense organization (the one's who are always getting our mail and vice versa), the Defense Systems Management School (DSMS). Residing in Stafford with their three children, Ruth needs no "time fillers", as her family and 25 acre (at least it seems that large she says) garden keep her quite busy. Carto's loss is the Staffs gain and PRT feels very fortunate in having Ruth on board.

EDITORIAL COMMENTS

Prowling Wheeler Hall the other day, I stopped in to chat with MGYSGT Vic Gonzalez. While talking, and being extremely "nosey" (my nature anyway) I spied a large handmade "Thank You" card on his shelf. "Nosey" promptly asked "Whatchaget that for?" (in my finest Brooklynese). Well it seems that Vic recently spoke to a Hayfield High School 8th grade class, on Oceanography. (That's his "thing", he's a Marine you know.) I read the student prepared card and it was easy to see that they really enjoyed the class. One young man in particular wrote "Thanks for waking me up, I would have missed a great class." Talk about instructional tactics, when Vic first walked into the classroom, this young man was dozing. As MGYSGT Gonzalez started his talk, he walked up and down the aisles, coming up behind the young man and yelled "Reveille" in the finest Marine tradition! Well, needless to say they almost had to scrape him off the ceiling! From the remarks on the "Thank You" card the students enjoyed this strategy immensely. You know, our instructors never fail to amaze me, they really are quite a fine bunch of people — in addition to the outstanding instruction our resident students get, to include extensive remedial training in some cases, these people go to public schools, give tours and lectures in the planetarium and career orientations for everyone from senior high school students to "the girls from the Boy's Club." It is due to their effort that DMS enjoys an excellent reputation in both the civilian and military communities. Well gang, keep on truckin, and by the way, I've got this Girl Scout Troop.....

"MISTER CARTO"

(Continued from Page 1.)

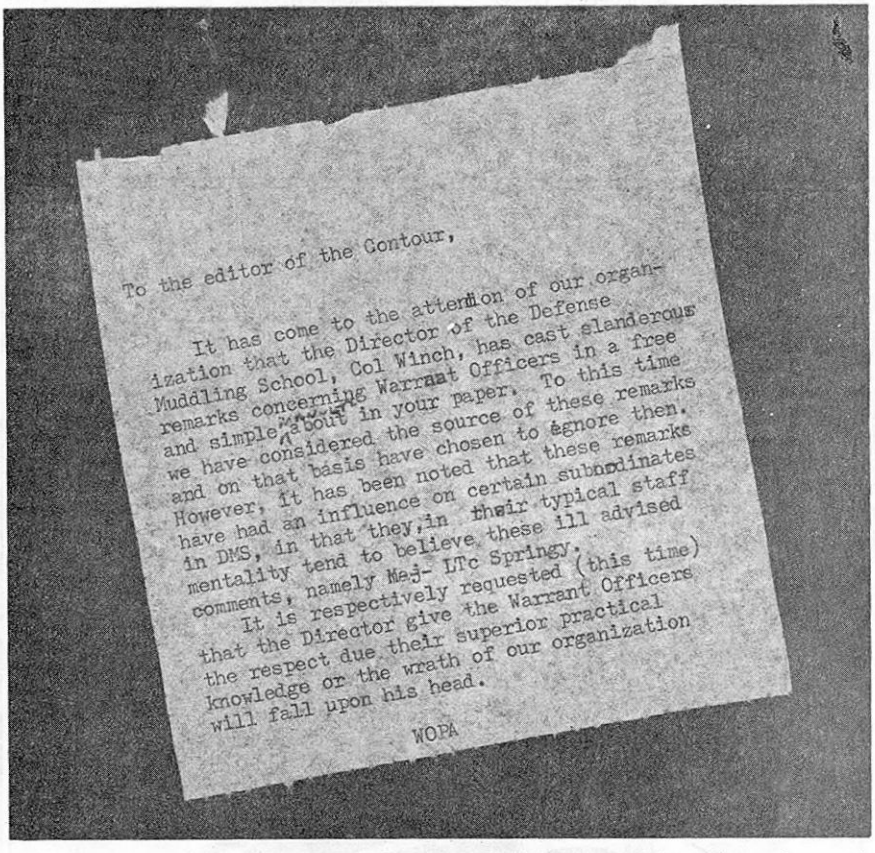
ent rendered applause. To the Chief's dismay, however, he found that he was standing in the lobby of the Post Office. Determination — that's Glenn. God bless you and your family with success in Hawaii!

Your Friends in Carto

The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

CONSIDER THE SOURCE

This epistle (i-'pis-əl) was delivered to the editor anonymously (ə non' əməs li)



To the editor of the Contour,

It has come to the attention of our organization that the Director of the Defense Muddling School, Col Winch, has cast slanderous remarks concerning Warrant Officers in a free and simple manner about in your paper. To this time we have considered the source of these remarks and on that basis have chosen to ignore them. However, it has been noted that these remarks have had an influence on certain subordinates in DMS, in that they, in their typical staff mentality tend to believe these ill advised comments, namely Maj- LTc Springy.

It is respectively requested (this time) that the Director give the Warrant Officers the respect due their superior practical knowledge or the wrath of our organization will fall upon his head.

WOPA

EDITORS NOTE: Those outside of DMS, should be assured that there is great shared love and affection among COL Wintz, LTC Sprinsky, and the DMS Warrant Officers, all dogs, cats, canaries and gold fish.

TSD SCORES AGAIN

On the 14th and 15th of June you might have noticed a strange sight in the Topographic Sciences Department's area. Forty members of the 758th Engineer Company (Base Map Depot) of Annapolis, Maryland descended on DMS for two days of special instruction in map orientation, types of maps, use, and map depot operations. Thanks to a rapid response by our PPO, equipment demonstrations by the Graphic Arts and Cartographic Departments were also included in the schedule of instruction for these reservists.

The 758th is unique. It is the only unit of its type in existence in the force structure today. According to the Commanding Officer, CPT Robert F. Warren, Jr., the 758th, when fully operational, will be able to supply maps for any theater, on a world wide basis. At present, the 758th is moving towards that operational capability. The 97th Army Reserve Command and the District of Columbia National Guard are presently the unit's biggest customers.

The men and women of the 758th are diligently working to become completely operational and expand their service to all Reserve Units, world wide. Two members of the Topographic Sciences Department, MAJ Wesley J. McMillan and CW3 Lonnie Parker (Mr. Map Distribution) are lending assistance to the unit in meeting their goals during on-site visits at DMS. The "Dynamic Duo" often heard phrases such as "Today the Reserves, tomorrow who knows!" Look out, DMA.

PICNIC NEWS

Tickets for the DMS Picnic will go on sale Monday, 28 June. The price will be $1.00 per person, 15 years and older, however, no family will be charged more than $3.00.

MYSTERY PERSON

If you know where to look, you may uncover this low profile member of the Wheeler Hall fauna. It's* den is always well camouflaged, as it knows the truth of the principal, "If they can find you, they can hit you." A true veteran of DMS combat, it is fond of telling newcomers, "I served my time in _____; you burn for awhile!" It has been involved in practical orienteering programs, that is, taking people out into nowhere (or OPO) to see if they can find their way back home by themselves. It will probably be remembered best as the geographic

missionary who tried, albeit futilely, to bring the truth to a bunch of heathen engineers. It is also probably the leading DMS authority on crossword puzzles. Having given us up as a lost cause, it departs shortly to learn a new language and then to a tour with the elephants and wild hogs.

* "It" is employed throughout to disguise the identity of it.

(Answer to 18 June Mystery Man.)

This cute little (?) rascal is none other than Chuck Hefele. Those familiar with his prowess as a softball pitcher understood the number combinations, since pitchers are always number one in the score book if not in the hearts of his fellow players. The "girls best friend" clue of course referred to the ball diamond. The "well rounded individual" won't be true much longer if Chuck continues to lose weight. This writer refuses to comment concerning Chuck's "Christmas tie-up". If Chuck won't tell, neither will we.

"OTHER DUTIES AS REQUIRED"

The life of our Director is not all TSS and satellite ephemerides (milk and honey to military topographer). His "other duties as required" included the happy occasion of promotion for two of our students recently. Asked to preside at the promotions of CPT's Green and Arnold, our Director did his usual precise job, aided in the case of CPT Arnold by CPT Arnold's equally proud and precise wife, Cheryl.

The faculty and staff of DMS congratulate these two officers and wish them the best of good fortune in future endeavors.

CPT Arnold "gets pinned" by his wife.

CPT Green receives his bars.

Winners of the Annual TC Spring Golf Tournament

	Class A	Class B	Class C
NET:	D. Fink (TC)	P. Satterfield (TC)	B. Sauls (TC)
GROSS:	B. Revell (DMS)	B. Faison (TC)	K. Yuen (TC)

Nearest the Pin:		Longest Drive:	
Hole #9:	B. Sauls (TC)	Hole #3:	J. Kiser (TC)
Hole #18:	S. Gregory (TC)	Hole #14:	R. Smith (TC)

Weather —— Beautiful

INSTRUCTOR'S NOTEBOOK

DO INSTRUCTORS NEED FIRST-HAND RATING?

by WILLIAM R. TRACY

During the last 20 years, there has been a noticeable decline in the use of classroom visitation as a means of evaluating instructor effectiveness. What at one time was both one of the most popular (with supervisory personnel) and the most unpopular (with instructors) techniques of supervision has fallen into disuse, if not into disrepute.

Why has this happened? There are several possible reasons. Some training managers have seriously questioned the value of classroom visits as a supervisory tool. They believe that instructor competence cannot be objectively evaluated, and that what one observer judges to be excellent, another would evaluate as poor. Since criteria for good instruction are variable, different conceptions of "quality" instruction can exist simultaneously in a training system. But this fact does not in itself mean that objective evaluation is impossible.

Other training managers, while acknowledging that under certain circumstances classroom evaluation can be worthwhile, believe that for large numbers of instructors classroom visitation is a traumatic experience. For this reason they maintain that the possible damage to instructor morale and peace of mind caused by the threat of visits far outweighs the potential good.

Visitation is difficult task

Perhaps the most plausible reason for the declining use of classroom visitation is the simple fact that it is a difficult and time-consuming technique to use. The typical training manager or supervisor today has become increasingly preoccupied with budgets and other fiscal matters, with facilities, equipment, and instructional materials, with public relations, and the like, frequently to the neglect of what appears to me to be one of his primary responsibilities, the improvement of instruction.

Admittedly, there are many pressing, difficult, and persistent problems involved in evaluating instructor effectiveness and in using these evaluations to foster growth in classroom competence. Who should evaluate? How can objectivity be achieved? When should evaluation be done? How can progress be measured? How poor is unsatisfactory? How good is "average" work? Obviously, there are wide differences of opinion regarding the answers to these and many other related questions.

But, regardless of the problems involved and the not insignificant difficulties of classroom evaluation, I believe that its demise as a supervisory tool is unfortunate. Evaluation is one of the most important services a supervisor can provide an instructor. What better way is there to appraise effectiveness than to evaluate directly by observing the instructor in action?

In all aspects of his work, the professional instructor must be asking his supervisor and himself, "How can I improve?" When a specific need for improvement has been identified and isolated, focus for the improvement effort has been provided. The instructor, with the help of his supervisor, can then plan and implement a program to improve his professional competence.

Those who maintain that teaching competence cannot be evaluated objectively ignore the simple fact that instructing is a behavior, complex to be sure, but something that can be observed nonetheless. Admittedly, attempts to evaluate *tool teaching competence* are doomed to failure. The objective of the kind of evaluation I have in mind is not to label individual instructors as "superior," "above average," "average," "below average," or "unsatisfactory." Rather, its purpose is to identify *specific traits and abilities* in these or in similar terms. The more specific the trait or abilty evaluated, the more meaningful is the evaluation and the easier it is to pinpoint what is required to effect improvement.

I have little sympathy for instructors who feel that classroom observation is an infringement of their academic freedom or a means of harassment. The training profession would be better off without people who attempt to hide their deficiencies under a storm of protest or those who lack the emotional stability to withstand objective appraisal and professional criticism. I have no sympathy either for the training manager or supervisor

who excuses his failure to exercise his leadership functions under the guise of avoiding anxiety-inducing situations.

The fundamental purpose of evaluation is to improve instruction. More specifically, any method of instructor evaluation must provide (1) an objective means of analyzing the effectiveness of specific aspects of an instructor's work, and (2) a firm basis for the conduct of a discussion aimed at the development of a tailor-made improvement program.

Principles of evaluation

There are several rather widely agreed-upon principles which should guide all evaluative efforts:

(1) Evaluation must be conducted in terms of purposes. This is just another way of saying you must know your goals if you want to be able to determine just how close you have come to reaching them. The critical aspect of this principle is that the purposes of the evaluation program must be perfectly clear to all concerned —instructors as well as supervisory and management personnel. It is the unexplained classroom visit that is likely to be traumatic.

(2) Evaluation must be cooperative. Essentially this means that those who are a part of the process of appraisal must share in the process, each according to his perspective. The one-sided evaluation, characterized so often by the recitation of a litany of deficiencies and shortcomings by the supervisor, is not likely to produce anything of real and lasting value, and it is very likely to produce resentment.

(3) Evaluation must be continuous. The "one shot" appraisal is a travesty on professionalism. It will make impossible the establishment of the kind of rapport between supervisor and instructor so essential to the development of good working relationships.

(4) Evaluation must be specific. Instructors want and need to know what they did well, what was not so well handled, what they might have done better, and how they can improve. Comments such as, "Get more student participation," "Relax," contribute little or nothing to instructor growth unless they are accompanied by specific suggestions for improvement.

(5) Evaluation must focus on the improvement of the instructor's ability to appraise himself. Probably the most convincing evaluator is the instructor himself, but he needs to learn how to do the job. The thrust of an evaluation program, then, must be in the direction of sharpening the instructor's ability to evaluate himself.

The most practical way to survey an instructor's strengths and weaknesses is to use a rating scale. Literally hundreds of different scales have been developed and used, and their quality varies markedly. But regardless of the arrangement and format of these scales, certain criteria have become established for the construction of a valid, reliable, and useful scale. These criteria follow:

(1) The scale must contain enough specific and observable traits and qualities to sample all important aspects of instructor behavior. The objective here is to identify those behaviors which have maximum relevance to teaching competence.

(2) Each trait or behavior to be appraised must be carefully described or defined. To the extent that the behaviors are clearly defined and communicate their intent ungarbled, the scale will be reliable. That is, if several different trained observers, regardless of their biases, philosophies, or personalities, used the same scale, their evaluations of the same instructor observed under the same conditions would be similar. The importance of this point cannot be overemphasized. If an instructor honestly believes that two raters, using the same scale on the same occasion, would rate him differently, his faith in both the scale and the system of evaluation is likely to be shaken.

(3) Opportunity must be provided for documenting each rating. A numerical entry beside each item of even a very detailed scale is not enough. Specific documentation, particularly of behaviors identified as inadequate, needs to be included to support the numerical rating and provide a basis for improvement. Such entries are essential to the conduct of a worthwhile conference between the instructor and the supervisor following the observation.

(4) Specific directions must be given for using the scale. Failure to supply clear directions for the evaluator will result in unreliable ratings.

Procedures for classroom visitation

What are some of the dos and don'ts of classroom observation? Many of the points which follow are nothing more than simple courtesies expected of anyone. However, I have seen enough violations of these simple rules to make their reiteration necessary.

(1) If possible, arrive in the classroom before the instruction begins and remain for the complete instructional period. In any event, spend enough time to observe an adequate sample of the work going on and the instructor's behavior.

(2) Avoid being a distraction to either the instructor or the students.

(3) Refrain from commenting on content or procedure during the lesson.

(4) Guard against display of disagreement, displeasure, anxiety, boredom, or impatience by facial expression, posture, or gestures.

(5) Don't take notes during the observation period. Postpone the completion of the rating scale until you have left the classroom.

(6) Focus your attention on the students' reactions to the behaviors exhibited by the instructor. Your own

reactions may be incorrect or misleading.

(7) Complete the rating scale immediately after you leave the classroom. Don't trust your memory.

(8) Guard against the use of harsh, destructive criticism in your comments. But be honest and straightforward in identifying strengths and weaknesses.

(9) Provide the instructor with an opportunity to study your report as soon as possible. In any event, the instructor must see the report prior to the follow-up conference.

(10) If possible, hold the conference the same day. Don't keep the instructor on tenterhooks any longer than is absolutely necessary.

The follow-up conference

The follow-up conference is the critical part of the evaluation process. Regardless of how insightful the observation and the written report, little will be gained unless the conference is well-handled. Here are a few suggestions for the conduct of a fruitful follow-up conference.

(1) Be sure the conference is a real conference, not a lecture. Encourage the instructor to comment on the lesson and your evaluation of it.

(2) Be calm, patient, and understanding. Unskillful handling of follow-up conferences sometimes causes emotional outbursts, even expressions of hostility. Above all, avoid anything that might undermine the instructor's self-respect.

(3) Listen as much as you talk. Let the instructor discuss his strengths and weaknesses. Try to see his situation as he sees it.

(4) Let the instructor decide for himself on a course of action. Your aim should be to help the instructor develop an improvement plan, not to decide for him. You can do this by exploring with him factors and alternatives he has not considered. Don't force these on him; you can lead him to them by using questions beginning "Do you think . . . ?" "Is it possible . . . ?" You can also help him to try out alternative solutions in his own mind by considering the possible outcomes of each course of action.

(5) Offer facts, not advice. Most people have their own opinions. When they are offered advice they don't agree with, they easily convince themselves of the incompetence of their advisors. A word of caution here: this in no way relieves the supervisor of his responsibility for volunteering information the instructor needs to consider in overcoming his difficulties. The important thing is to distinguish between informaton and advice.

GUIDE TO THE EVALUATION OF INSTRUCTION

Rating Standards for Lecture, Demonstration & Conference—Type Lessons

DIRECTIONS

1. Heading. "Lesson Type" refers to "lecture," "demonstration," "conference," or "combination" lesson.

2. Ratings. Use the rating standards defined below to assign a numerical grade to each of the items listed under "Personal Qualities." Each item on the scale has been described at five different levels. Select the level which comes the closest to describing the individual. If any item is not applicable to the particular lesson observed, use the letters "N/A" in the space provided for the rating.

3. Comments. When any item is rated "N/A," "1," "2," or "5," it must be accompanied by supporting or explanatory remarks in the "Comments" section of the form.

EVALUATION FORM
Presentation Instruction
Lecture, Demonstration or Conference

Instructor	Class	Time	Date

Lesson Title	Lesson Type	Room	School

Instructions: Complete the form in duplicate. Rate all items using the procedures and standards defined in Section I of accompanying "Guide to the Evaluation of Instruction."

RATINGS		COMMENTS
Personal Qualities		
1. Appearance and Bearing	____	
2. Voice	____	
3. Speech	____	
4. Platform Manner	____	
5. Teaching Personality	____	
Instructional Qualities		
6. Knowledge of Subject	____	
7. Preparation and Planning	____	
8. Questioning Technique	____	
9. Student Participation	____	
10. Selection & Use of Tng Aids	____	
11. Lesson Introduction	____	
12. Lesson Development	____	
13. Lesson Summary	____	
14. Management	____	
15. Control and Discipline	____	
16. Achievement of Objective	____	

Rater's Signature

The rating scale which follows is a slightly modified version of a scale designed by the writer for use of supervisory personnel in evaluating instructor proficiency in an Army service school. Although it is far from the last word in rating scales and undoubtedly contains items of questionable relevance to specific training situations, it does illustrate some of the points made earlier in this article about rating scales. Experience with the scale over a period of several years with hundreds of instructors and supervisors indicates that it is highly reliable when used as directed by personnel trained in its use.

The scale has several unique features. First, and perhaps most important, the scale describes *specific traits* at five levels which can be observed more or less directly. The interpretation of the characteristic being appraised is not left to the observer; it is spelled out for him. Although no individual will exactly match the description given for any trait, a fairly accurate and reliable word picture of an instructor can be developed by carefully matching observed behaviors with their counterparts in the guide.

The second unique feature of the scale is the fact that it is in essence two scales, one for evaluating instruction in which the primary method involves the *presentation* of material; the other for appraising an instructor's effectiveness in working with students in the field, shop, or laboratory, where the emphasis is on *student activity.* This division of the scale recognizes that observable behaviors differ from one type of learning situation to another and that no single scale can cover all types of learning environments. [A copy of the second scale, not published here, may be obtained by writing to the Editor, *Training in Business and Industry,* 33 West 60th St., New York, N. Y. 10023.]

One of the primary responsibilities of the training manager or supervisor is to improve instruction. The technique of classroom visitation is a valuable tool in upgrading instructional competence. To be effective, classroom visitation must be conducted in a way that is consistent with the purposes of the training evaluation program; it must be done cooperatively; it must be continuous; it must be specific; and it must improve the instructor's ability to appraise himself.

A carefully constructed rating scale, containing descriptions of *specific* and *observable* traits and characteristics and *standardized* directions for use is a must for objective and reliable evaluation. Observance of certain "rules" for classroom visitation and for the complementing follow-up conference is also essential.

RATING STANDARDS

Personal Qualities

1. appearance and bearing

(1) **Unsatisfactory.** Untidy in attire and personal care; posture or bearing poor.

(2) **Below average.** Somewhat careless in attire; details of personal care show neglect; posture or bearing somewhat deficient.

(3) **Average.** Moderately neat and well groomed; details of personal care generally satisfactory; adequate posture and bearing.

(4) **Above average.** An excellent model and standard in appearance; clothing and person neat, clean and well groomed; good posture and carriage; excellent bearing.

(5) **Outstanding.** A near-perfect model and standard in appearance; evidence of special attention to fit and press of clothing; scrupulously neat, clean and well groomed; fine bearing and posture.

2. voice

(1) **Unsatisfactory.** Fails to meet requirements; rasping, shrill, strident, or inaudible.

(2) **Below average.** Barely meets minimum standards; may be somewhat monotonous; noticeably high; noticeably weak; may exhibit undesirable mannerisms, e.g., affectation, stitled manner.

(3) **Average.** Natural; adequate volume; clearly above minimum standards; may be somewhat lacking in color and range; voice may fade occasionally.

(4) **Above average.** Well modulated, pleasing and distinct; appropriate variety in pitch and volume.

(5) **Outstanding.** Clear; pleasant, natural; variety in pitch and volume; forceful; conveys interest and enthusiasm; uses emphasis as appropriate.

3. speech

(1) **Unsatisfactory.** Very deficient in grammer or vocabulary; uneven, excessively choppy speech; too rapid; too slow and drawling; noticeably defective, e.g., lisping, stuttering, frequent mispronunciations.

(2) **Below average.** Slurred; not articulate; may grope for words; choppy, many vocalized pauses; limited vocabulary; repeats pet words and phrases; uses slang; uses words beyond the comprehension of the class; careless in use of English.

(3) **Average.** Speaks without difficulty; free from undesirable speech habits; makes few errors in English usage; uses reasonably good choice of words.

RATING STANDARDS

(4) **Above average.** Speaks with ease and precision; conversational with informal correctness; good choice of words; uses appropriate inflection and emphasis.

(5) **Outstanding.** Articulates and enunciates clearly, correctly, naturally, and vividly; superior command of English; fluent expression; colorful vocabulary.

4. platform manner

(1) **Unsatisfactory.** Gestures stilted, meaningless or affected; stares at floor, ceiling, or one spot in the room; continuously shifts eyes without fixing on any individual; depends completely on notes; possesses extremely distracting mannerisms.

(2) **Below average.** Gestures infrequently used; stays rooted to one spot; gestures bordering on the stilted or affected; indecisive, often loses eye contact; frequent distracting mannerisms; movements often affected, stiff, unnatural, or excessive; movements awkward, repetitious, or meaningless.

(3) **Average.** Gestures typically natural and meaningful; usually decisive; usually maintains eye contact; occasional distracting mannerisms in evidence; body movements typically natural, decisive, and purposeful (in contrast with random, excessive movements which serve only as an outlet for nervous energy).

(4) **Above average.** Gestures appropriate, natural, purposeful, eye contact consistently maintained; mannerisms rarely distracting; movements purposeful and natural; few unplanned and random movements.

(5) **Outstanding.** Gestures always natural, meaningful, decisive, emphatic; eye contact smooth and continuous, direct, encompasses entire class; personal; completely free from distracting mannerisms of movements and actions; no evidences of nervousness; movements on the platform always planned, decisive and purposeful.

5. teaching personality

(1) **Unsatisfactory.** Emotionally unstable; always seems to say the wrong thing; uncouth, or impolite; flustered, hurried; strained and impatient; negligent; critical and fault-finding; harsh; definitely unfriendly or too familiar.

(2) **Below average.** Somewhat oversensitive; easily upset; often hurts student feelings; somewhat unconventional in terms of polite practices; aloof; talks down to students; impatient; cold; hesitant, timid, apologetic; wavering, somewhat overfamiliar with students; lacks self-confidence.

(3) **Average.** Emotionally stable but somewhat upset by the unexpected; usually patient; civil; conforms to conventional practices; somewhat serious, reserved, or exacting; generally says the wise thing; consistent; moderately firm.

(4) **Above average.** Cheerful; well balanced; courteous; poised but with some effort; tries to be objective; tactful in most situations; friendly with an understanding adult point of view; decisive; determined; steady.

(5) **Outstanding.** Emotionally well balanced; always courteous and poised; objectively decisive; enthusiastic; conveys interest in subject; considerate of students; friendly but avoids overfamiliarity; dynamic and aggressive; displays sense of humor; able to see student's point of view; confident.

Instructional Qualities

6. knowledge of subject

(1) **Unsatisfactory.** Fundamental knowledge lacking; appears devoid of allied information; frequent errors of fact; many ambiguities and misleading statements; frequently bluffs to cover up inadequacies; avoids answering direct questions.

(2) **Below average.** Information disjointed, superficial, bordering on the inadequate; occasional errors in fact; occasional ambiguities and misleading statements; sometimes tries to bluff.

(3) **Average.** Knowledge limited to specific area of teaching responsibility but clearly adequate for present teaching duties; average command of information in instructional field; organized.

(4) **Above average.** Accurate and well-organized knowledge of field; a strong background for subject being taught; comfortable knowledge of allied fields; uses variety of illustrative materials.

(5) **Outstanding.** Demonstrates mastery of subject; genuine scholarship; rich store of information pertinent to situation; exceptionally well-chosen illustrations; wide knowledge of related fields; well-organized.

7. preparation and planning

(1) **Unsatisfactory.** Little or no planning in evidence; no provisions made for individual differences; objectives not defined, unattainable, or unrealistic; organization haphazard; fails to provide for integration with other lessons.

(2) **Below average.** Planning incomplete and superficial; provision made for meeting needs of faster or slower students with little regard for others; objectives not clearly defined; organization and continuity somewhat lacking; extremely limited provision for integration.

(3) **Average.** Obviously planned and with some imagination; shows consideration for individual and class differences; objectives clearly defined; organization adequate; simple to complex emphasized; recognizes need for integration; method and techniques appropriate.

(4) **Above average.** Very well prepared; material well organized; evi-

dence of thoughtful planning; objectives clearly and well defined; plans for meeting individual and class differences; selects an appropriate variety of techniques and materials; provides for integration.

(5) **Outstanding.** Completely and thoroughly prepared; imaginative planning; intelligent and comprehensive organization of material; evidence of complete and thoughtful planning for meeting individual and class differences; objectives valid, attainable, and clearly set forth; techniques selected require student participation; provision for integration.

8. questioning technique

(1) **Unsatisfactory.** No evidence of planning; questions unsuited to class situation because of irrelevance, vagueness, or vocabulary level; student questions discouraged; questions fragmentary or inconsequential; handles responses poorly; often misunderstands student questions or the reason for the confusion that prompted the question.

(2) **Below average.** Inadequate planning in evidence; questions call for little student thought; questions not well distributed; frequently violates mechanics of asking questions; questions poorly framed; responses not fully exploited; students afforded very limited opportunity to ask questions; sometimes fails to understand student questions.

(3) **Average.** Some evidence of planning; questions reasonably well formulated and understood by students; uses some thought-provoking questions; mechanics of questioning satisfactory; student questions and responses handled adequately.

(4) **Above average.** Evidence of planning; uses suitable questions which produce interested and generally effective student responses; frames thought-provoking questions; uses correct procedures; distributes questions and provides excellent answers.

(5) **Outstanding.** Evidence of careful planning for the use of questions; unusually skilled in framing questions; consistently uses correct questioning procedures; skillful in asking questions which elicit responses related to the objective; questions widely distributed among class; handles student questions and responses exceptionally well; employs student responses to move the lesson forward; encourages student questions and provides clear and complete answers.

9. student participation (applies to all lesson types)

(1) **Unsatisfactory.** Active participation: instructor unable to obtain participation; or instructor unwilling to encourage participation; students obviously sullen or rebellious; students hesitant or afraid to take part because of poor instructor-student rapport. Passive participation: instructor obviously unable to generate interest; students bored, restless, or inattentive.

(2) **Below average.** Active participation: environment created by instructor fails to elicit general interest and participation; many students reluctant to take part; participation obtained by compulsion; instructor depends upon a few aggressive students for reaction; some imbalance in student-instructor active participation. Passive participation: student interest and attention marginal; lapses in attention frequent and sustained.

(3) **Average.** Active participation: real interest in participating aroused in most students; timid and weaker students not responding; adequate balance of student-instructor active participation, consistent with method used; instructor attends more to capable, self-confident students. Passive participation: students interested and attentive with only occasional and temporary lapses.

(4) **Above average.** Active participation: most students willing to participate; students with the instructor all the way; only a few students must be cajoled into taking part; excellent balance of student-instructor active participation. Passive participation: students interested; show that they are with the instructor; lapses in attention rare.

(5) **Outstanding.** Active participation: participation spontaneous; atmosphere created by instructor encourages student participation; all students eager to take part; students assume responsibility for their own learning; proper balance of student-instructor active participation maintained, consistent with method used. Passive participation: students evidence high interest in the presentation, hanging on every word, attention sustained throughout the period.

10. selection and use of training aids

(1) **Unsatisfactory.** Training aids inadequate or lacking; aids fail to illustrate the point; instructor and class unprepared for use of the aid; aids used as crutches; aids do not augment verbal instruction; aids handled in a clumsy fashion; explanation sketchy and insufficient.

(2) **Below average.** Poor judgment in selection of types of aids; incomplete preparation for use; lesson constructed around aids prepared for other instruction; aids used solely as eye-wash; transition between aids lacks smoothness; mechanics of using aids occasionally mishandled.

(3) **Average.** Training aids adequate; illustrate the point; evidence of preparation and acquaintance with aids; aids introduced at proper time and used with satisfactory skill.

(4) **Above average.** Shows imagination and originality in the selection and development of aids; well prepared for the use of the aid; aids smoothly displayed; aids integrated into lesson; excellent accompanying explanation; mechanics of use of aid well handled.

RATING STANDARDS

(5) **Outstanding.** Shows exceptional imagination and ingenuity in the selection and development of training aids; evidence of careful and complete preparation for the use of the aid; aids displayed smoothly and skillfully; aids completely integrated into the lesson; accompanying explanation crystal-clear and complete; mechanics of use of aid exceptionally well handled.

11. lesson introduction

Each initial lesson in a sequence of lessons requires a clear definition of the purpose, scope, and importance. Succeeding lessons in a continuous block of instruction require only that the instructor show how the lesson ties in with the complete sequence.

(1) **Unsatisfactory.** Introduction completely devoid of imagination and ingenuity; failed to secure student attention; purpose and objectives not clearly stated; importance of material not mentioned; fails to relate instruction to preceding or succeeding lessons.

(2) **Below average.** Secures class attention but with considerable effort; superficially defines purpose and objectives; outlines scope of lesson; relates importance of material; inadequately relates instruction to preceding or succeeding lessons.

(3) **Average.** Secures class attention; adequately defines purpose and objectives; relates scope of lesson; stresses importance of material. For the second and succeeding hours of a continuous block of instruction, handled by the same instructor: secures attention and ties in the work of the hour to that of preceding hour(s).

(4) **Above average.** Captures attention effectively and effortlessly; clearly explains purposes and objectives; stresses importance of material to individual; fully defines the scope of the lesson; and/or refers the lesson to related materials.

(5) **Outstanding.** Uses imagination and ingenuity in securing immediate and undivided attention of class; defines purpose and objectives of lesson clearly and fully; sells importance and meaningfulness of material to the individual; provides an interesting overview of the scope of the lesson; and/or clearly relates present instruction to materials previously learned.

12. lesson development

(1) **Unsatisfactory.** Presentation fails because of poor organization, lack of unity, or inappropriate method or techniques; techniques bungled; individual differences ignored; fails to understand student difficulties; instruction is unquestionably dull, prosaic, and plodding; student reaction neither solicited nor encouraged; floored by the unexpected; examples and illustrations lacking.

(2) **Below average.** A barely acceptable presentation because of faulty organization; abrupt transitions; marginal application of techniques; instruction bordering on the dull, prosaic, and plodding; no use made of student leads; instructor relatively inflexible; reads notes frequently; treatment of students impartial but unsympathetic; frequently fails to understand student learning difficulties; illustrations or examples infrequently used or inappropriate.

(3) **Average.** A reasonably good presentation; well organized; techniques appropriate but limited in variety; attends to obvious student difficulties; subject matter sometimes emphasized to the exclusion of individual student needs; uses notes inconspicuously; usually makes transitions smoothly; some use made of student leads; handles most unexpected situations well; uses appropriate illustrations and examples.

(4) **Above average.** A very good lesson; well organized; interesting and informative; understandable and clear; good transition; appropriate variety in techniques and materials; effectively uses student contributions and leads; handles the unexpected quite well; adapts work to individual needs with better than average success; uses examples and illustrations effectively.

(5) **Outstanding.** A fine lesson; exceptionally well organized; interesting, coherent, unified; variety of techniques and materials used skillfully; smooth transitions from one phase of lesson to another; clever and unique approach; flexible; resourceful in meeting unanticipated situations; ingeniously exploits student contributions and learning difficulties; uses many vivid and apt illustrations and examples.

13. lesson summary

Each concluding lesson in a block of instruction requires a complete and comprehensive summary, in which the main teaching points are emphasized and further applications are delimited, and a strong closing statement. Preceding lessons within the block require only periodic internal summaries.

(1) **Unsatisfactory.** No summary provided; or simply makes a token effort to summarize.

(2) **Below average.** Internal summaries lacking; merely restates scope of lesson; or hurriedly recaps teaching points.

(3) **Average.** Recaps main teaching points; clears up student confusion.

(4) **Above average.** Evidence of careful attention to summary; recaps effectively; reemphasizes main teaching points; clarifies difficult areas; uses a closing statement.

(5) **Outstanding.** Uses imagination and originality in concluding the lesson; recapitulation is complete and comprehensive; primary teaching points are emphasized and difficult areas clarified; new relationships are defined; strong closing statement.

14. management

(1) **Unsatisfactory.** Haphazard management practices; routines poorly managed; materials of instruction unavailable when needed; continuous confusion; little or no regard shown for physical conditions; seating arrangements inappropriate for lesson type.

(2) **Below average.** No consistent management practices; some confusion; materials of instruction on hand but in disorder; only token attention given to physical conditions; classroom and seating arrangements marginal.

(3) **Average.** Classroom orderly; routines satisfactorily managed; materials of instruction available but not ideally arranged; some attention paid to physical conditions; room and seating arrangements adequate.

(4) **Above average.** Classroom routines well managed; adequate attention given to physical conditions; instructional materials available and ready to use; room arrangements suited to instruction; seating arrangements adequate.

(5) **Outstanding.** Classroom routines managed rapidly, quietly, and efficiently; gives careful attention to physical conditions (heat, light, and ventilation); instructional materials readily accessible and ready to use; room arranged most advantageously for planned instruction; seating arrangements ideally set up.

15. control and discipline

(1) **Unsatisfactory.** Disrespect and disorder in evidence; instructor not aware of centers of difficulty; lacks ability to individualize problem areas; uses ridicule, sarcasm, threats to excess.

(2) **Below average.** Some disciplinary problems in evidence; instructor recognizes centers of difficulty but deals with them ineffectively; uses threats, reprimands, ridicule or sarcasm to keep order.

(3) **Average.** Control adequate; some minor difficulties may be in evidence; control secured through threat of punishment, frequent reprimand, cajolement, or coaxing.

(4) **Above average.** Group well controlled; control secured primarily through instructor's forceful personality and student's desire for his approval; handles problems well.

(5) **Outstanding.** Class orderly, interested, attentive; control strong; control primarily secured through interest in class activities; instructor patient, tactful, and effective in dealing with problems.

16. achievements of objectives

(1) **Unsatisfactory.** No apparent check made of student learning; checks made totally ineffective; lesson objectives clearly not achieved.

(2) **Below average.** Inadequate check made of student learning; remedial technique ineffective or inappropriate; achievement of objectives questionable.

(3) **Average.** Uses some means of determining extent to which students have learned; utilizes adequate remedial techniques; indications point to satisfactory achievement of most students.

(4) **Above average.** Uses excellent means of determining the extent to which objectives have been achieved; checks periodically on student understanding and achievement; uses good remedial techniques; all learning checks and other observations indicate that lesson objectives have been thoroughly achieved by the class with a few possible exceptions.

(5) **Outstanding.** Uses clear-cut and definite means of determining level of student achievement; checks periodically and thoroughly on student understanding and achievement; difficulties revealed by checks receive immediate attention; remedial teaching exceptionally effective; all indications point to superior achievement of lesson objectives by the class. □

CONTOUR

VOLUME 3 NO. 10 | DEFENSE MAPPING SCHOOL | 16 JULY 1976

DMS PEOPLE OF THE YEAR

THE CIVILIAN

The only way to fairly evaluate the contributions of Mrs. Eppolito to DMS is to examine it in light of what she is required to do, that is, her job description. Bev is basically required to type and edit correspondence and instructional material, receive and distribute mail, compose routine correspondence, answer the telephone and receive visitors, compile and type all personnel administrative actions, prepare special and recurrent reports, and maintain files. Not one of those jobs has a great deal of glamour or fanfare associated with it, but each one is absolutely necessary for the Department of Cartography to function properly.

Bev's typing has been as near to flawless as is humanly possible. She edits her own products carefully and performs the monumental task of editing all of the instructional materials that are funneled through the Department Office. This includes special studies, programs of instruction, course content documents, programmed instruction texts,

THE ENLISTED MAN

SSG Gene R. Willis is "our man in personnel." He is the man to ask on military personnel matters that span the spectrum from dependent ID cards to Efficiency Reports.

SSG Willis works almost completely independent and organized our Personnel Section to operate in an exceptionally efficient manner. In addition to maintaining required records and files, he has developed charts and individual files with the information which enables him to respond almost instantly to any inquiry regarding military personnel. His work is characterized by timely and accurate submission of required reports, and his uncommon ingenuity in presenting personnel problems and alternate solutions to both the DMS Director and DMA Personnel Officers.

SSG Willis has become the School expert in matters of military personnel. He has written standard operating procedures and recommended policy which provided for the accomplishment of military person-

THE OFFICER

Chief Warrant Officer Glenn R. Swarthout, a charter-member of the Defense Mapping School Faculty, has been a pioneer in providing technical assistance to topographic units through the Mobile Training Team visits to their home stations. The economic benefits realized by this concept total into tens of thousands of dollars. CW4 Swarthout has provided the US Army Training and Doctrine Command (TRADOC) assistance by evaluating topographic troop units for technical competency during their Army Training Test (ATT) periods. This critical evaluation is the determinant for an indepth assessment by TRADOC of the Readiness condition of the unit and is the factor for determining whether the unit should go into intensive training or remain as an operational entity.

One of CW4 Swarthout's many accomplishments was his recommendation for the consolidation of the Military Occupational Specialties 81C and 81D Cartographic Draftsman and Map Compilers. This action was

Continued on page 3

from the DIRECTOR

In his role as reporter to the mapping community outside of DMS, your correspondent wishes to advise that DMS's Fourth Birthday was celebrated at Fort Belvoir on the afternoon of 30 June in Heitmann Auditorium. Full coverage of the event will be found elsewhere in this issue, but let me say that it was really a pleasure to recognize and award those that I've served with over the past year. Some interesting sidelights that should be included in the record: Sick Leave conservators did mention that they weren't feeling too well, thereby preserving a string of over 450 federal ceremonies at which the same comment has been made (Dick Christ also contributed a rousing cough)... as usual, the air conditioning failed in the auditorium in the presence of over five warm-blooded organisms... announcements of Bev Eppolito, Glenn Swarthout and Gene Willis as Civilian, Officer and NCO of the Year were particularly well received... the proceedings were followed by the retirement of LTG Gribble, Chief of Engineers, on the main parade field, so it was a very eventful day... we celebrated a day early to take advantage of the absence of students ... the informal kidding and congratulations over cake and punch after the formalities were the most fun, as might be expected... thanks to SGM Harris and Carla Davis for doing all the real work... have you noticed that after age forty these annual events are only two months apart?

New Subject: Scoop McCloskey is looking for contributors to the Contour. Articles can range from one-liners to Great Epics, and the recent contributions from our Warrant Officers gives you some idea of the editorial standards. Examples of events which have gone unreported but are of interest might include the extensive self-help carpentry in Carto and GAD, the new teaching devices in Survey, TSD's variation in student input and their resulting flexibility, and some of the unusual responsibilities of the staff offices which fall in the "other duties" category. Let's surface some of that hidden talent before the Contour becomes an inclosure to the Instructor's Notebook.

ALL IN THE FAMILY?

by Tom Green

To the scientific, analytic-minded people of DMS, especially LTC (Doc) Sprinsky, the OSIR instructors pose this question:

On 21 June 1976, did Fay, the black widow spider, spin approximately a reel of web and quit because she felt a kindredship to Mrs. Barbara Herbstreith, or was it due to Mrs. Herbstreith's voice qualities?

The fact that Fay, the spider, spun approximately 25 feet of fine silky monofilament web is not unusual since spinning web is one of the things spiders do best. However, the circumstances which induced Fay to activity has OSIR instructors intrigued and baffled.

On this particular day, Mr. Dan Risher, Mr. John Mann and SP4 Billy Joe Deacon were going to "harvest" Fay, gathering spider web for the up-coming OSIR classes. Collecting spider web requires patience and intricate foot work, particularly if the spider decides to get away (the bite of a black widow may cause nausea or even death in humans).

The instructors tried coaxing Fay to spin web by stroking her back, gently shaking her off the end of a stick, and even singing her a lullaby. All of this was to no avail, Dan Risher, John Mann and Billy Joe Deacon were at the point of giving up in defeat.

Into this atmosphere of gloom and defeat came Barbara Herbstreith, an instructor assigned to Cartographic Compilation Division, along with her daughter. They came to visit Fay, who could be considered a non-tax deductible member of the Herbstreith family. Fay was found as a free-riding passenger in the back of Mr. Herbstreiths' truck and promptly presented to OSIR on 29 Sep 75 by Barbara. Herein lies the riddle, or is it a phenomenon? Barbara and her daughter started talking to Fay, and Fay started spinning. As long as they talked, Fay continued to spin. Before she stopped spinning the reel was covered with some of the highest grade, silkiest web ever collected at DMS.

The obvious questions we have are:

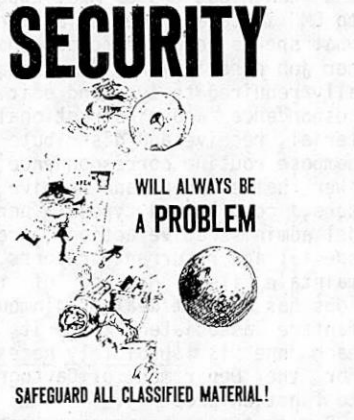
1. Was it a coincidence that Fay refused to spin until Barbara's arrival?

2. Was it the pitch or tone of a feminine voice that encouraged the spider to spin?

There is a hypothesis that "A cow will produce more milk if soft music is played during the milking process." There is also a hypothesis that "A hen will lay more eggs if artificial light is used at night in the hen house." Until proven differently, why not hypothesize "A Black Widow Spider will produce more web in the presence of kin-folk", or "A Black Widow Spider will produce more web if talked to by a female while in the spinning process"?

P.S.

In case you are wondering why three persons are needed to collect web from one little Ole Black Widow Spider the answer is simple. One person is needed to reel-in the web. Two more people are needed to catch her in case the spider escapes and attacks.



The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

DMS PEOPLE OF THE YEAR (CONTINUED)

THE CIVILIAN

lesson plans, schedules, and a myriad of other instructional materials. In other words, she performs one of the key edits on all the mission documents produced by this Department to sufficiently train approximately 500 students from various Services and Allied countries each year. During the past year, Bev's specific edit contribution, beyond the regular instructional material has included the important TSS documentation, the POM, EPMS reviews, ADP software proposals, and the Carto inputs to the Joint Manpower Document.

Bev is required to compose approximately 20 percent of routine office correspondence. She easily exceeds that requirement by another 10 percent. She has been a "lifesaver" in insuring that required formats are adhered to by Carto Dept writers. She---in one sense---conducts an effective writing course, as she prudently coaches Carto writers on the best means to express ideas. This was particularly helpful in developing a potent, written TSS document concerning the controversial DMS proposed cartographic equipment.

The accolades Mrs. Eppolito received are well deserved keep up the good work, Bev!

THE ENLISTED MAN

nel matters with a minimum of inconvenience for the individual and minimal disruption of instructor duties. Actions in which SSG Willis provided significant input include the Joint Manpower Program, Personnel Information, update of Position Data Cards, Emergency Data Cards, DA Forms 20, 66, 2 and 2-1. He arranged for and prepared necessary documentation and schedules for annual MOS testing, reenlistments, leave requests, warrant officer and OCS applications, in and out processing, retirements, physical examinations, separations, official photographs, and maintained the sign-in and sign-out registers as appropriate to meet the requirements of all four uniform military services.

Beyond these duties, he was required to maintain liaison with the USAES Brigade Headquarters and HHC 2d Bn on all administrative matters concerning the Staff of the DMS, including the administration of military justice. SSG Willis accomplished these duties in an efficient, professional manner and performed close liaison with all USAES agencies concerned with the support of the DMS Staff.

His cheerful can-do attitude is an inspiration to all his co-workers. SSG Willis is scheduled to be reassigned this summer. We wish him the best of all possible good luck and hope his next unit will cherish him as we at DMS do.

THE OFFICER

accepted by Department of the Army and became part of its Personnel Management Program.

To be sure, this suggestion resulted in a sizeable savings of manpower and money. CW4 Swarthout received the kudos of both the US Army and Department of Defense, as well as a substantial monetary reward, for this recommendation. The research and labor that were required for the recommendation are indicative of his perseverance and tenaciousness in pursuing an idea whose time has come.

A quarter of a century of effort to upgrade the US Army Topographic Field was recently culminated in the promulgation of an Engineer Topographic Laboratory document entitled "The Topographic Support System (TSS)." CW4 Swarthout performed an indepth analysis of the document and determined that the recommendations offered for updating the TSS cartographic and photogrammetric areas were not as comprehensive as today's field requirements dictate. He prepared a complete revision of the equipment contained in the photomapping train and recommended items of equipment that are far superior to those presently in the train. His recommendation would bring the capability of field cartography to a level where it would interface smoothly with the products and services provided by the Defense Mapping Agency. His innovative proposals required justification and skillful defense to those who expressed doubt. It was in this area that CW4 Swarthout was most masterful. He offered superb justifications, and former critics of his proposals have shifted to a more receptive philosophy. Indeed, some have begun to foster his proposals.

None of these achievements have dimmed CW4 Swarthout's ambition to improve himself; his personal development program has led him to be appointed as an Engineer Technician in the prestigious National Institute of Engineering Technicians.

CW4 Swarthout is soon to be reassigned to the 652d Engineers. We at DMS, will miss him.

HAPPINESS IS....

A RETIRED SFC

SFC Mark F. Windland ended his military career the last day of June 1976.

Throughout his 20 years of dedicated service, SFC Windland's duty assignments have taken him to various units around the world to include Germany, Japan, Hawaii and Vietnam.

He has been with DMS for almost 8 years serving with TSD as NCOIC of TEB, before transferring to the Department of Cartography. At the time of his retirement SFC Windland was course manager of the Photogrammetric Compilation Course 411-203 and was instrumental in the revamping of that course.

SFC Windland will continue to reside in the Northern Virginia area and will be employed as a Cartographer with a firm in Bethesda, Maryland.

Good luck in your retirement Mark, and best wishes for a bright and successful future!

DID YOU KNOW—

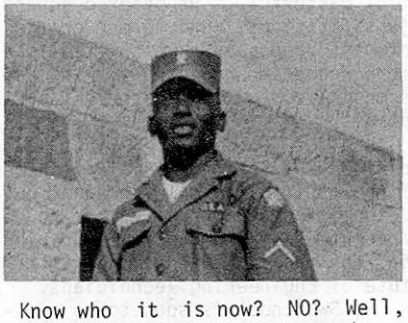
that DMS was actively involved in assisting the Bicentennial Fireworks Display? COL Wintz received a request from Major Mackie, RE, Bridging Branch, Department of Applied Engineering, USAES for assistance in placing eight bridge pontons in the Tidal Basin in Washington, D.C., to be used as firing platforms for the display.

CW2 Nohe, SFC Bernard and SP4 Peterson, fearless Surveyors all, located and positioned the floating bridge prior to setting up the eight bridge pontons in the Tidal Basin.

OUR MYSTERY PERSON IN TRUTH

"It" as was used to disguise the true identity of our mystery person is the last of the original "Dial-A-Captain" Corps.* "It" is an ex-enlisted man (hence, it also owns a white hat) having entered the Army at the sweet age of 17. Deciding that three years was enough, it was released from active duty as an E-5 (all with the 9th Engr Bn (C) in Germany minus BCT, AIT[1], AIT[2]). It was convinced of the benefits of the ranks of the educated, so in 1962 it journeyed to Florida A&M University where three and one-half years later it graduated with a degree in mathematics/engineering and, of course, with the authorization to wear the green again, this time with a radiant gold bar to adorn its epaulets (fast mover, huh?).

The Engineer Officer Basic Course here at Belvoir was it's first duty station followed by Command of, then, Company A, 1st Battalion, USAECBde and Company A, 3rd Battalion, USAESBde (didn't know that, did ya?). It also commanded Company E of the Engineer Officer Candidate Regiment, this after participating in "The Great FTX Across the Pond." After a one year "rest and restoration" tour in Thailand (Really? It had only been married 7 months prior), it responded to a request from DA to enter the University of Illinois and learn geography. It did and was awarded a Master's Degree for its efforts.



Know who it is now? NO? Well, let's continue - after graduate school, it returned to Ft Belvoir allegedly to attend the Engineer Officer Advanced Course but we all know it went to DeWitt Army Hospital, there to remain for six months, faking a condition called Ballenian Barre, or something like that. Well, anyway, it eventually finished EOAC and despite futile efforts to join the illustrious IAGS (only LTC Sprinsky could succeed), landed at DMS.

Perhaps, the single most important contribution to the School and Army, during its 3½ year tour, was the design and subsequent institution of Course 491-401, Terrain Analysis. In addition, it compiled well over 1000 platform manhours teaching Military Geographic Documentation and related subjects to EOAC, EOBC, ENCOA, ENCOB and other independent (you can say that again) units (both active and reserve) in the force structure.

Well, if you are that slow, we'll just have to tell you. It likes to be referred to as Major (it penalizes Captains and below who fail to do so - a six pack please), it stands or daydreams in right field and occasionally gets a hit (no homers) but most of the time, hustles for the DMS Softball Team - you got it! It's Wes McMillan.

*For explanation, be sure to tune in subsequent issues of the Contour.

FEDERAL EMPLOYEES' GROUP LIFE INSURANCE

The following information is furnished to civilian personnel in order to give better guidance that will help them make a decision as to whether to elect or waive insurance coverage:

- Participation in the Federal Employees' Group Life Insurance Program is not compulsory, it is voluntary.
- The decision to elect or waive insurance coverage is a personal decision and should be based on the employee's evaluation of his or her own situation, existing insurance program, plans, and needs both short and long range.
- The Federal Employees' Group Life Insurance Program is not designed, nor is it intended, to meet the insurance needs of each individual employee or of all employees. It is a group program in principles and concepts.
- One of the primary objectives of the Federal Employees' Group Life Insurance Program is to attract and retain qualified employees in Government service. It is, therefore, designed primarily on the concept of providing group insurance over a full career in Government service and into retirement. In keeping with this, the regular insurance program is funded by level premiums.
- The level premiums in the early years of employment (younger employees) exceed the cost of the insurance protection. They are lower than the cost of the insurance protection in the later years of employment as the employee advances in age.
- Providing sufficient assets to offset the deficiency in the premiums from older persons is accomplished by accumulating the excess of premiums from younger employees, and premiums from those who leave the group prematurely.
- A level premium is the only arrangement under which it is possible to provide insurance protection to persons in the uppermost limits of the human lifespan without the premium increasing, and eventually becoming prohibitive, as age increases.
- The level premiums also include an amount needed to cover the cost of the continuation of insurance coverage after retirement when payments of premiums are no longer made.
- The premiums are determined, and periodically adjusted, based on the experience and composition of all persons participating in the program.
- The insurance has no cash value.
- No cash or surrender value, experience rating, and level premiums are typical of group insurance plans. They are also in keeping with group insurance concepts and principles as opposed to individual insurance policies or programs.
- The present regular insurance program is a compromise which attempts to meet some of the insurance needs of the career employee over the entire period of his or her service, including retirement.

"THERE APPEARS TO BE AN ELEMENT OF TRUTH TO YOUR CLAIM THAT YOU HAVE BEEN SHAFTED, CORPORAL."

MYSTERY PERSON

This sweet fragile looking little person likes to fish and hunt and is at home hiking through the woods with dog. Gardening is also a favorite pastime. Always dressed "as neat as a pin," our mystery person admits to preferring "too large shirt, tight blue jeans and no shoes." This person also knows how to dress up an occasion. The institution of a DMS Day and DMS People of the Year are examples of this "dressing up" skill started 4 years ago. This function is as popular today as it was when first suggested. Our Mystery Person has been with DMS for a number of years and is one of the original DMS'ers. In addition to the usual, this person did many "above and beyond" duties, to include being a major helper in organizing Navy birthdays at DMS and serving in the chow line at the DMA/DMS Golf Tournament.

A happy disposition (even when the air-conditioning goes out) is always the watch word even when the going gets tough (and the "tough" start thinking about going). If you haven't guessed yet, check your next contour!

FREE INSURANCE

Don't Forget: The first and third Thursday of each month the Red Cross is on hand to receive donations at the new Recreation Center. Join the "Blood Insurance" program by planning to make a donation soon. If you do:

You
Your spouse
Your children (under 18)
Your parents or parents-in-law
Your grandparents or grandparents-in-law

Any dependent relative living in your household will be eligible to receive blood from the Red Cross Blood Program when they are patients in participating Red Cross hospitals. Plan ahead before it's too late to plan.

Insurance makes good sense.

Lifeline

"While men inhabiting different parts of this vast continent cannot be expected to hold the same opinions . . . they can unite in a common object and sustain common principles."

—Franklin Pierce
14th President
1853-1857

FIRST AID FOR POISONING

In ALL cases it is important to get the poison out or to dilute the poison. REMEMBER – If anyone swallows poison it is an emergency. (Any non-food substance is a potential poison). Always call for help promptly.

CALL YOUR PHYSICIAN OR POISON CENTER PROMPTLY

SWALLOWED POISONS

1. Make patient vomit, if so directed, **BUT NOT IF:**
   - Patient is unconscious or is having fits.
   - Swallowed poison is a strong corrosive such as acid or lye. Give liquids.
   - Swallowed poison contains kerosene, gasoline, lighter fluid, furniture polish or other petroleum distillates (unless it contains dangerous insecticides as well, which must be removed). Give liquids.
2. Directions for making patient vomit (if physician orders):
   - Give one tablespoonful (one-half ounce) of Syrup of Ipecac for child one (1) year of age or older, plus at least one cup of water. If no vomiting occurs after 20 minutes, this dose may be repeated one time only.
   - If no Syrup of Ipecac is available, give water and then try to make patient vomit by gently tickling back of throat with spoon or similar blunt object. Place patient in spanking position when vomiting begins.
3. Do not waste time waiting for vomiting, but transport patient, if indicated, to a medical facility. Bring with you the container(s) of the substance(s) involved. If vomiting occurred, bring the vomitus.

EYE OR SKIN CONTACT — Wash thoroughly with tap water.

INHALATION — Remove from exposure to fumes.

CALL FOR HELP PROMPTLY

_____ Physician's Home Phone

_____ Physician's Office Phone

IF YOUR PHYSICIAN IS NOT AVAILABLE CALL

POISON CONTROL CENTER_____ RESCUE SQUAD_____

Be sure to have 1 oz. Syrup of Ipecac in your home
(Use only on advice of your physician)

Clip and place on the back of your medicine cabinet door.

CONTOUR

VOLUME 3 NO. 11 DEFENSE MAPPING SCHOOL 30 JULY 1976

SSG SHANNONHOUSE NAMED INSTRUCTOR OF THE QUARTER

by George Searfoss

Staff Sergeant John Shannonhouse, Jr. started his printing career in High School in 1956-1957. Upon entering the US Army in 1958 he received training as a Lithographic Platemaker in the Reproduction Division of the Department of Topography, US Army Engineer School.

Since then he pursued his printing career through a dozen varied assignments gaining much experience and expertise on offset presses and other photolithographic equipment, not only in operation but repair and maintenance of a variety and type of photolithographic equipment.

In 1973 he brought this experience and expertise to the Defense Mapping School. He prides himself in his ability to trouble-shoot an offset press and get to the heart of the malfunction without delay.

He was the prime mover in rebuilding five fully operational Multilith 1250 duplicators that are utilized for repair and maintenance training in the monthly 1250 duplicator block of instruction in the Reproduction Equipment Repair Course. These machines were rebuilt out of salvaged machines from the Property Disposal Office, Ft. Belvoir. A special request to rebuild a duplicator from salvaged machines was initiated by the Geographic Sciences Laboratory of the US Army Engineer Topographic Laboratories. Staff Sergeant Shannonhouse was selected to perform the task. The duplicator he built from two salvaged machines looked and performed like a brand new machine. Needless to say his rebuilding efforts saved the US Government many thousands of dollars. He received a fine Letter of Appreciation from the Director of the Geographic Sciences Laboratory of USAETL.

He applies his expertise in an outstanding manner as prime US Army instructor in a 207 hour block of repair and maintenance training on the Harris model LXG Offset Press. He also handles the instruction of the operation and repair of bindery and finishing equipment and is a superior instructor in the Multilith 1250 duplicator block of instruction.

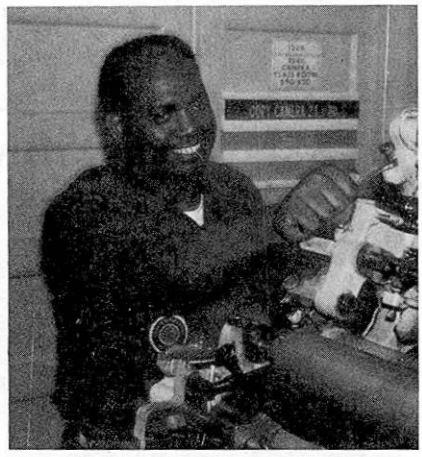


Photo by Dick Sobel.

He recently completed extensive cross training in the operation and repair of allied photolithographic equipment and was awarded a Certificate of Equivalent Knowledge.

Staff Sergeant Shannonhouse is a superior noncommissioned officer who is extremely talented in the repair and rebuild of offset printing and photolithographic equipment with exceptional repair ingenuity and initiative.

He is a distinct asset to the Defense Mapping School teaching staff and worthy of the award as DMS Instructor of the Quarter in the 4th Qtr of FY 76.

FREE INSURANCE FOR DMS FAMILY

The 5th of August is at hand. Circle the day on your calendar and save some time to help everyone in DMS. Donate a pint of blood to the Red Cross Blood Program. Your donation will put us a step closer to meeting the quota established for DMS. What does that mean to you? Plenty. It makes everyone in the DMS family eligible to enjoy the privileges of the "Blood Insurance" program. Any member of a participating group currently meeting its blood collection quota or any member's:

- Spouse
- Children (under 18)
- Parents or Parents-in-law
- Grandparents or Grandparents-in-law
- Dependent relative living in your household

is eligible to receive blood free of charge from the Red Cross Blood Program when they are patients in participating Red Cross hospitals. That's a pretty nice thing to do for DMS. It's a pretty nice thing to do for yourself. Call 41247 for a donor appointment TODAY.

DMS PICNIC TALK

The usual greeting — Hi, there! How are you? — seems to be taking a back seat to another salutation this time of the year, namely: Hi, how's the picnic doing? And the reply is always the same, "Just Great!" The drawing board operations have been finalized and the legwork has begun. Most of the purchases will be made thru the Fort Belvoir facilities. The food and beverage procurement seems to be settled. The band has been contracted. The game selection is beginning to materialize. Gene Crews and Glenn McKenzie have completed construction of a three-hole "putt-putt" golf course, that should keep all the kids (both young and old) quite amused or frustrated.

Plans are underway to organize a softball game for the dependents immediately following the traditional "Officer-NCO" game. Max Maxwell is in charge and he needs a couple of helpers! Any takers?

A Picnic Accessory Pack, which contains volleyball, softball, football, horseshoes, badminton, etc., equipment, will be available. Also, games for the "sitters and

(Continued on page 4.)

from the DIRECTOR

Mr. Light and I just finished a great tour of the United Kingdom's military mapping facilities during the week of 6 July, and it might be appropriate to pass on some of our impressions.

Land MC&G production is handled by the Directorate of Military Survey located at Feltham Station, about an hour's train ride from downtown London. The U. K. is not organized along our DoD-JCS lines, but the Directorate does support all Services. What we would call "base plant operations" are also located at Feltham and are comparable to DMATC in appearance and organization. The technical approach to compilation is similar to our field production since they do not use the UNAMACE, but the results are the same and are integrated into the Western mapping community's efforts. Several of the Directorate's management positions are filled by Royal Engineer Specialist Officers, and these men are of very high caliber with excellent academic backgrounds. One of the striking differences between U.S. and U. K. MC&G military is the stress the British put on technical competence as opposed to our interest in management techniques.

The British School of Military Survey is about an hour and a half's drive from London and is close to the geographic center of the island (less fog and clouds for astro work). It is the sole occupant of a small installation in rolling hills just outside the town of Hermitage. The school commandant, Lieutenant Colonel J. S. Coulson, is really a post commander as well as school commandant. New construction was underway during our visit which will result in replacement of the existing buildings. The latter were once an American hospital designed but never used for WWII casualties. It's much like our own Penicillin Park. Despite this, we found the classrooms and faculty areas well-kept and well-equipped. I would guess their student load to be about half our own, and while the quantity of equipment reflects this, the quality and variety is about the same as that of DMS. All in all, a very impressive place.

England was dry and hot during our visit, but the people were superb! Twice I struck up conversations with retired soldiers who had been through Dunkirk, and one old fellow stopped me in the street to say he had had a tour with SHAPE Headquarters and wore a patch much like my USARV emblem. The police were particularly courteous (I was nearly always lost), and the luncheons at D/MIL SVY and the School were relaxed, entertaining, and enjoyable.

Don went on to Finland for the ISP Congress and should be back at the end of the month. One of the first things I did on my return was to initiate an exchange visit to DMS by our very gracious hosts in England. We definitely owe them a fine tour.

TEXT ACQUISITION

PRT has published and distributed to the Departments a listing of academic texts in support of our teaching program. You are encouraged to refer to this list when you have need for a text. POC is SGM Locke.

"Between Friends/ Entre Amis"

PRT has the book "Between Friends /Entre Amis," produced by National Film Board of Canada for Canada in honor of the US Bicentennial. If you wish to see this book, you must sign for it in PRT.

MYSTERY PERSON

No reason to use "it" in this description, for this mystery person is a mystery man. Certain times of the year, just like the Arctic Hare, he dons a disguise in an attempt to blend with his surroundings. No longer among those on active duty, he serves DMS as a civilian and his contributions have been astronomical (many), Yes, Virginia, those are brown boots Mr. Suave is wearing, and this picture must have been for Mom, because he wasn't married then. However, he finally found a girl who fell for those sad eyes and then there were four.

MYSTERY PERSON FROM 16 JULY

by Cathy McCloskey

I am surprised at the number of people who came to me with the correct identity of the Mystery Person. Some recognized the clue on hunting and fishing, while one or two witnessed the dedication of the service in the chow line at the Golf Tournament. However, only two recognized the eyes, and today those eyes are still one of her most luminous and identifying features as when Carla Davis was a sweet fragile looking little person.

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Editor: Cathy McCloskey

"COMPILATIONS AND SEPARATIONS"

Just as with other offices and departments at DMS, the Carto Dept has said its share of hellos (compilations) and good-byes recently.

Since the first of the year, several key positions have been filled by topnotch people such as CW3 John Maxwell, WO1 Pedro Madera, SMS Don Vance, SFC Errol Seaman, SSG William James, III, SSG Michael Eddy, and A/SGT James Cotton.

CW3 Maxwell took over the reins of the Carto Compilation Division from CW4 Glenn Swarthout. Chief Maxwell and his wife, Rose, and three children came to DMS after a tour in Germany and six months at the Warrant Officer Senior Course. Now, "Max" (as he prefers to be called) can try out all of those latest management techniques that he learned at school!

WO1 Madera brings with him the enthusiasm of a new Warrant Officer, coupled with the expertise of his cartographic NCO experience. He and his wife, Ann, have already assisted the Department Human Relations Program through their active involvement in bringing in guest speakers. They hope to move their family, which includes three children, onto the Post soon.

CW3 Maxwell's right hand man is SMS Don Vance who used to be a SAC-trained mapmaker at Offutt Air Force Base, Nebraska. Don's family will join him here this August. He is already noted for his fair handed approach to each challenge and has contributed valuable ideas toward course development and EPMS.

SSG Bill James has joined Mr. Uber's instructional team, bringing fresh ideas from the Topo Unit in Hawaii. He is well established since completing ITC and his wife, Betty, and two children are enjoying the new assignment as well.

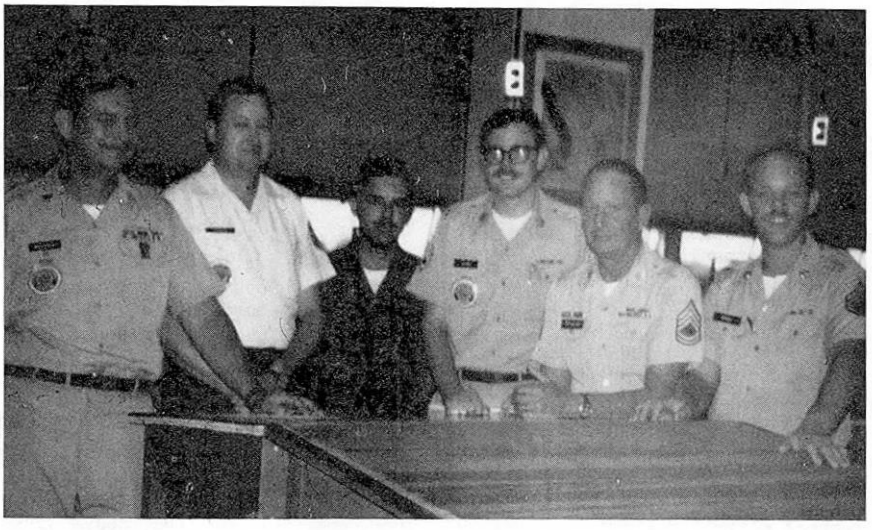
SSG Mike Eddy has added the enthusiasm of youth to Mr. Murray's teaching team. Mr. Murray's office has been noted as a gathering place of great athletes (Example: SFC "Chuck" Hefele) and SSG Eddy appears to be in that mold. (He left his Dept Chief in a cloud of dust during a recent two-mile job.) Sergeant Eddy's wife, Tischa, is also an important part of the DMS family.

SFC Errol Seaman brings vast experience to the Basic Cartography classes. He intends to use his expertise to better serve the customers of DMS. Carto folks certainly welcome SFC Seaman and his wife, Natalie, to the Fort Belvoir area.

By this time, you might wonder if the Construction Drafting Division ever gets any new people assigned to it. To be sure!!! It garnered a top draft choice of its own in SGT James C. Cotton, Jr. Combining the exuberance of youth with a fine sense of good drafting, SGT Cotton is already a vital part of Mr. Falkenthal's Phase I Team. We welcome Jim Cotton and his wife, Linda.

Finally the front office received a substantial replacement for a substantial loss, i.e. MSG "Hess" Hester in place of MSG "Al" Altheide. Hess just walked up the stairs from TSD in his journey to Carto. Unfortunately, he brought some JTSSs with him! He has fit in well and we look forward to our association with him, his wife Joni, and children.

Looking at the balance sheet, we will miss the seasoned veterans such as Swarthout, Altheide, and Company, but — time marches on and we have been blessed with a wealth of incoming talent. In fact, Major Kinnan's tears have completely subsided. (Indeed SGT Dean from Survey even gave him a new puppy to replace his lost one. Happy Days are here again!)



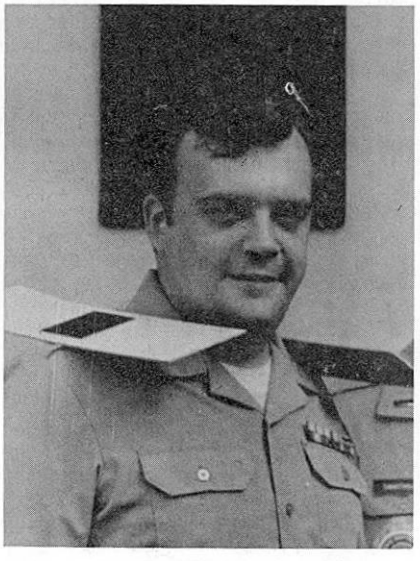
Left to right: Max Maxwell, Don Vance, Pete Madera, Bill James, Dean Seaman and Mike Eddy. Hess Hester and Jim Cotton were on leave at the time of this picture.

WO1 WHO?

Hi! My name is Kevin Carrigan and I'm running for Warrant Officer. With those immortal words, one each Irish Air Force sergeant launched an intensive drive to join the ranks of the Army Warrant Officers. Yes —— He was successful.

The Carto Department will definitely miss the warm sense of humor and storehouse of cartographic experience of WO1 Carrigan. Fortunately (for Carto), he will remain at DMS as an instructor for TSD. If TSD can put up with his jokes, it should be able to get some work our of him. Seriously, he is an authority on any subject! No, seriously, he made at least one contribution to the Carto Department during his tour with us —— We can't recall it at this time however. No, seriously —— it is hard to get serious when talking about a Kevin Carrigan.

We in Carto congratulate you, Kevin. We should warn COL Wintz that your poison pen will serve to equalize the literary joust between him and the Warrant Officers at DMS. We will watch that contest with keen interest.



"Hi, I'm WO1 Carrigan."

Words, Words, Words

by Myles J. Mulholland

I have always been intrigued with words but have never fancied myself as anything more than an average individual who tried to parse a sentence correctly or spell a word according to a standard and accepted dictionary. I have also tried to remember that you always conjugate a verb and decline a noun. Of late, I find myself becoming increasingly attracted to debate offered by prestigious newscasters on nearly all the networks about the spelling and pronounciation of words (I don't suppose you could really call it debate as much as naive and frivolous remarks about current abuse of certain words). One word that comes to mind is "decimate." It wasn't the spelling nor pronounciation that caused the furor on the networks but rather the use of the word by leaders in our government who should have known better.

It seems somebody in high places indicated that the enemy had decimated the entire population when, in fact, the word decimate means to select every tenth member of a population and destroy him. This might seem like trivia to many of us, yet the editorial page of the second most newsworthy daily paper in the United States (my opinion) bristled with letters-to-the-editor about the importance of the use of the word "decimate."

A recent reading of an essay "At the Fringe of Language" provided interesting commentary on the changing usage of words and the temporal effect of changing modes. The "swear words" — "damn" for complaint and "damn you" for abuse — are good examples. Historically the whole Christian eschatology (now there's a word for you) lies behind them. If no one had ever consigned his enemy to the eternal fires and believed that there were eternal fires to receive him, these ejaculations would never have existed. But inflation, the spontaneous hyperboles of ill temper, and the decay of religion, have long since emptied them of that lurid content. Those who have no belief in damnation — and some who have — now "damn" inanimate objects which would, in any view, be ineligible for the eternal fires. The word is no longer an imprecation. In the full sense, it is hardly a word at all when so used. Its popularity probably owes as much to its resounding phonetic virtues as to any fanciful association with Hell. It has ceased to be profane. It has also become very much less forceful.

You may also say the same of "sickening" in its popular, ejaculatory use. There are alarms and disappointments which can actually produce nausea, or, at least, emotions which we feel to be somehow similar to it. But the man who says sickening, when he has missed his flight or the train is not thinking about that. The word is simply an alternative to "damn" or "bloody." Of course, it is far weaker than if it carried the suggestion of regurgitating.

In another vein, it wasn't too many issues ago that the Contour carried something that I had written that could have proved controversial. Rather than appearing as an antiseptic and sterile publication, DMS printed the article — if you remember it was about unionization of the Armed Forces. Well, that area of social concern in the Armed Forces has now reached monumental proportions. The capstone of the issue may well be the introduction of legislation to buffer the attempts of military unionization. Senator Strom Thurmond (R - S.C.) has introduced S.3079 which would prohibit unionization of military personnel. A similar bill (HR 12526) has been introduced in the House of Representatives by Representative Floyd Spence (R - S.C.). It will be interesting to see how the unions will counteract.

DMS PICNIC TALK

(Continued from page 1.)

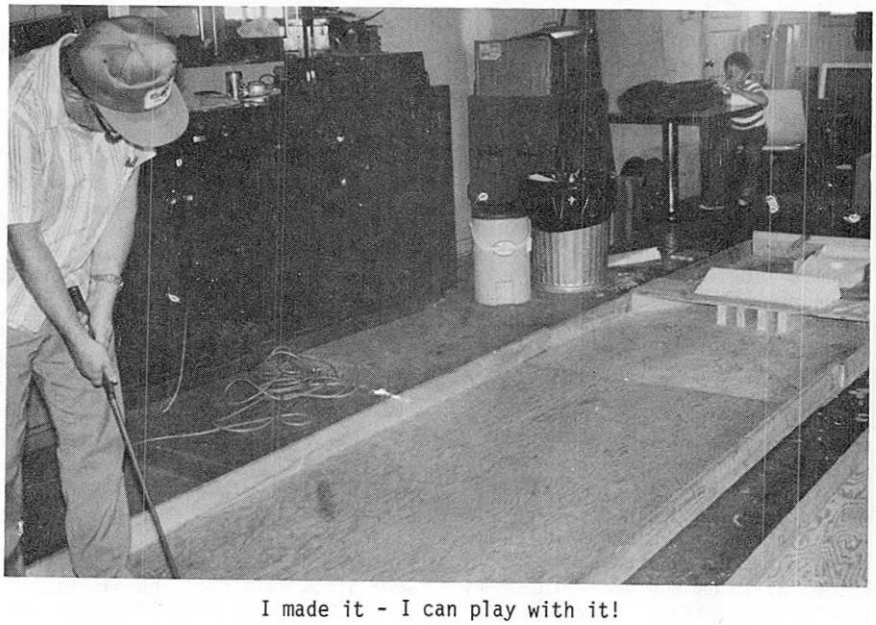
chatters," such as cards, checkers, chess, cribbage, etc., will be on hand.

We also plan to have team games. Each Department, as well as the DMS combined staff, is expected to arrive "on the scene" with their respective "olympic teams." Team games planned are tug-of-war, relay, sack, and three-legged races. If the PT Test didn't wipe you out, we bet the picnic games will!

Oh, yes! We will have the egg toss for all of you messy people.

If you haven't bought your picnic ticket, please be advised that no one will approach you henceforth. You must contact your representative for tickets. Representatives are: DMS staff - Gene Crews: D/Carto - Gene Rudy; D/Survey - Glenn McKenzie; TSD - Doug Sexton; and GAD - Cleve Blackwell.

In closing, I would like to once again thank those unselfish people who donated funds to the picnic instead of having the traditional promotion party. Donors are: CW3 Vaughn Nelson; CW2 (P) Chris Nohe; SGM Bill "Boomer" Locke; Master Sergeants George Brabetz, Ron Wenrich, Ralph Conley, and Donald Monton; Sergeant First Class (P) Russ Ewing; SFC's Rick Cruz and Gene Cook; and, last but not least, our own instant Warrant Officer, Kevin Carrigan. These donations are kind gestures of true team spirit and my hat's off to each of them! When you see any of the above guys, stick out your hand and say, "Congratulations and thank you!" They will understand.



I made it - I can play with it!

WHAT IS A JOB DESCRIPTION?

There seems to be confusion in the minds of many as to what a job description is, who writes it, and what information it should contain. This article is an attempt to "set the record straight" regarding the subject of job descriptions.

What is a job description? It is a required legal document which authorizes the appointment and payment of public funds to a government civilian employee. It is a basic management tool providing an official record of a decision by responsible management officials that certain work is to be performed by an employee or group of employees. It is a basic and official source document for determining the proper class and grade of positions and serves many other important purposes. For example, it is useful in determining qualification requirements and evaluating qualifications in recruiting, examining, selecting, and promoting; for informing applicants or appointees about prospective duties and responsibilities; in analyzing training needs and developing training agreements; in developing career ladders and career development programs; in reviewing job content in performance rating; in analyzing recommendations for incentive awards; for developing and studying work flow patterns and organizational structures; in detecting duplication of work or overlapping responsibilities; in establishing competitive levels for reduction in force; and as basic evidence in appeal cases.

Who writes the job description? Normally the immediate supervisor of the position prepares a draft describing the duties, responsibilities, and controls over the work. The supervisor is in the best position to do this because the supervisor is more familiar with the work that he wishes to have performed than the classifier. However, the classifier is always available to assist and advise the supervisor regarding proper format of the job description, job engineering, and job description content.

What information should the job description contain? First, it should be written in narrative style and normally not exceed 1½ typewritten pages. It should be written in clear, concise and simple language. Sentences should begin with the present tense active verb. Special words or phrases are not required. Descriptions of duties and responsibilities should be general in nature and not describe in detail the manner in which work is performed. Secondly, it should not describe the abilities and capabilities of the person in the job. Shortcut methods that reduce the amount of work involved in preparing and maintaining job descriptions are encouraged.

As a final note, a job description is not the proper method to be used for rewarding employees. The system provides for quality step increases, superior performance awards, sustained superior performance awards, outstanding performance appraisal rating and letter of commendation as a proper means for rewarding deserving employees for superior performance.

X, Y, Z

Mr. Nohe stopped by Purdue on his way back from leave but couldn't get a picture of the pocket calculator because his wide angle lens wasn't large enough.

Can anyone guess where MAJ Mc Clatchey changes into his baseball uniform? Well folks — our 5'11" Major changes in his little yellow Opel GT!!

If you put one hand in the fire and the other hand on a block of ice, statistically speaking you are confortable..... and we all know that statistics don't lie.

Egg cartons needed for picnic!! Bring them to MSG Crews (D/Carto) by 4 August.

THE ENTIRE Lt Col MacKENZIE DECIMATED AT ROAST

Armed with a pink-ribboned pet rock, a double-faced survey marker with carrying string (which looked amazingly similar to a yo-yo), a semi-automated time determining system which precisely determined the time of Happy Hour at any longitude, a custom designed sign out/destination board for extra curricular activities, and a made-in-Hong Kong facimile of the famous Amsterdam statue which doubles as a liquid dispenser, Lt Col Jim Mac Kenzie somehow survived the evening of 29 June 1976.

Hosted by the Department Chiefs and Principal Staff Chiefs, a gala "Roast" of our retiring Deputy Director was held at the Dumphries Holiday Inn. A crowd of 50 or so gorged themselves on the abundant buffet and then settled back to listen to the hosts extol the virtures (?) of our senior Marine's deputy stewardship. LTC John Radu doubled in brass as Master of Ceremonies and Chief Translator.

All who attended agreed our Deputy Director was sent on his way properly roasted.

INSTRUCTOR'S NOTEBOOK

SEVEN CRUCIAL TESTS FOR PROGRAMED INSTRUCTION

by WILLIAM R. TRACEY

Many programing experts claim that any subject can be programed if the desired terminal behaviors can be precisely defined. I am quite willing to accept this as a defensible theoretical position. However, this does not mean that anything and everything should be programed. Obviously, some subjects should not be programed because of the difficulty and the expense involved. Others probably should not be programed because there may be more efficient ways of conducting the training.

EXPEDIENCY OR CHOICE?

"Observations . . . over a period of two decades causes me to believe that selection of training method is dictated more often by expedience than by any other consideration. Surely, there must be a sounder, more systematic, more objective method of making such critical professional judgments."—WRT

Guelzo (Carl M. Guelzo, "Administrative Problems in Military Programming," *NSPI Journal* (April 1964) 3:13.) undoubtedly has this point in mind when he wrote that "One of the more unfortunate penalties accompanying over-hasty adoption of programmed instruction is the agonized re-appraisal resulting from the discovery of areas where it doesn't apply."

To some people in training, the mere existence of a program which matches instructional objectives is sufficient justification for adopting that program. There is a real possibility, however, that the material should not have been programed in the first place.

Several writers have addressed themselves to the problem of determining what should be programed. Some have developed sets of criteria to be applied by educators and training personnel as guides for the selection of subject-matter to be programed.

But, a much more basic question has received almost no attention in the literature to date: Under what conditions should programed materials *be used for* training?

In passing, it should be noted that the identical problem exists with respect to other education/training innovations including such as teaching machines, closed-circuit television, team teaching, team learning, and the like. Surprisingly, the same situation exists with the more prosaic lecture, conference, demonstration, and performance methods of instruction. Although these methods have been with us for a long time, no firm criteria have been developed to guide the instructor in selecting the optimum method, technique, or medium to achieve an instructional objective.

This rather enigmatic state of affairs was brought forcefully to my attention when I attempted to find in the literature of education and training some authoritative guidelines for the selection of methods. My objective was to give some guidance to military instructors in making decisions about the strategy they should use to reach specific instructional objectives.

Observation of instructors, both military and civilian, at all levels of education and training over a period of two decades, causes me to believe that selection of method is dictated more often by expedience than by any other consideration. Surely, there must be a sounder, more systematic, more objective method of making such critical professional judgments.

Failure to find anything useful in the literature led me to the conclusion that if criteria were to be used in selecting instructional strategies, I would have to develop my own. The task proved to be considerably more difficult than I anticipated. The inherent complexity of the process of changing behavior, the large number of variables, and the lack of consistency in the use of terminology are clearly the main barriers to the identification of standards. I submit that this is the reason for

the present lack of definitive criteria.

After several unsuccessful attempts to come up with a useful set of guides for the application of programed instruction, my inclination was to give up the idea and wait for someone more insightful than I to publish a set of criteria. However, the immediate and pressing need for something to use, some sort of guidance for instructors in a real, on-going instructional setting, caused me to persevere.

The results of my efforts are herein presented. I offer them not as an authoritative, mutually exclusive set of criteria, rather as a list of items of varying criticality, which might well be considered by anyone faced with the decision to use or not to use programs.

The decision to use programed material must be made on the basis of careful analysis of the training situation from several standpoints: the training objectives, the subject-matter, the trainee population, the instructor, the instructional facilities and materials, time, and costs. In the paragraphs that follow each of these categories is subdivided into specific criteria.

1. TRAINING OBJECTIVES
Are they real, definable, measurable? Is uniform skill or concept mastery needed?

Perhaps the most critical consideration in deciding whether to use programed materials or some other instructional strategy is the nature of the training objectives themselves. Several specific items must receive careful attention in this regard. If any of the following items do not apply, the use of programed materials is probably not indicated.

There is a bona fide training requirement. Many a training man has gone off the deep end by assuming that, just because formal training in a subject-matter area has been conducted in the past, training is necessary. Make no such assumption. Take a hard look at the training. Is it really necessary? Could the problem be solved more realistically by work simplification, realinement of jobs, production aids, improved supervisory practices or some other *non-training* solution? Could the problem be solved by better employee screening and selection methods? In short, look for the *real* problem. Don't go to the expense of developing a brilliant solution to the wrong problem.

The training objectives are clearly and unequivocally definable. Too often training objectives have been built on rather vague objectives. The consequence has been a program which followed no clear path and inevitably got nowhere. Hazy notions about what the training program should accomplish are an inadequate basis for using any instructional strategy. They are totally untenable for employing programed materials. Before a program can be selected which will do the intended job, the required terminal behaviors must be precisely defined.

The training objectives are measurable. If the results of training cannot be measured objectively and with some precision, there is more than a little doubt that the training should be conducted at all. Training programs are (or should be) designed to get results, a measurable product which can be costed out. If the training objectives cannot be subjected to this kind of objective measurement, the use of programs is certainly not indicated.

Mastery of concepts or skills is required. Where the objective of the training is to provide mere exposure to material, to orient trainees, or to introduce a subject, rather than to achieve mastery of the content or skill, programed materials are likely to be inappropriate. This is not to say that programs would be ineffective for these purposes, rather that they are likely to be less efficient than other strategies. There are other training media and methods which compare favorably with programs in effectiveness when the objective is to provide only cursory contact with material, and they are likely to be less expensive and less time consuming.

A uniform and highly predictable training product is required. A high degree of trainee variability, in terms of both the quality and quantity of learning achieved by those exposed to the program, is typical of most instructional strategies. This is due in part to the fact that materials of instruction are not subjected to objective pre-testing and also to the lack of control over such factors as instructor competence, motivation, and the like. With most strategies, it is practically impossible to duplicate learning situations with any degree of precision. However, good programed materials reduce appreciably the number of variables operating in a learning situation. This fact, coupled with the extensive testing to which well-conceived and well-developed and tested programs have been exposed, markedly reduces the variation in student learning. Therefore, if standardization of training is critical, in terms of the beginning job knowledge or proficiency the trainees acquire, programed materials may be the answer.

2. SUBJECT MATTER
Is it unitary, conceptual, logical or precise in nature? Is there a good program?

As noted earlier, it is theoretically possible to program any type of content. Nonetheless, there are limitations imposed by the state of the art as well as the more obvious restrictions of personnel, time, and money re-

quired to develop "quality" materials in difficult-to-program areas. At the present time, it appears that the following content criteria should be applied in reaching a decision as to whether to use a program or some other training strategy in planning and arranging courses to cover the material.

The content is unitary. Although trainee reactions to the use of programs have largely been favorable, any method of instruction will eventually pall. A part of this problem has to do with the number of consecutive hours that a trainee can work before he becomes fatigued or bored. Time limits will probably vary with the content, format, style, and readability of the program, and with the intelligence, maturity, interest, aptitude, motivation, background, and attitude of the trainees. But, a critical factor from the standpoint of learning effectiveness, has proved to be the length of a lesson. This factor determines the extent to which student interest can be maintained and, in turn, affects error rate on the program. When trainees continue too long with a program at one sitting, a decided increase in error rate usually results, indicating that the lesson was too long. Trainees confronted with unbroken programed sequences consisting of hundreds of frames are likely to lose interest. There seems to be something intrinsically satisfying in completing a task. For this reason, it is important that the subject-matter lend itself to subdivision into relatively discrete units. In sum, short programed sequences are eminently preferable, from both a learning and an administrative standpoint, to one large program covering a broad content area.

The content is primarily concerned with concepts, principles, and applications. Subjects which involve concepts, principles, and theories, or deal with verbal problem-solving skills, are likely to be most usable in programed form. If on the other hand, the content is concerned mainly with manual or manipulative operations, team skills, or discrete, unrelated facts, programed materials are likely to be inadequate to cover such content.

Positive control over the sequence of the material is required. Some content has a built-in logic which must be followed for effective learning. Prerequisite learnings in these subjects form the basis for more advanced work. There are subjects where sequence is not a critical factor, although there is little doubt that there is a "best sequence for learning" (psychological order) whether or not it has yet been identified. Where sequential development is of primary importance, programed materials provide a degree of control over the order of presentation achievable by few other training approaches and, as a result, are likely to be quite effective.

Absolute control over the form of the response is required. Where the form of the trainee's response is critical to the learning or, perhaps more importantly, related to job performance, a pattern of responding can be easily built by programs. Active responding is insured and a record of responses is readily available. In addition, error or incorrect methods of responding can be immediately corrected by the program and the practice of the error prevented before it becomes set is a habit in the trainee's mind.

Quality programs are available. Perhaps this is the most critical of the content criteria. Appropriate programs, that is to say, programs that match the training objectives and cover the content to the desired depth, at the proper vocabulary level, and with appropriate sentence structure, must be available. The alternative is to construct the required program or to contract for the development of a program which meets local needs. Needless to say, either alternative is necessarily an expensive undertaking.

3. TRAINEE POPULATION
Is it motivated, able to read? Is it dispersed, disparate, too big or too small?

There are several factors pertaining to the trainee characteristics which have an important bearing on the decision to use programed materials. Some of the more significant are these criteria.

The trainee group is mature and well-motivated. Successful learning with programed materials demands the maturity and motivation to concentrate for relatively long periods of time and to work more or less independently. If the group is made up of individuals who lack maturity or motivation, programs won't work. The reason is simple: learning will occur only if the programs are completed within a reasonable period of time. It has been demonstrated time after time that unless trainees are strongly motivated, or can be motivated (even if by extrinsic means), they will not complete the program. For optimum results, a minimum of supervision and prodding should be necessary to get the trainees to finish the program within a reasonable time frame. This is not to be construed as an argument against any supervision.

The trainee group possesses the level of reading ability required. Programs are written with different vocabulary levels and with varying complexity of sentence structure. Obviously, if the trainee population is unable to read the material with a high degree of comprehension, little or nothing will be learned. In fact, even if the trainees doggedly work through the program, they will learn very little. By far, the most common effect of an inappropriate reading level is boredom on the one hand and frustration on the other. In either instance, trainees are unlikely to

complete the program. Even if they do, learning will be minimal.

The trainee group is widely dispersed geographically. If the personnel to be trained are scattered over a relatively wide geographical area, time, transportation, and associated costs for travel to a centralized training facility are likely to be prohibitive. Under these circumstances, programed materials offer an inexpensive alternative to this problem. Also, with such a wide spread, the quality of instruction is apt to differ. Using programed instruction the method is not only standard, but the testing of skills or knowledge imparted is likely to have more meaning in judging the amount of training passed on to the trainee. In short, programs give the instructor the means to judge trainee's learning no matter how widely separated they may be.

Trainees have irregular work schedules. Where irregular work schedules interfere with the oganization of conventional classes, programs may provide a workable solution. It is often infeasible to repeat classes for several shifts. Often those available for training at a given time do not represent the numbers necessary to justify the expense of providing instructors and support facilities. Programs can be an effective substitute under these conditions.

The trainee group is widely different. If the trainee population varies extensively in ability, aptitude, speed of learning, prior training, and experience, it is impossible to meet these varying needs by conventional means. A course pitched at the level of the mythical "average" trainee is set too high or too fast for some and too low or too slow for others. Most linear programs can help meet the problems of individual differences which relate to speed of learning and speed of reading. More recent programs (both linear and branching) provide for these variables as well as differences in aptitude, achievement, prior training, or past experience. In any event, programed materials offer one of the best solutions to the problem of meeting individual differences currently available, short of tutorial instruction.

The products of the present system of training are substandard. This is the "what can you lose?" criterion. If a training program has been modified and these attempts at improvement have not materially raised the quality of the output, another tack may be in order. Programed instruction, using a carefully selected set of materials, may provide the solution.

The trainee group is either extremely large or extremely small. If large numbers of trainees must be trained simultaneously, or on a crash basis, due to seasonal factors or unpredictable turnover, programs can be the answer. If on the other hand, training requirements are aperiodic and only a small number of personnel must be trained at any one time, it would be expensive to run conventional training programs for them. Again, the solution may be programs.

4. THE INSTRUCTIONAL STAFF

Is it shorthanded, transient, or for any other reason inadequate in the situation?

There are situations pertaining to the number and quality of instructors available which practically dictate the use of an alternative to conventional instruction. Among these are the following.

There is a shortage of qualified instructors. Fully qualified and competent instructors are not always available in sufficient numbers to meet training requirements. Some otherwise competent instructors may lack the technical background required to conduct the necessary training. Other personnel, fully qualified technically, may not have the pedagogical skills needed to conduct the training. In still other instances, the technical backgrounds of instructors need to be supplemented. Programed materials can be of great help in these situations. Of course, where instructors are unavailable, programs offer a practical and relatively inexpensive solution.

There is a high rate of instructor turnover. If instructors are drawn from production or sales elements of the organization, or are rotated because of other circumstances, the stability required for optimum planning, organization, and management of instruction are lacking. In this case, programs might well be used, particularly with routine or repetitive instruction, and the skills of the instructors reserved for higher level or more demanding instructional tasks.

5. TRAINING FACILITIES

Are central facilities lacking? Can a program for each student be obtained?

The size and location of company production, sales, and distribution facilities determine the types of training facilities than can be justified. These factors must be considered in arriving at a decision to use or not to use programs.

Centralized training facilities are lacking or inadequate. Classroom space, appropriate furnishings, equipment, training aids, and other training materials are required to conduct effective conventional instruction. If these items are either totally lacking or inadequate, programs might well be considered as an alternative to the very heavy expenditures required to establish and maintain an effective training facility.

There is an adequate supply of materials. There must be enough programed materials available to place a complete set in the hands of each trainee. Program sharing is inefficient, and it may spell the doom of the training program. Therefore, programs should not be used unless there is a sufficient supply on hand to meet requirements.

6. TIME
Is speed necessary or monetarily worthwhile? Is synchronization important?

There are two criteria pertaining to time which are particularly important in reaching a decision on the use of programed materials.

Different course completion times are not significant. The selfpacing feature of programed materials results in varying student completion time for programed materials. If programs are used in conjunction with other instructional strategies, these time differentials can cause problems. In addition, there may be occasions when groups of trainees must complete their training at the same time to be assigned to jobs. Therefore, if different course completion times are critical to the conduct of subsequent training or to job assignment, the use of programs is not advisable.

Training time must be reduced without loss of proficiency. Time spent in training always represents money. From this standpoint savings in training time are always desirable. However, there are situations where large reductions in training time are essential due to unexpected employee turnover, crash projects, loss of instructors, or the like. Well-designed programs have reduced training time one-third or more in many industrial settings. Mainly, these reductions have been made possible by eliminating the extraneous, the "nice-to-know," and by focusing on the "must-be-able-to-do."

7. COSTS
Can the costs be justified in savings? Is there a significant marginal saving?

The matter of costs is of paramount importance in any business or industrial training venture. Criteria pertaining to costs are not separate and distinct from other standards. Obviously, time, facilities, personnel and the like have price tags, but there are two criteria which are important enough to consider separately.

The cost is reasonable when measured against training effectiveness. Other factors being equal, if the expected gains in learning effectiveness do not offset sufficiently any additional costs incurred by the use of programed materials, they probably cannot be justified. In other words, a less costly, if slightly less effective, instructional strategy may be dictated when the differences between the eff effectiveness of programed approaches and conventional means are not significant enough to warrant the additional outlay of funds.

Savings in time, personnel, or facilities justify the investment. Here, the point is that an acceptable relationship between investment in programed materials and savings in other areas must exist. To put it another way, the cost of the programed materials, regardless of their effectiveness, must be off-set by savings in other aspects of the training program.

Having introduced these criteria for the application of the programed instruction method, it might be well to note that there are many training situations where programs can be used to advantage as supplements to, rather than as a complete replacement for, conventional instructional approaches. These alternative uses should be carefully considered as means of enhancing conventional training.

1. *Remediation.* Programed materials offer an effective and relatively inexpensive means of providing remedial instruction. When trainees fail to achieve the required level of proficiency by conventional means, programs can help. In many situations, personnel, space, time, and money can be saved by using programs for remediation instead of scheduling additional conventional-type instruction.

2. *Make-up.* An alternative means of providing instruction for absentees and transients is offered by programed materials. Again, this method is likely to be considerably less expensive and just as effective as conventional make-up instruction.

3. *Maintenance.* Many jobs include duties and tasks which are not performed frequently enough to maintain proficiency. In some instances, these tasks are critical. If, through disuse, skills deteriorate to the point where they are unusable, the initial investment in training is lost. What is even more important, however, is the fact that the skills are not available when required. Programs offer an effective means of maintaining learned skills at the required level.

4. *Re-training.* Most training programs include some content which in time becomes obsolete. Equipment, products, techniques, and the like change. Programed materials offer a convenient and inexpensive means of providing the required re-training.

5. *Up-grading.* Programed materials offer an excellent means of providing for the continuous upgrading of production, sales, administrative, and other types of skills. Personnel can be trained to do their jobs better and can be prepared to assume higher level jobs and increased responsibilities by means of programs.

6. *Acceleration.* Carefully selected programs can be used to accelerate capable trainees because they permit individual progress through the training course. In many training situations programs will effect sub-

stantial savings by reducing the training time for individual trainees. An additional benefit accrues because the man gets into a productive job faster. In short, the use of programs can reduce unproductive training time and increase on-the-job productive time.

7. *Advance study.* More often than not, members of a class vary considerably in terms of prior training and experience. These differences complicate training. Programed materials offer a means of insuring that a group of trainees has enough common background to profit from formal classroom training. Used as advance assignments for out-of-class study, programs can provide the knowledge or skills needed to exploit fully the time available for formal classroom work.

8. *Review.* The usefulness of programed materials for review and practice of skills learned in formal classes has been demonstrated repeatedly. The structured materials provide the review and practice of knowledge and skills needed to *set* the learning. A further advantage is that no instructor need be present to insure that the trainee avoids practicing errors.

9. *Enrichment.* Although most training programs should be geared directly to job requirements, there are times when it is advantageous to give faster, more able, or more experienced trainees either more advanced work in a content area or broader contact with the subject. Programs offer an inexpensive and effective means of providing such vertical or horizontal enrichment.

10. *Experimental.* Programed materials offer one of the best means of controlling some of the variables present in any learning situation. Some experimentation is a necessary part of many training programs. If nothing else, experimentation offers a means of comparing the costs of alternative instructional strategies. Programed materials provide a means of controlling such studies to a degree not possible with conventional materials.

SUMMARY

The fact that a program exists is inadequate justification for its adoption and use in a training situation. The conduct of effective and efficient training depends upon selection of the instructional strategy which is most appropriate for the type of training required. To insure that the proper training strategy is selected, criteria must be applied. These criteria may be grouped under the categories of training objectives, content, the trainee population, instructional personnel, training facilities and materials, time, and costs.

Although the criteria herein presented are crude, their application is likely to prevent the use of programed materials in situations where they don't really apply. □

William R. Tracey, Ed. D., is Educational Consultant to the US Army Security Agency Training Center & School, Fort Devens, Massachusetts.

QUOTE

"E. J. Janssens, sales manager of Port Huron Paper Co., estimates his firm spends an average of $11,000 training each new salesman, up from $7,500 five years ago. The increase partly reflects Port Huron's new policy of hiring salesmen 'who aren't necessarily familiar with the paper business,' Mr. Janssens says. 'Obviously, men who aren't acquainted with the paper industry require more training,' the official adds, 'but once they're trained they often prove to be our best salesmen because they don't go into a customer's office with any preconceived notions.' "—The *Wall Street Journal,* November 19, 1964.

★★★ DMS PICNIC PHOTOS ON PAGES 4 AND 5! ★★★

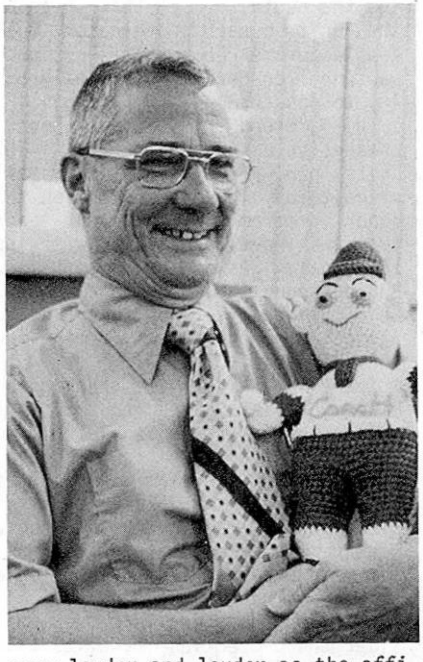
CONTOUR

VOLUME 3 NO. 12 DEFENSE MAPPING SCHOOL 13 AUGUST 1976

THANKS FANS

by Mr. McCullough

July 28th brought many mixed emotional experiences to the Coach of DMS's Softball Team. But one of those experiences was so unique and unexpected that it stood head and shoulders above the rest. Let me digress for a moment. Having fan support at a ball game can help any team to get up easily for that game. But having it all year keeps a team trying hard. The fans of DMS are not only the most loyal in both leagues but they undoubtedly were the most vocal. Even our players who had to gather splinters on the bench always knew DMS was in the hunt for a play off position through this fan support. The fans



grew louder and louder as the officials failed to give us our due. It seemed at times our fans were ready to run the opposition off the field when they scored to many runs.

(Continued on page 6.)

FOCUS ON DEPT OF CARTO

The Contour recently interviewed Maj Kinnan, Chief, Dept of Carto, to get some insight into the courses that are taught in his department.

CONTOUR: What are some of the technical skills that are taught in D/Carto.

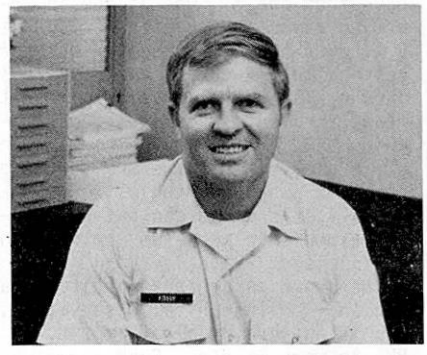
Maj K: We teach both cartographic and construction drafting. Cartographic drafting is taught in our carto courses, construction drafting is a division by itself. Another skill we teach is map compilation. A map compiler selects and depicts important detail from a stereomodel for a map. The compiler also adds detail, (revision of maps) such as the location of new buildings. In addition to operation of instruments, we teach the students what type of items to select and the priority of selection. Color separation is also a skill that is part of cartographic work. It deals with "scribe sheets" and the preparation of plates for the Graphic Arts people. Another important skill the students are taught is stereoplotting, which is the machine way of compiling the map. You know, we could experience a decrease of student input in the stereoplotting area until the new TSS equipment hits the scene. Of course, we would have to gear up rapidly for that new challenge.

CONTOUR: Approximately how many classes/students does D/Carto teach a year?

Maj K: We teach about 500 students a year, most of which are in the basic courses - construction drafting and cartography.

CONTOUR: What, in your opinion, has been the strongest teaching method your faculty employs? How do you see the TV and self-paced study programs tying into your curriculum?

Maj K: Most of our students come to us right from the controlled at-



mosphere of basic training. Consequently the most effective teaching method still seems to be the conference, with a good give and take of questions and answers, both to and from the students. The knack is for the Instructor to get the students to ask questions. You have to make them feel that what they say is important. The rest is balancing the different approaches to teaching with PE, TV, tapes and models. Putting all of that into the right sequence to make the class interesting is an important skill. If that can be balanced properly, then they all come together as an effective teaching method.

CONTOUR: After graduation, what kind of assignments do D/Carto students receive? Where do they go?

Maj K: They go all over the world. Army Cartographers go to topo units at Ft Hood, TX, the 30th Engr Bn, Ft Belvoir, and Germany. Some of the more experienced ones go to Korea and Hawaii. Marines usually go to Camp Lejuene. Construction drafting students get scattered, they go everywhere.

CONTOUR: Do you get Navy students, particularly in construction drafting?

Maj K: We've only had two Navy students. In fact, that's a newsy type item since we just started

(Continued on page 5.)

from the DIRECTOR

Have you noticed how cyclical things are here at DMS? We have been on an upswing recently, with the Director's Conference, Engineer School R&A, Picnic preparations, heavy MTT's, and other obligations all going on at the same time. We had a similar intense period a few months ago during the Topographic Support System briefings, and we'll have them again. One of the interesting aspects of hectic periods is a kind of heightened self-regard or self-respect that comes over us during all of the activity. I don't mean the satisfaction after something is over, but the perception of ourselves while we are throwing together words, graphics, or whatever. It's a violent but gratifying experience when we believe in our subject. Right?

The above paragraph constitutes a personal philosophical observation, and is not a cynical attempt to get DMS to work harder. Such a cynical attempt will be made later.

While on the subject of professional stress, I do want to report that Major Kinnan's jaw did twitch slightly when he heard of yet another TSS briefing. To those of you outside of D/Carto, this is roughly equivalent to seeing Lassie ignore the trapped child and take up with vandals.

In any case, by the time this issue reaches print we should be through most of the actions listed above and well into a period of contemplation and quiet teaching. MSG Crews will have the Picnic behind him, the briefings will be over, and we can catch our breath. Not for long, I'll bet (actions beget actions), but things should quiet down.

New subject: A hearty welcome to our new Deputy, Lt Col Westphal. We will utilize Pete in a very active manner, and I ask the cooperation and consideration of all during the start-up period.

INSTRUCTOR'S NOTEBOOK

by Dick Christ

During the period 22-24 July, the Society for Applied Learning Technology held their first symposia and exhibition at the Sheraton Park Hotel in Washington. A tour of the exhibition area indicated that a coupling of mini-computers with educational hardware has produced the capability of providing educational strategies to accomplish almost any learning objective. Thus, a point in educational technology has been reached where hardware to support almost any educational approach is now available. The thing that is so unusual about this situation is that Industry has provided teaching tools that the educators have yet to find a use for.

DMS'ers, in recent weeks, have been laboring vigorously to unpack and emplace new audio-visual equipments as part of a general program to up-grade classroom facilities. While the replacement of such equipments as overhead projectors and television receivers is rather visible, a limited number of some specialized equipment items such as audio cassette recorders, filmstrip projectors and 2x2 projectors have also been procured. In an effort to make all DMS personnel aware of what is available in the area of instructional hardware and software, a multi-part Instructional Materials Catalog is being prepared. Part I, which lists all DMS video tapes, is presently available in Academic Department offices. Parts II and III, which inventory Programmed Instructional Texts and audio visual equipments, are presently on the drawing boards and should be available sometime in September.

As new materials are acquired thru in-house production and off-the-shelf purchases, the catalog will be periodically updated. Once fully prepared, the catalog will not only provide an inventory of where we are but should also provide some insight to where we want to go in the future.

For those of you who may have missed the 12 Mar 76 edition of the Contour, which introduced the "Instructor's Notebook" series, the purpose of the series is to provide instructors with professionally written articles in the field of education and training which relate to the training programs at DMS. It is gratifying to note that portions of the articles on Testing (21 May 76 and 4 Jun 76) are being incorporated into the planning of the DMS Academic Record System, and that Principles outlined in the Instructor Rating article (2 Jul 76) have application to a GAD problem. Additionally, several examples of the KODAK article (29 Apr 76) were in evidence at the exhibition described in the first paragraph above.

WHAT'S THE PRICE?

In the last two issues we have discussed the benefits available to ALL members of DMS through the Red Cross Blood Donor Program. In order to be eligible for this free "Blood Insurance" program, DMS must meet it's "Blood Collection Quota." This quota is computed based on the number of people assigned to a unit. People over age 66 or people who are medically unable to give are taken into consideration in computing the quota. For this reason, the unit donor coordinator must keep accurate records of assigned personnel concerning their eligibiii-ity to donate.

The "Blood Collection Quota" presently assigned to DMS is 57 units per year. This is a small price to pay for the protection the donor program affords, yet each year we have difficulty meeting this goal. As of the end of June, DMS personnel had donated 27 units. Over half the year is over and we are below our quota requirement for the half-year point.

There are over one hundred and ninety people assigned to DMS. Of that number, at least one hundred and fifty are eligible to donate. Additionally, any family member of DMS personnel can donate a unit of blood toward meeting the DMS quota requirement. That extends the number of potential donors available to us to a rather large number!

Consider the price, and then consider the protection benefits this program gives the DMS family if we meet our quota. The price is right. Make a commitment and make an appointment to donate on 19 August at the Recreation Center. Call extension 41247 today.

The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

MYSTERY PERSON

Look at this sharp soldier - the shiny brass, squared away cap and polished shoes. The unlined visage and important papers (which he was never without) would lead you to believe he was an admin NCO or senior enlisted member on the IG team inspecting WAC training. NOT SO! Under that meek exterior is a mind and heart as rotten as properly aged 'nuc nam." He is the archetype of the geodetic surveyor. You know the kind that insists on hanging pictures with a theodolite and, after making horizontal direction measurements carried to the hundreth of a second or arc, measures the height of his instrument with a six foot tape.

His past is officially recognized, since he is authorized to wear only three knots on his Good Conduct Medal and has 30 years of service. Previous assignments include the AMS (FAREAST), 29th and 30th Engineer Battalions and the 161st, 569th and 69th Engineer Companies. While in DMS, he added some of the most incomprehensible parts of such memorable best sellers as TM 5-235, Hydrographic Survey (1973 edition), cooperated so well with USAMERDC that they had to change their name (bankruptcy?), and received the Alabama Commendation Medal for locating the best Japanese American restaurants in Dothan and other services rendered. He is also entitled to wear the "Army of Occupation Medal." Present guesses as to which occupation include Mexico (with Pershing), Japan (with Dewey), and America (with Columbus).

As a last clue, this man, aided and abetted by the Chief Grand Master (or something like that) of the Fleas, held a garden party and escaped with his life. Until they arrived, his invited guests didn't realize that they were meant not to drink tea but to cut grass around Wheeler Hall.

ANSWER TO 30 JUL MYSTERY PERSON

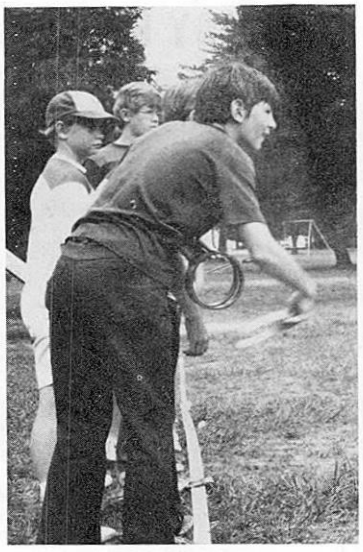
If you think this GI Joe is the same fellow who stops shaving on the Autumnal Equinox and touches not his face with a razor until spring, you are absolutely correct. You say you don't know anyone who does that? That's understandable I guess, considering as how, after Mr. "T", this fellow spends more time traveling than Wylie Coyote chasing the Road Runner. Mr. Suave is none other than Mr. Clay Kruck, that personable Mr. "Beard" in the winter and "Old Spice is nice" in the summer. By the way, for those in the know, astronomical was a give-away clue.

CHIEF AMEDY RETIRES

CMSGT Amedy retires on 31 July 1976 after serving over 27 years on Active Duty. Al has served in OAR as the Management Analysis Superintendent since September 1975. Al, through his vast experience and knowledge in the Management Analysis area, has contributed significantly to the administrative operation of the Defense Mapping School and his loss will be greatly felt, along with his pleasing personality and can-do attitude. Al plans to remain in the area and pursue a Civil Service position with the government in a few months. He and his wife Bonnie reside in Dale City. DMS wishes Al and Bonnie the best of luck, and a wealth of enjoyment in their retirement - God Speed.

CONGRATULATIONS

Miss Austa Marie Dean, winner of the NCO Dependant Scholarship Achievement Recognition Award, is the daughter of our SFC Bill Dean in Dept of Survey. She is shown here receiving a check for $500.00 from Mrs. Kathleen Johnson, wife of Fort Belvoir's Commanding General Major General James A. Johnson.



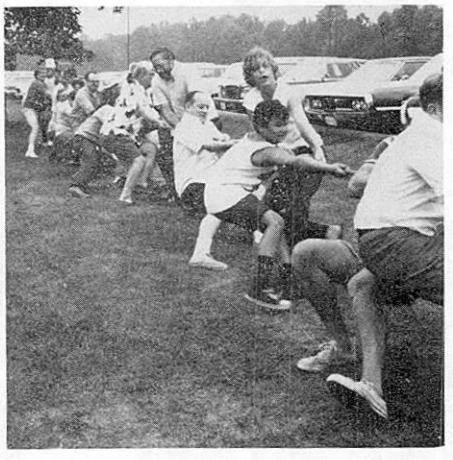
A ringer?

THE ANNUAL PICNIC - A GOOD TIME HAD BY ALL

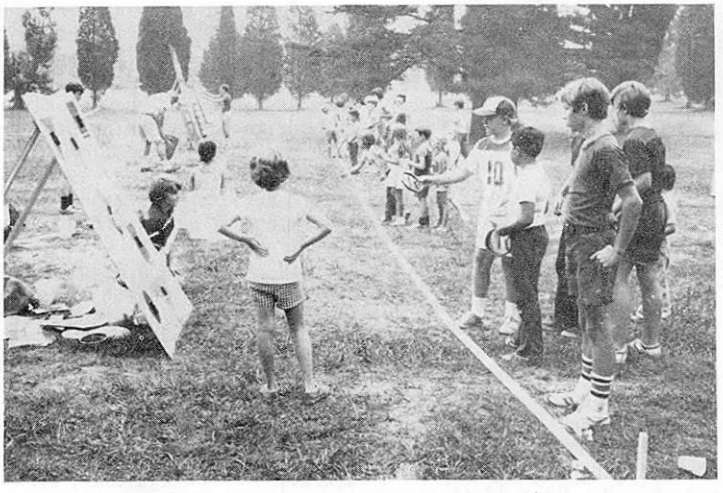
The DMS picnic was a howling success, as you can see from the pictures on this and the next page.

In our next issue, we will publish a picnic supplement to the CONTOUR. As these pictures show, adults and children alike enjoyed both food and activities.

Surely somebody's thirsty!



The losers

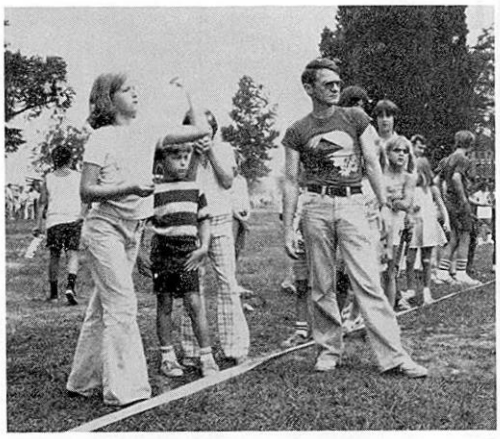


Step right up, a winner every time

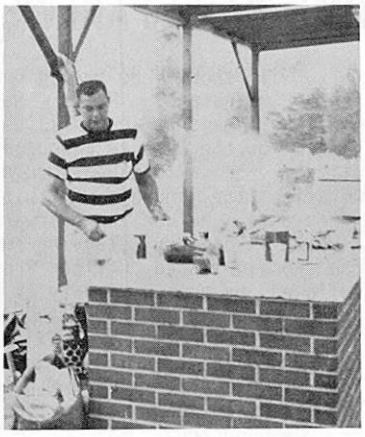
The winners

Chow time!

Allemande right!



Just pretend it's the Principal



Where the #@&*% did that hamburger go!

This is how we used to dance, kids

FOCUS ON CARTO

(Continued from page 1.)

getting input from the Navy - we don't know if that will be a growing trend. We welcome it, if it is.

CONTOUR: What are the prospects of applying D/Carto skills in the civilian job market?

Maj K: A lot of the students are excited about the prospects - not only from the military standpoint, but from civilian application for both cartographic skills and construction drafting. Many good job prospects open up for people with this training, both in government agencies and private industry.

CONTOUR: D/Carto has had MTTs - what places do you go?

Maj K: We don't seem to "MTT" as much as D/Survey and GAD, but I'd say we average between 1 and 1½ trips a month. Our main customers being the 663d in California and the 1203d in Alabama. This is just in cartography - we are looking into the construction drafting opportunities as well.

CONTOUR: How do you perceive the military/civilian interface within D/Carto. What are the types of problems and how do you handle them?

Maj K: The interface is really quite smooth - I'm especially impressed with the fine working rapport between the civilians and military in D/Carto since we have such a large civilian workforce. Actually, any problems we do have come more from mis-communications than from personality conflicts. Mis-communications appear to occur more often between the staff and departments than within the department itself. The blame, of course, does not rest only with the staff. The big challenge in overcoming this mis-communication, not only for managers but for everyone, seems to be the ability to "take it on the chin" once in awhile. There are opportunities for the staff or department, for instance to pick up a potentially irritating point and make hay with it, but if they exercise self-discipline - in other words "drop it" - they are contributing to better human relations at DMS. As for what we do to foster better relationships within our department - we have a monthly meeting where I talk to the Carto folks and they are free to ask questions, especially if they have a beef. Also we have the Human Relations Luncheons (ED NOTE: D/Carto Human Relations Program is thought by many to be the best in the School.) They have been very productive. I was skeptical at first I thought we would just sit around and have lunch and talk, not really learning anything - but that has not happened. The program has helped to foster good working relationships between our people. For example, we took people from different sections and formed working committees to put on each luncheon. We made sure that "iron-fisted" managers were not at the head of the committees, but we did put strong people in charge of them who would be able to resist the temptation of deferring to the boss - saying "well what do you think sir, etc. As a result of the luncheons, I've learned a lot about different countries and people. I know that many others have, also. There is a problem area that is always important for us to tackle, that is the management of the work-force in a teaching environment. Within the Department you'll have people over here working hard while people over there have slack time, because one group has classes in session and the other doesn't. There's a challenge, organizationally speaking, to balance the labor force, so that all of Carto's people share the workload. We are trying to push the "team" concept in Carto, even to the point of having the Department and Division Chiefs come out of their offices and serve as assistant instructors, when the occasion calls for it. You can't always expect an instructor to say "Hey Boss, I need help." The managers have to show that thay will come out of their offices and give that help. If we can consistently apply this team concept it will help the mission and morale at the same time.

BASIC BASIC

by Jay McClatchey

Pell's Equation (heretofore known only by Dr. Pell and Maj Herring), geodetic coordinate conversions, bubble parts and random number generator problems all were attacked by a small (but fast!) group of DMS'ers during the premiere Wednesday Afternoon Basic Basic Instruction Techniques course (WABBIT?). The fast early pace of the course, designed to allow DMS staff and faculty to effectively use our Wang 2200 calculator, winnowed the initial group until only five "experts" remained. MAJ's Jack Herring and Jay McClatchey (with a welcome assist from Doug Wilcox) covered Fundamentals of BASIC Tape and Disk Operations, Utilities and Programming Techniques. Assuming all students - SFC Bill Dean, CPT Jim Hey, Mr. Bob Jones, SSG Arnold Lagerquist and Mr. Bill Revell - successfully completed the course, they become eligible to attend the Penultimate Utility Digital Demonstration for Yeoman Teachers and Tutors (PUDDYTAT).

If a certain LTC would have gone into television....

Was that Barry Zevan the weatherman in the MC&GOC classroom talking about Least Squares? Some of the students who had seen Mr. Zevan's weather news on Channel 7 almost did a double take when LTC Sprinsky entered the classroom as a guest speaker for the class. There are striking physical similarities between the two men. They certainly must go to the same barber as their hair styles are almost identical.

Since the Mapping and Charting Division has introduced video tape recording into its training program, LTS Sprinsky's continuance as a future guest speaker is somewhat in doubt. The primary reason for this is that the light controlling features of the present TV equipment are not sufficient to reduce the glare and/or severe reflection of light rays from LTC Sprinsky's head. When playing back one of his presentations, it appeared that the sun was being video taped (or was it his dazzling command of least squares solutions?).

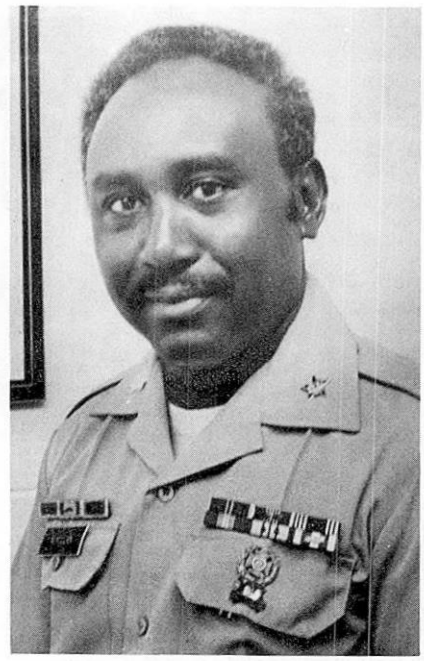
The Mapping and Charting Division was considering having the JTD changed to drop one instructor and add one make-up man. This idea was dropped though, as Ms. Burke was not amenable to ordering a make-up kit. In the meantime, MCD will accept donations of old toupees that will be made available to guest speakers on an "as required" basis.

LOST AT DMS PICNIC

One pair NBA sneakers — white with blue stripes, size 1 — if found contact John Houchins — PPO

DMS SAYS FAREWELL

TSD will shortly be losing one of it's mainstays, Major Wesley McMillan. Major Mac will be assigned to the Defense Language Institute for a one year course in Amharic, the language of Ethiopia. After this, he can look forward to a year in-country studying under the Foreign Area Officer Program followed by a tour of duty at West Point teaching geography and earth science. While at DMS, Major Mac has served in a variety of capacities in TSD, including a 6 month stint as Chief, EIB, as Instructor, Geology-Geography, as Course Manager, Terrain Analysis Course and most recently, Senior Instructor, Geodesy. In addition to these functions he has taught in the various courses conducted by DMS in support of the Engineer School and the various reserve units. He is also an inventor of sorts, but on a grander scale than most. He has tried to duplicate the geomorphic process that have occurred over the earth's surface in the last one billion years in 35 minutes. For those few who do not know it, he is of the Fluvial Geomorphological School of Geographic thought. For the unitiatiated, this school feels that there is an initial uplift of the land and a consequent working down by the various forces of erosion. It can be identified by various stages which exhibit certain characteristics. These stages are known as Youth, Maturity, and Old Age. To make a long story short, Major Mac decided to demonstrate this in class. He designed a three sectioned wooden box for the various type soils, had it built at the proper angle to insure adequate runoff, and had Doug Sexton tap a drinking fountain for a water supply. The box is now idly sitting in the corner of Wheeler Hall looking not at all like the Fluvial Geomorpholigical Process Demonstrator for which it was intended. There seemed to be a minor problem regarding scaling down soil particles, water, time. After much mud and effort, Major Mac came to the conclusion that you cannot make a Mississippi out of a drinking fountain and you can't form the Great Plain out of a truckload of dirt from Dogue Creek. Some of his other accomplishments include 2000 hours of crossword puzzles. This will undoubtably help him at DLI in deciphering anything he may have to in the field. It may also help him pass the time if he is captured by Eritrean rebles. Other potentially useful duties have included riding



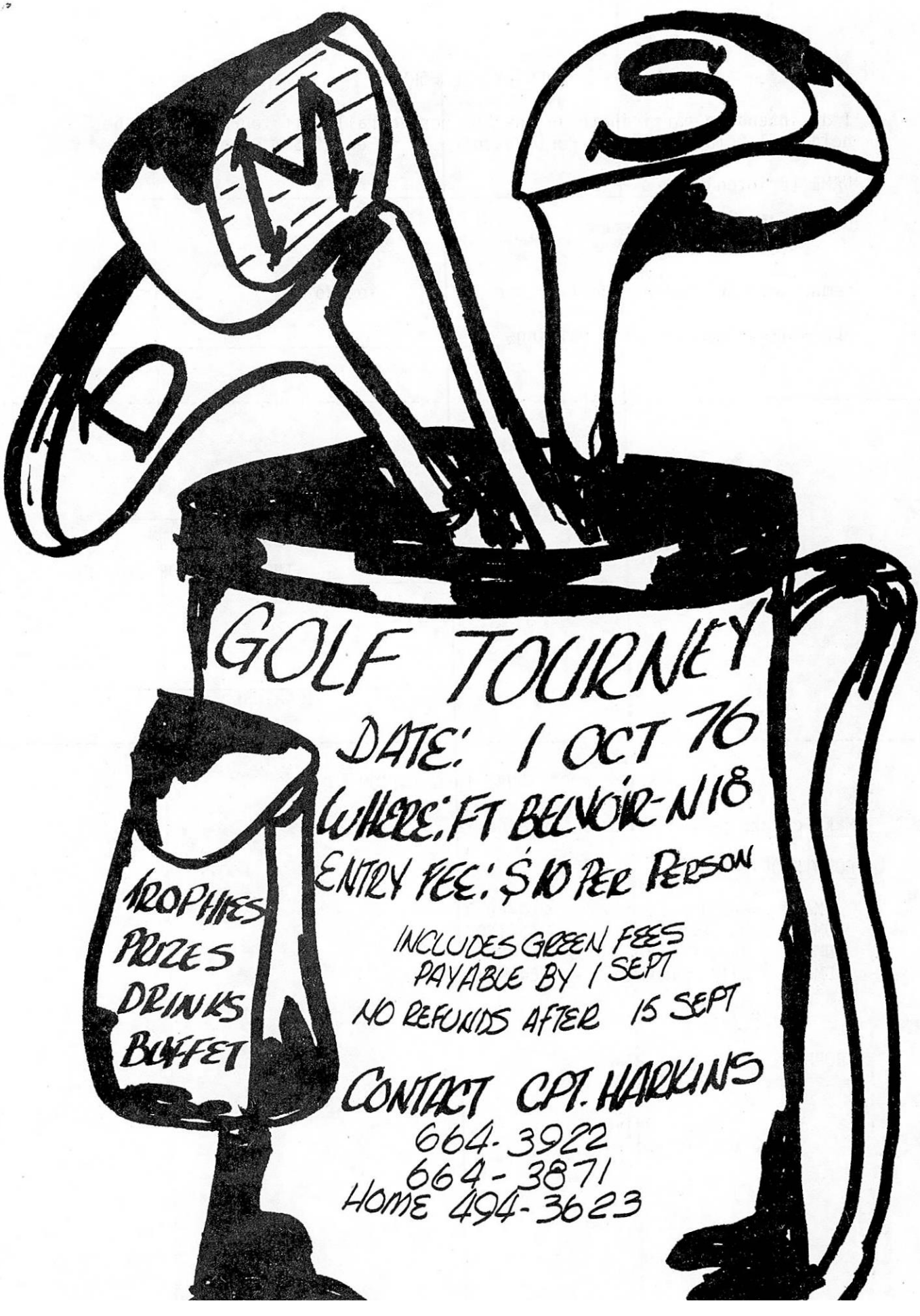
herd on Doug Sexton. After dealing with this individual you would not have to worry about hostile natives or wild animals.

Major McMillan, his wife Alma, son, Jamie, and cat Kitsy will be residing at 6320 Merle Place, Alexandria. He has extended an invitation to all to come visit him during the next year. We, at TSD, wish to extend to Major Mac, his family, and the Ethiopian government the best of luck in the next few years.

THANKS FANS

(Continued from page 1.)

No team or coach could ask for more. I was always so thankful to look into the stands and see friendly and happy people. These fans gave the team their love and by this they encouraged them to play harder. However on our last night they went that extra mile which always stuns others. Betsy Harkins had an acquaintance of hers make a momento which was presented to me. For one of the few times in my life I was stuck speechless when handed a cute crotcheted DMS softball player doll. What can anyone say when fans are so generous with their love. The DMS softball doll will be in my office for all to see and if the good Lord is willing I'll see that it comes to every game next year. Thanks to Betsy for her thoughtfulness and to each of our loyal fans. We plan to be in the play-offs next year to give you a reward for your loyalty. Love you all!


GOLF TOURNEY
DATE: 1 OCT 76
WHERE: FT BELVOIR-N18
ENTRY FEE: $10 PER PERSON
INCLUDES GREEN FEES
PAYABLE BY 1 SEPT
NO REFUNDS AFTER 15 SEPT
TROPHIES
PRIZES
DRINKS
BUFFET
CONTACT CPT. HARKINS
664-3922
664-3871
HOME 494-3623

ENTRY FEE FORM

I do intend to participate in the DMS hosted Fall Golf Tournament to be held on 1 October 1976 at Fort Belvoir, VA. Fee of $10.00 enclosed.

NAME (Printed)_____

Officer/Civilian/Enlisted
(CIRCLE ONE)

Member of Fort Belvoir Golf Course Yes/No

Approximate handicap for pairings_____

RECEIPT

_____
(DATE)

RECEIVED FROM _____ THE AMOUNT OF $10.00

_____
SIGNATURE

ADDITIONAL INFORMATION

Make checks payable to Ms. Carla Davis.

POINTS OF CONTACT

DMA	Charlie Lesley	- 254-4013
DMAHC	Don Peterson	- 763-1600
DMATC	Tony Grande	- 227-2064
DMS	Billie Harkins	- 664-3972

PRIZES

TROPHIES: 1st, 2nd Place
(Ea Class)

Longest Drive
Closest to Pin

CONTOUR

VOLUME 3 NO. 13 DEFENSE MAPPING SCHOOL 27 AUGUST 1976

WARRANT OFFICER'S WINNEBAGO SAVES PICNIC

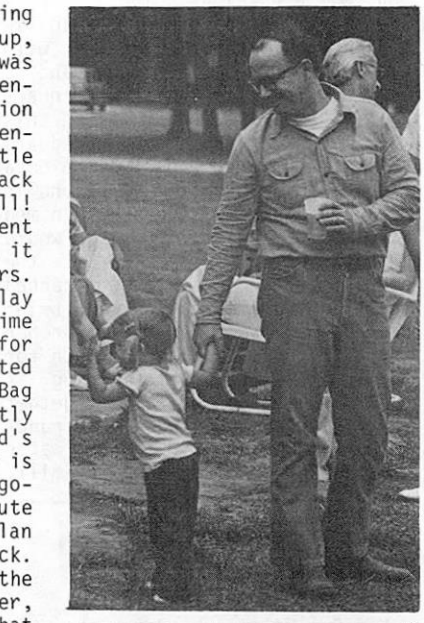
Photography by Dick Sobel (GAD) and Luke Lucas (D/Carto)

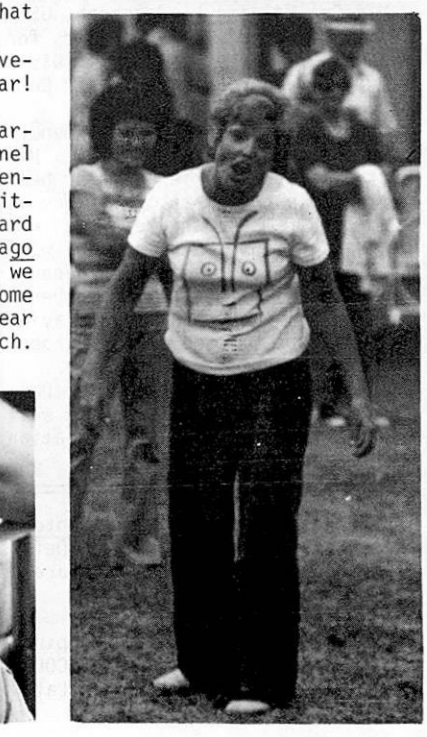
Everything seemed to be going smooth. All the games were set up, the beer was cold, the food was cooking, and LTC "Sparky" was engaged in a stimulating conversation about Least Squares. "Russ" Cavender was all set to do the "hustle and bump" as he saw the band unpack its electric guitars. All was Well!

Zap, the electrical power went off and, to Gene Crew's dismay, it was to stay off for four hours. The band was contracted to play from 1:00 to 4:00 p.m. and the time was 1:00 p.m. This called for emergency action. Gene interrupted Maj Kinnan's action at the Bean Bag Toss, breaking the news as gently as possible: "Sir, the band's ready to play, the electricity is off for four hours, and $200 is going down the tube!" Being astute managers, they immediately put Plan A into effect: Pass the Buck. Colonel Wintz was going to call the 30th, 11th, Facilities Engineer, Chief of Staff — anybody that could get a generator.

Wait! Look — out on the driveway. It's a truck!... It's a car! ... It's a Winnebago!

"Max" Maxwell (leave it to a Warrant Officer to bale the Colonel out) volunteers his Winnebago generator to get those electric guitars twanging! Now ... we've heard of VEPCO and PEPCO, but Winnebago power? Toooo much! Chief -- we thank you. You saved the day. Some wonderful people were able to hear the funky music they enjoy so much. — ALL POWER TO THE WINNEBAGO!





from the DIRECTOR

Have you ever noticed that most endeavors can be divided into two general categories by a relatively simple test? The categories may be kind of meaningless, but the distinction and definition is striking. The test is simple: Just observe your own reaction when someone asks you, "How are things going at work?" The first kind of occupation is goal or mission oriented with clearly defined milestones, and it is easy to respond to the query with a "good" or "bad." I had this kind of job during undergraduate college summers, when I oiled on a trenching machine for an alcoholic but good-hearted operator named Harold. My daily routine would consist of a series of runs to the nearest grocery store for canned tomato juice alternating with brief periods of running the trencher when the noise became too much for Harold. One memorable morning, as Harold gathered himself together under a tree, I struck and punctured an uncharted 400 p.s.i. water line which serviced a nearby mill. Tremendous chaos; in five minutes we had a ten foot deep lake, several half-drowned welders, a sober Harold, and a stuck trencher. "How are things going at work?" Easy to answer.

DMS is the other kind of activity. When asked, "How are things at DMS?" I always, always have to pause. Two options are open. The first consists of putting the arm out in the hand-shaking position and rotating the hand at the elbow while emitting an upper-register "Ehh!" (This is known as the Radu Response.) The second option is to enter into a litany with verses for DMIS reporting and student input and heat at Wheeler Hall and TSS and new people and departing people and average grade and platform manhours and area police and attrition rates and course contents and the POI format and staff versus faculty and computer/calculators and refurbishing the conference room and Center Team and Program Summaries and floppy disks and floppy desks and the Property Book and POM and position classifications and completed staff action and alcohol dampening and MTT's and DARCOM not AMC and doctrine support and EPMS and job task summaries and rotation matrices and Think Purple and so on.

"How are things going at DMS?" Pause. Pause. Pause. Not bad, really.

MAJ GEN JACOBSON DEPARTS DMA

Maj Gen Hilding L. Jacobson, USAF, Deputy Director, DMA, departs for his new assignment as the Air Division Commander, Strategic Air Command in Guam.

General Jacobson became Deputy Director, DMA, on 10 Oct 74. His past military experience has been well affiliated with SAC. We, at DMS, wish him all the best on his new assignment and know he will thoroughly enjoy it. General Jacobson will be well remembered here for his notorious golf playing and will be missed at our October Golf Tournament.

Colonel Wintz, in behalf of DMS, presented the General with the well known bench mark for self-location in the future.

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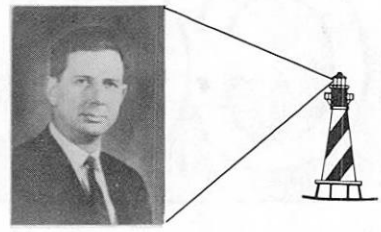
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

From The Lighthouse



July was a very busy but enjoyable month. As you read in an earlier issue of the Contour, COL Wintz and I visited the British Mapping and Charting Establishment and the British School of Military Survey. I was particularly impressed with the academic level of their courses. Their major course is 14 months of intense technical education coupled with considerable hands-on training in instrumentation. They also have a complete library dedicated to containing MC&G information for both their instructors and students. The British concept for writing technical manuals seems unique. Instructors are assigned subject matter handouts to write, and after the handouts are tried in the classroom, the managing editor integrates them into a technical manual which is the basis for a published manual. The stay in England slipped by so quickly that a glimpse of Buckingham Palace and Windsor Castle was about all we had time to catch before COL Wintz was on his way back, and I departed for the International Congress of Photogrammetry in Helsinki, Finland. I arrived in Helsinki on Sunday, 11 July. The Congress was held at the Technical University of Helsinki, a beautiful modern campus at the edge of the City, by the sea. The hotel I stayed in was called Dipoli, a student dormitory converted to a summer hotel for such occasions. Dr. Kael Lofstrom, Congress Director and his staff did a terrific job of organizing the meeting. There were around 1,500 registrants the last time I checked. Most countries were represented, and the speakers' presentations were simultaneously translated to English, French and German. The book of abstracts are available in my office for anyone to review. I mailed several Technical papers to DMS, but they haven't arrived yet.

It was most interesting to note that the photogrammetric world is definitely trending toward digital methods. Digital image processing, both for radiometric and geometric corrections, was a frequent subject. Self-calibration received consider-

(Continued on page 4.)

MAJ GEN JAMES A. YOUNG, NEW DEPUTY DIRECTOR OF DMA

Welcome aboard to Maj Gen Young who arrived at DMA on 13 August. Before arriving at DMA he had been Commander of the 25th North American Air Defense Command/Continental Air Defense Command (NORAD/CONARD) Region with headquarters at McChord Air Force Base, Washington.

General Young enlisted in the United States Army in 1945, and was commissioned a Second Lieutenant upon completion of Officer Candidate School in January 1946. He served with the Infantry in Korea until February 1948, when he returned to the United States for parachute training. He made 41 jumps with the 82d Airborne Division, qualifying as a senior parachutist.

In July 1950 General Young transferred to the U.S. Air Force, returning to Korea as a P-51 pilot to fly 34 combat missions there. While flying a P-51 on a maintenance test flight in Korea, he encountered uncontrollable flight conditions and crashed while attempting a landing. As a result of injuries received, he required 40 months hospitalization which included 58 major operations.

In 1956 General Young became an F-100 pilot, serving in France and England from 1957 to 1961.

General Young was assigned in October 1965 as Operations Officer for the 33d Tactical Fighter Squadron at McConnell Air Force Base, Kansas, and flew F-105s. In December the squadron was transferred to Takhli Royal Thai Air Force Base, Thailand, where in January 1966 he assumed command of the 333d Squadron.

While at Takhli, he flew 100 combat missions over North Vietnam. In April 1966 he led the first raid on the Thai Nguyen railroad yards, and was one of the leaders on the first strike made against the Hanoi petroleum, oil and lubricant complexes.

After graduation from the Air War College in 1969, General Young was Director of Operations Plans in the Pacific Air Force Headquarters, Hickam Air Force Base, Hawaii.

From there he returned to Southeast Asia (SEA) in April 1971 as Vice Commander, 8th Tactical Fighter Wing, Ubon Royal Thai Air Force Base, Thailand. In May of that year he became Commander, 8th Tactical Fighter Wing, completing his second SEA tour of duty with an additional 105 combat missions.

General Young has held staff and operational assignments at Langley, Seymour Johnson, and McConnell AFBs and was Commander of the 562d Tactical Fighter Squadron and later Assistant Director, Operations, 23d Tactical Fighter Wing at McConnell.

His military decorations and awards include the Silver Star with Oak Leaf Cluster, Legion of Merit, Distinguished Flying Cross with Oak Leaf Cluster, Meritorious Service Medal, Air Medal with 15 Oak Leaf Clusters, Air Force Commendation Medal with Oak Leaf Cluster, and the Distinguished Unit Citation Emblem. He was promoted to the rank of Major General in September 1974.

General Young is a native of Marion, Conn. He is married to the former Marian L. (Lani) Carros of Atlanta, Ga. They have four children: James, Stephen, Richard and Phyllis.

ANSWER TO 13 AUG MYSTERY PERSON

Why of course (coarse), it's that nice (gneiss) Mr. Takaki of Survey Department.

GOLF ANYONE?

Some time ago, Ron Olson, the DMS all-pro golfer decided to cause some interest, among his fellow workers, in the game of golf. With a little persuasive talk and a coaxing (sometimes sneaky) manner, he started the warm blood flowing throughout GAD.

Each Wednesday afternoon for the next several weeks, a crowd from GAD arrived at the South 9. Dressed in some crazy looking outfits, and carrying the best golf equipment that could be begged, borrowed or stolen, all attending listened to Ron's instruction and were eager to begin the fabulous game of golf.

Remembering that some of these people had never held a golf club before did not disturb Ron, he sent them on their way - now, imagine a group of field hands, hoeing corn or cotton - laughing, cursing and singing, with open shirts, straw hats, dark glasses and some bare feet, well this crew looked very similar to that.

Now most of the interest is lost (some of the equipment too). The course is still in bad need of repair and the Club Manager is still in a state of shock. Yesterday word was put out to take up a collection for professional golf lessons for Ron. Oh, by the way, he is no longer the all-pro, in fact we are not sure if lessons will help at all.

SLEEP WELL - YOUR GUARD IS AWAKE!

by Will Freeze

This caption is a paraphrased slogan sometimes used by National Guard recruiters. The connotation is apropos. It suggests the country has little to fear because its Guardsmen are alert and prepared to cope with any crisis that might occur. In times such as these, when the appropriations are being pared down and the Defense budget is being cut back, there is always a substantial reduction in the size of the active Army requirements. A greater portion of our country's security is placed in the hands of our reserve units and state militia. It is imperative that these units train rigorously and maintain their proficiency in order to perform their missions.

Our MTT program devotes a great deal of time and energy to support these training requirements. These efforts become increasingly acute during the summer months when the civilian soldiers leave their regular jobs to attend summer camp. They are eager to learn and enthusiastically bent on improving their capabilities to perform their military missions. They turn to our professional staff for assistance and we respond with a potpourri of information on mapping, charting and geodetic skills. It is a rewarding experience for everyone concerned; our civilian counterparts are eager to learn and we are more than willing to serve their needs. It is a perfect example of the American way.

MC&G training is our forte, but there are related disciplines that also receive our support. One of these endeavors is provided by the training instructors of the Construction Survey Division. They become involved with engineering units actively engaged in construction projects. For example: this summer the entire staff participated in the training of the survey personnel in the 225th Engineer Group (Construction) of the Louisiana National Guard.

Throughout the month of July, members of the Construction Survey Staff shuttled to and from Camp Beauregard, Louisiana. At least one or two instructors attended camp with each of the Engineer Battalions (Construction) of the 225th Engineer Group. Their mission was to train the survey personnel to operate the Wild T-16 Theodolite which they had never used because it was a new piece of equipment they had recently acquired. The instructors taught the survey parties to use the new instrument, without hindering the progress of the unit's AT, by going into the field and providing the instruction as work continued on the construction projects.

This assignment was varied and most unusual for those of us here at DMS who are more familiar with topographic assignments. Roadways were surveyed, centerlines were staked out, and slope and grade stakes provided; storage compounds and bridges were constructed with every piece of heavy equipment being utilized to peak efficiency. Among this hustle and bustle of heavy equipment, the surveyors performed their mission, provided the control necessary to complete the tasks, and did it with the new equipment they had never used prior to coming to Camp. It was a fruitful summer at Camp Beauregard and it was a job well done.

After one sees the MTT system in action and comes to know the dedicated people who make up our civilian militia, it can truly be said: "Sleep well America, your National Guard is awake."

FROM THE LIGHTHOUSE

(Continued from page 2.)

able attention as Duane Brown reported on the subject of modeling errors during the triangulation process. Several countries reported on using LANDSAT multi-spectral scanner imagery for small scale mapping. There was considerable interest in LANDSAT from several countries. The general attitude remains that LANDSAT imagery can only be used for map scales of 1:250,000 and smaller. There is much interest in LANDSAT C, which will provide a pixel size of 40 meters rather than the current 79 meters for LANDSAT 1 and 2.

The exhibit hall was a popular place, also. Mini-computers, digitizing systems, full station surveying instruments and a host of new analytical plotters kept us all interested. Since DMS is interested in analytical plotters for the Topographic Support System, I spent a good bit of time looking them over. There were six commercially available plotters on display. Manufacturers were: Instronics, Anaplot; Matra, Traster 77; OMI, AP/C-4; Zeiss, Planicomp C100; Carl Zeiss Jena, Stereodicomat; and Galeleio. The significant thing about the new plotters is the conversational mode to guide the operator through each procedure to set up the model. Mini-computers such as Digital Equipment Corporation's PDP line, Hewlett Packard, and Data General's NOVA mini-computers are popular worldwide. This means that service is also available.

The social events were even more fantastic. The Helsinki reception, the Exhibitor's party, the President's banquet, the boat cruise, and the folk festival were a few of the very enjoyable social occasions.

For the 1976-80 period, M. Jean Cruset of France was elected President of ISP. Our own Dr. Fred Doyle of the USGS was elected Secretary General. Technical Commission III, Mathematical Analysis of Data will be headed by the USSR for the coming four years. Poland retained the Commission VI for Education.

I could go on and on about the informative sessions, exhibits, and best of all the opportunity to see old friends and make new ones. Finland is a beautiful country, and I enjoyed the trip tremendously, but it is also a great experience to return to the good ole U.S.A.

Conserve People - Harvest Your Natural Resource

Blood, which the heart pumps rapidly round and round the body through miles of blood vessels, does many things to keep us alive and healthy. It carries the necessities of life - oxygen, water, and food - to all the cells of the body.

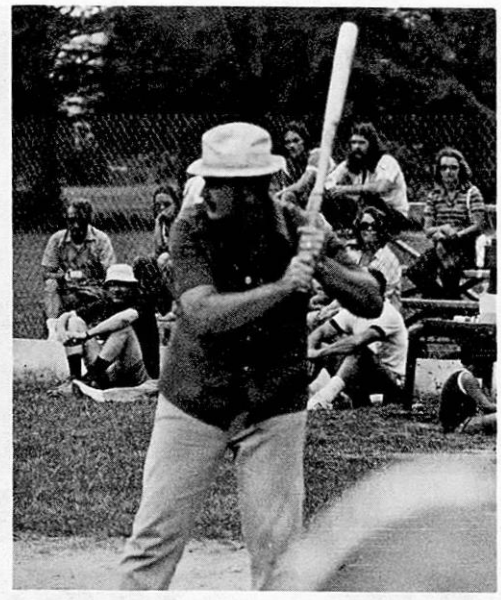
Blood helps the cells of the body to breathe by bringing them oxygen from the lungs and by taking carbon dioxide from the cells back to the lungs, where it is expelled.

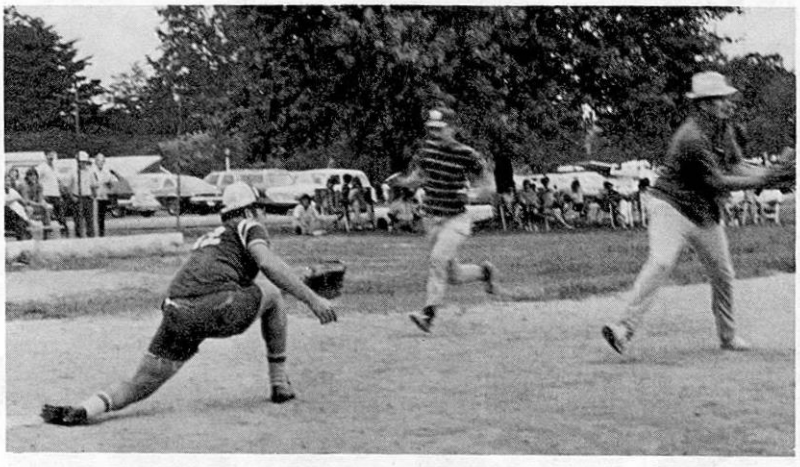
It carries absorbed food from the intestines to the cells and carries waste products to places where they can be removed from the body.

It also furnishes water to the tissue cells. It distributes heat produced by the working muscles; and because of its water content and mobility, blood serves as a temperature regulator for the body.

In addition to all these jobs, blood, by the action of its white cells, antibodies, and certain complex chemical substances, serves as a constant bodyguard against infections and other diseases.

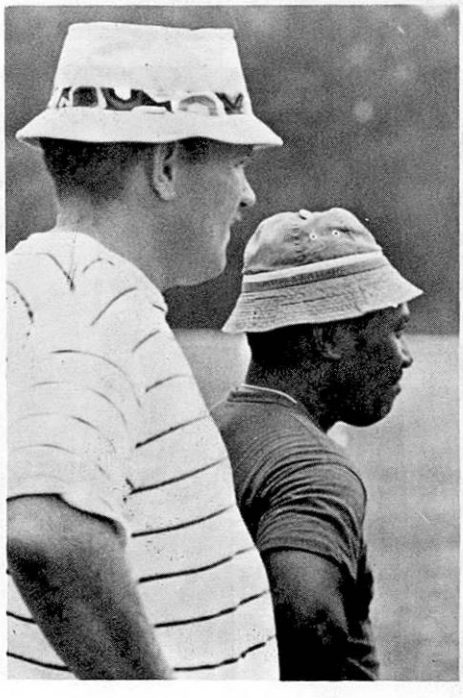
Blood does these things for us in its normal course through our bodies. Share this precious resource with someone in need. Plan to make a blood donation to the American Red Cross - DeWitt Army Hospital Blood Program soon. The next collection day is 2 September at the Recreation Center. Make a note on your calendar TODAY.

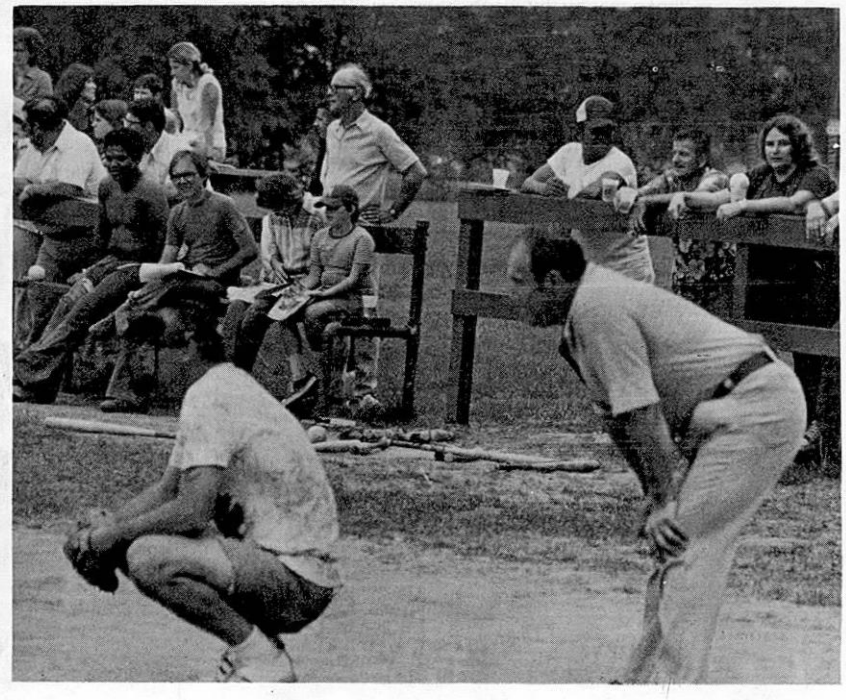


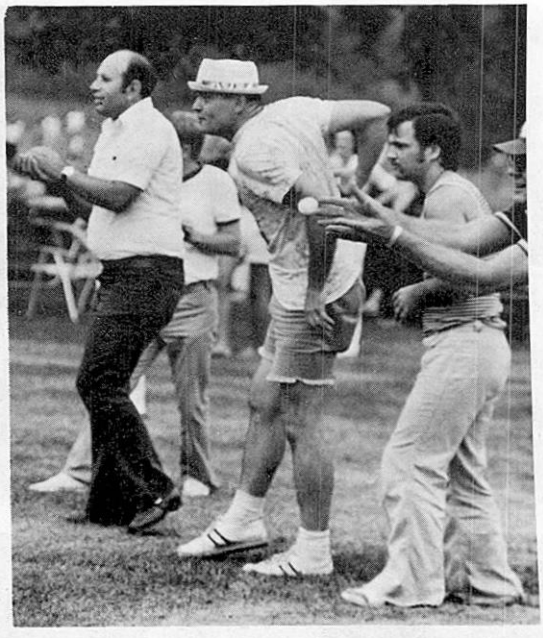


PICNIC SCENES

THE ANNUAL TRADITION — OFFICER vs ENLISTED SOFTBALL GAME







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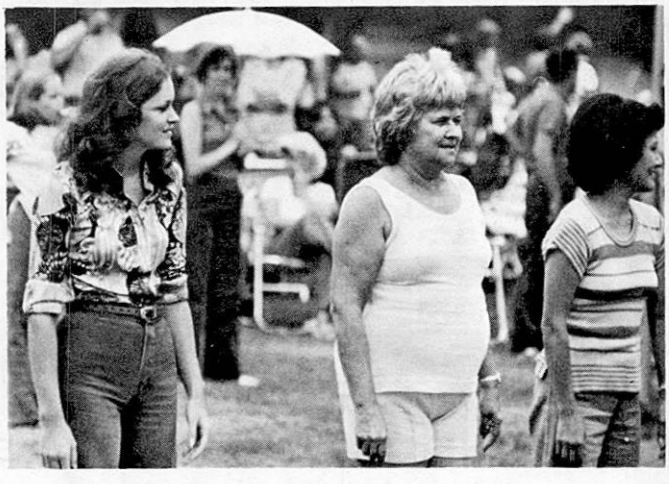
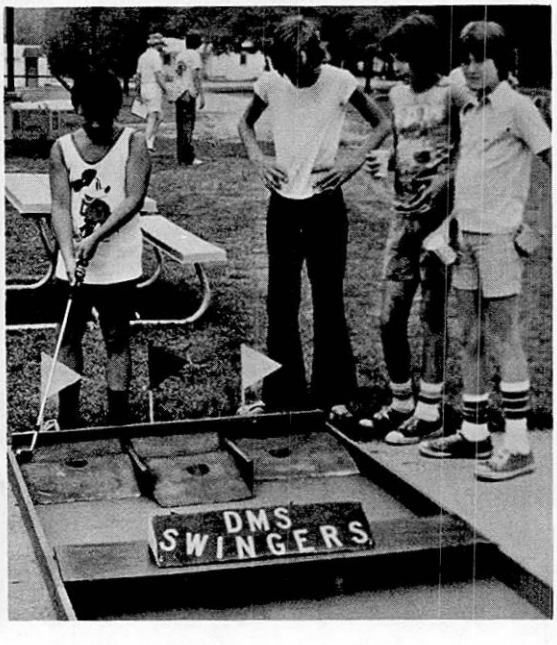


Photography by Dick Sobel (GAD) and
Luke Lucas (D/Carto)



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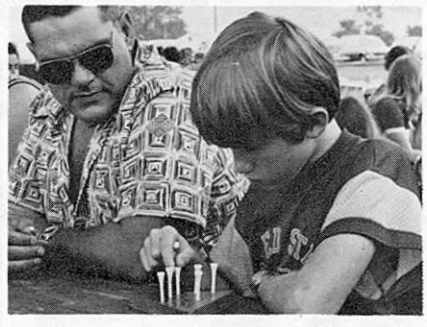
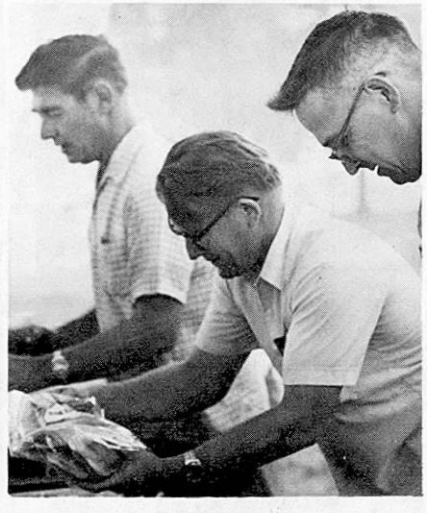
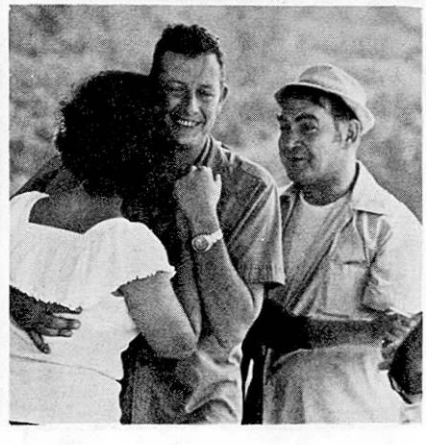
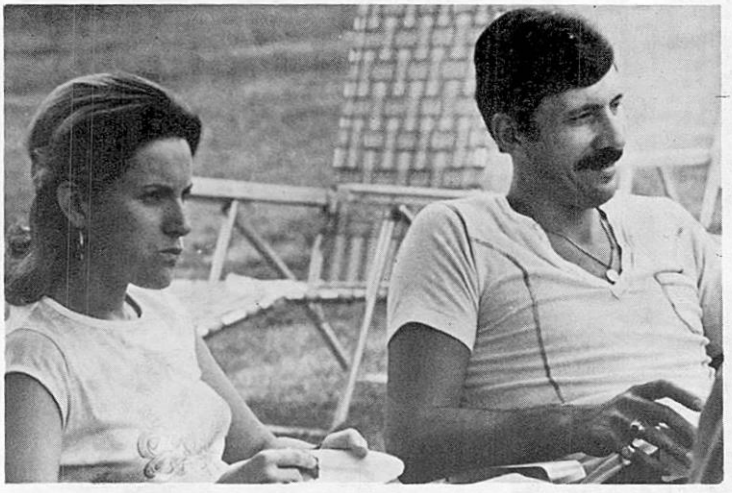
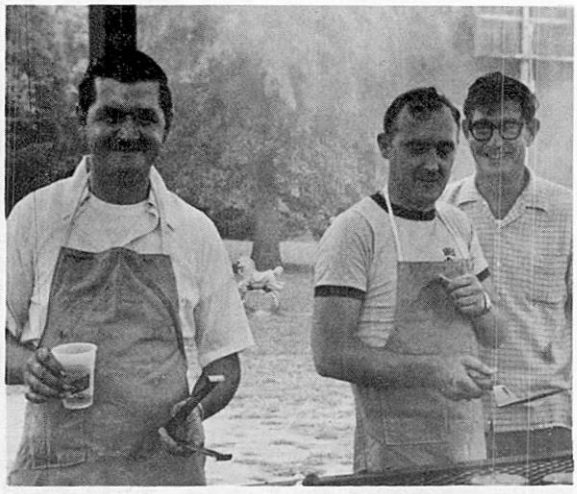
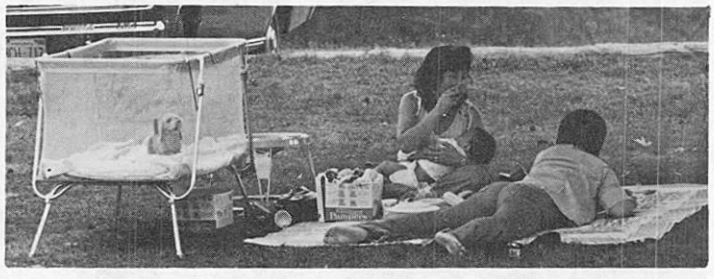


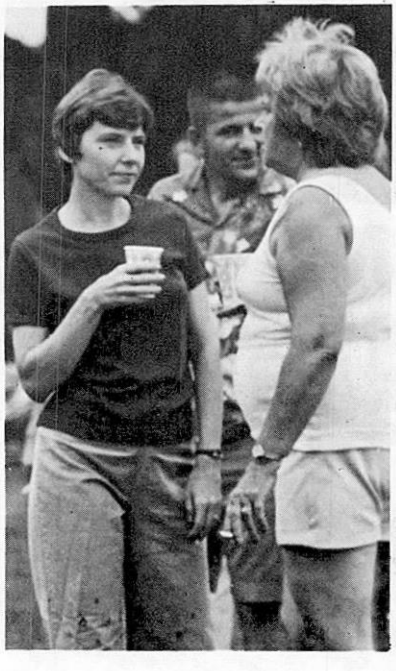










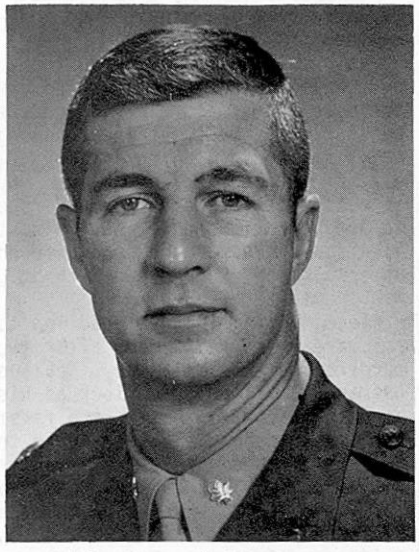


THE END

CONTOUR

VOLUME 3 NO. 14 | DEFENSE MAPPING SCHOOL | 10 SEPTEMBER 1976

LtCol Paul E. Westphal, Jr., New DMS Deputy Director



On 16 August DMS welcomed aboard Lt Col Paul E. Westphal Jr., our new Deputy Director.

Lt Col Westphal was born in Hampton, Virginia on 18 April 1936. Raised in the Hampton area, he graduated from Fork Union Military Academy, Fork Union, Virginia in 1954. He received his Bachelor of Science Degree from the U.S. Naval Academy and was commissioned in the United States Marine Corps in 1958.

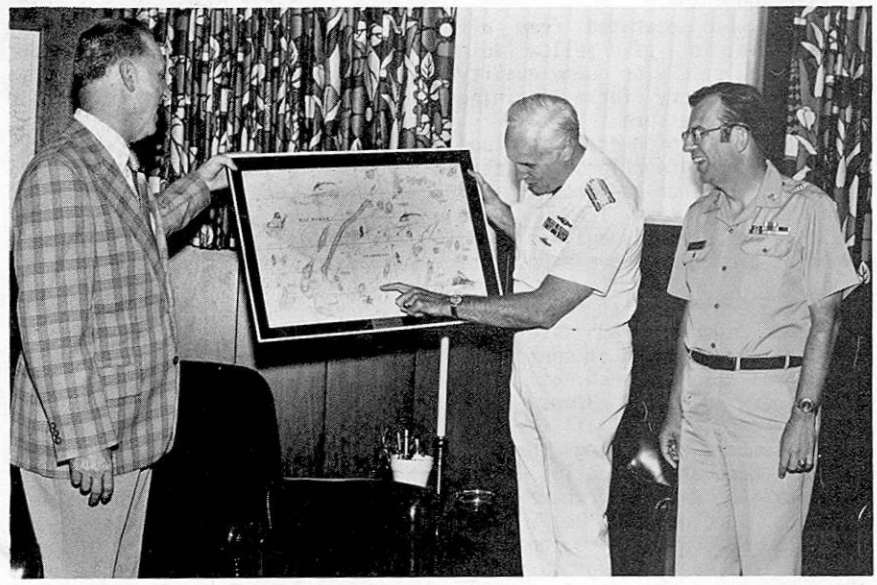
Upon completion of the Basic School at Quantico in 1959, Lt Col Westphal was assigned to Engineer Maintenance Company, 2d Force Service Regiment, Camp Lejeune, NC, where he held various company staff positions culminating in command of the Company in 1961. Subsequently assigned to Marine Barracks, Pearl Harbor, Hawaii, he was Asst OIC of the Rifle Range and OIC of the Marine Security Detachment, Naval Communications Station, Honolulu and Fleet Operations Control Center, Pacific. In 1965, he was assigned to the 3d Marine Division as a Staff Officer and then Command of "B" Company, 3d Engineer Bn with the 4th Marines in Chulai and Phubai, RVN. Upon return to the States, he was the Engineer Officer in the Marine Corps Maintenance Systems Office at Quantico. Returning to Vietnam in 1969, he was Asst Division Engineer, 3d Marine Division and Executive Officer, 11th Engineer Bn. Subsequent tours include Marine Officer Instructor, Naval ROTC Unit, Illinois Institute of Technology, Chicago and Head, Real Property Maintenance Activities Section, Installations and Logistics Department, HQ U.S. Marine Corps prior to assumption of his present position, Deputy Director, Defense Mapping School on 16 August 1976.

Lt Col Westphal's personal decorations include the Bronze Star Medal with Combat "V" and Gold Star in lieu of Second Award, Combat Action Ribbon and Presidential Unit Citation.

He received his Master's Degree in International Affairs from the George Washington University and has completed other graduate work in Management at GWU. He graduated from the Naval War College, College of Command and Staff in 1971.

Lt Col Westphal lives with his wife, Jane, and three sons in Burke, Virginia.

AN UNDERWATER MOUNTAIN BEARS HIS NAME



Cramer Seamount, named for Vice Admiral Shannon D. Cramer, Jr., Director of the Defense Mapping Agency, is located in the Pacific and rises 13,000 feet from the ocean bed to within 4500 feet of the ocean surface. The name was recommended to the United States Board on Geographic Names by the Board's Advisory Committee on Undersea Features and was approved by the Board and by the Honorable Thomas S. Kleppe, Secretary of the Interior. A personalized chart showing Cramer Seamount, 24°06'N, 164°13'E, was given the Admiral by Colonel William R. Cordova, DMATC Director, and Frank Nicoletti who heads the Center's Department of Technical Services on the occasion of the DMA Director's visit to DMATC 30 July.

from the DIRECTOR

COL Wintz is on leave. His column will resume when he returns.

TEAMWORK'S A MUST

If you take a look through a microscope, you can easily see that blood contains cells suspended in a liquid. There are three types of cells; two we are familiar with: red cells and white cells, and one other type called PLATELETS. These cells comprise about 45 percent of the blood. The remaining liquid portion is the PLASMA, about nine-tenths of which is water.

Red cells look like little red discs or saucers with pale centers. All the red cells are normally about the same size.

White cells are ordinarily larger than red cells. They have well formed centers, or nuclei. The centers are the essential part of white cells.

Platelets are colorless cells with no nuclei. They vary greatly in size and shape.

Plasma, when separated from all these cells, is a pale yellow fluid it has a sticky or gummy quality that is necessary for maintaining normal blood pressure.

Each of the components of blood have individual functions, but they also work together as a coordinated team. Without that TEAMWORK, we would be defenseless against many types of bacteria we are exposed to daily.

The Red Cross- DeWitt Army Hospital Blood Donor Program must also rely on the TEAMWORK of contributing organizations such as DMS. With our help, the Blood Donor Program can provide all the component members comprising the body of DMS adequate protection in the event of an emergency where blood supplies are needed. Be a CONTRIBUTING MEMBER of this important team. The next donor day is 16 September. Call 41247 for an appointment today.

MYSTERY PERSON

What you see is not the flap of the "O Tent." It's not more then the observer's pants. He's been known as "Tent Pants." Look closely at the Saville Row fit. Of cause, we can't blame him for that, it feels much cooler wearing "tent pants" than snug fitting "toreador" pants. Can you imagine what this mystery man would look like with tight pants on? Woo Woo!!

Who is he? Well, he hates Warrant Officers (in a nice way), whenever one comes near him, he breaks out in hives and starts scratching; he reminds you (in a nice way) that it's usually "none of your business" or "shut _." He is presently marking time at PPO until January 1977. At times he looks and acts like the "Ultraban 5000" commercial - - "it's under the chrome dome that counts." (Don't bet on it.)

Oh, actually he's not that bad. He normally goes out of his way to help anyone who needs it, always has time to talk to anyone who wants it, and never a cross word unless he means it. He'll even part with his last cigar to help a Warrant Officer in need.

WHAT DALE DID THIS SUMMER

Dale Cuave, that well known Optical Survey Instrument Repair Instructor and local musician of some note, (who can forget the Recreation Center appearances of "Cuave and the Quaverers"), just completed the Navy Opticalman Class "A" Course with some distinction. Mr. Cuave finished this completely self-paced course at the Naval Training Center, Great Lakes, Ill., in near record time, a full 6 weeks earlier than the usual 17 week duration.

Many exciting things occurred to our Dale during this learning experience, only some of which are publishable. Dale obtained lodging while in Chicago, approximately 1/2 mile from the Training Center. The streets (strip) which he traversed to and from School,. were almost identical in appearance and offered entertainment, to our own 14th St., N.W., Washington, D.C.

Clean living Dale's reaction to this area was reinforced after two murders were committed by jealous husbands in the same block as his accommodations. After the first week in Chicago, Dale was afraid to venture out into the streets after dark, the locals knew him as the Road Runner II when traveling the distance between his motel and the Training Center. Evidently the daily run to and from School benefited Dale physically, because he returned to DMS, hairy, lean and mean (and relieved to be alive.)

Upon questioning, the now long-haired and bearded Dale about the change in his appearance, he maintained that this was no life-style change; the truth of the matter was, when going to and from School he was always traveling so fast he never got around to stopping at a barber shop.

The early completion of the course is a signal accomplishment. When asked if this could be attributed to intellectual brilliance Dale modestly demurred. He says he was afraid to leave his room after dark, for fear of being mugged or having his room burglarized. What did he do in such a situation? He says "you study every night until 3 or 4 o'clock in the morning, than you study all day Saturday and Sunday - finish all assigned classroom work, and get the #%$@! out of there as soon as possible."

By completing the course 6 weeks early it is estimated that Dale saved the Defense Mapping School $1,386.00. He was also back in

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Director: COL Edward K. Wintz
Editor: Cathy McCloskey

time to teach the Repair and Adjustments of the Telescopic Alidade lessons.

R.A. Rall, PICM, USN, Assistant Director, OM/IM School was impressed by Dale's performance and forwarded a personal message to Chief, OSIR Div., DMS. This message reads in part:

"During Mr. Cuave's attendance in class, he consistently showed an eagerness to learn and a highly motivated and well planned application to his studies, in which his efforts were both efficient and effective. He was especially quick to grasp this entirely new field of information and maintained a high average during the majority of his eleven weeks of instruction. Mr. Cuave's friendly manner gained him the friendship of his fellow classmates and the admiration of his instructors. He quickly adapted to Naval routine and contributed harmoniously and successfully to the high morale in the class. His professional ability and military demeanor make him a positive asset to your Command. His overall performance while here at Opticalman School was commendable."

DMS now has an instructor with valuable insights into both optics and the usefulness of self-paced instruction. We can also offer assistance in the repair of a whole new series of instruments. So the next time you see a submarine with a broken periscope or a surface vessel with rangefinder problems, recommend Dale Cuave, our resident expert.

GAD BIDS FOND FAREWELL by Bill Sutton

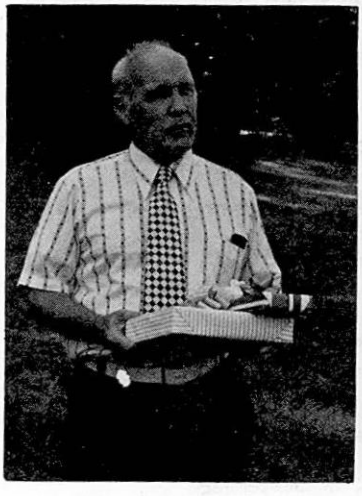
The Graphic Arts Department said farewell to Mr. David Lynch and SFC Don Booterbaugh in grand fashion on 18 August. A cookout was held for these two talented Graphic Arts people and everyone enjoyed an afternoon of eating, card playing, horseshoe pitching and a glass of grog for those desiring it.

Dave will be leaving on the 17th of September. His new job will take him to the Inter-American Geological Survey in Panama where he will be the technical expert and maintenance supervisor in the Graphic Arts Department.

Dave began his long and varied career in 1948 by attending the Map Reproduction School here at Fort Belvoir as an Army Private. His military career ended when he retired in 1967. He began his civilian career as an Instructor in 1967 and has since received his Master Instructor Certificate. All of us in GAD and DMS wish Dave and his family the best of luck in his new job.

SFC Don "Boots" Booterbaugh departed from Fort Belvoir on the 30th of August for his new and hopefully exciting career in an Infantry MOS. His new duty station will be at Fort Polk. Louisiana.

Don started his Service career in 1960. He spent his first four years riding around Germany and then Fort Bragg as a tank driver. He gave up his chauffeurs license to get into the Graphic Arts field where he remained until receiving his present orders. In 1972 Don spent a tour in Vietnam with USARC HQ as the NCOIC of the printing and publications section. He joined the staff of GAD in 1973 and was the Senior Instructor in the Offset Printing Division. All of us in GAD realize this loss of talent in our field and we wish Don and his family the very best in his future years.



I REMEMBER IT WELL...

OR A HAMBURGER IS A HAMBURGER IS A HAMBURGER

by Ralph Ruetze

It was a chilly March 14th in the year of our Lord 1955 when my brother and I, 18 and 14 years young, respectively, along with what seemed like thousands of returning Canadian servicemen, boarded the Greek Ship Neptunia, in Bremerhaven, Germany. Destination, the Promised Land. It was a relatively uneventful crossing, if you discount the night we hit a fierce storm. Waves twice the size of the ship were pounding us without pause. We made minus 25 miles that night. I think the ship was turned around 180 degrees a few times, the guy driving the boat, was too busy holding on to notice. We got to New York anyway. (The Neptunia sank a couple of months later, I think.) We were met in New York by a representative from a religious organization. He handed us $50, sent by our mother in California, and a business card. On the back of this card he had written: "These two German boys are going to California, they don't speak any English. Any help you can give them will be appreciated."

I had finished one year of 4th grade school English, my brother none. This made me the expert. So far, so good. Our benefactor transferred us to the bus station, (it wasn't the one with the skinny dog) and bade us farewell. After waiting for four days, (actually 3 hours) our bus was announced. You see it seemed so long because I was wearing lederhosen, which caused as much excitement as the Rockettes streaking en masse would cause today. We stowed all of our worldly belongings on the back bench of the bus. These belongings consisted of two huge duffelbag-like things and two German "Feder" pillows, about 6' x 6' x 2' each. Those who have had the chance to serve in Germany, know the type. My grandmother, bless her soul, meant well when she insisted we needed our own pillows in that strange land. However, they didn't make good traveling companions.

It was hard for us to comprehend the immensity of this country. After all, to visit relatives across town in Hamburg meant changing streetcars twice, and packing a box lunch, and didn't happen more than twice a year.

Back to me being the expert linguist. The first meal stop came up. We didn't know that was the

reason for stopping, but being good lads we followed the other passengers off the bus. Seeing the lunch counter, we figured out the reason for the stop. I was chosen to order the food, we took a vote and it was one to one, my brother being the bigger, his vote won. Remember, I spoke no English. Keep in mind also our hometown was Hamburg. The only thing recognizable on the menu, at least to me, was hamburger and milk (milch in German). We both enjoyed our hamburgers and milk, at the next stop, and the next, and the next.

The trip had already lasted a month, or so it seemed to us.

About this time the bus pulled into Pittsburgh, and the driver motioned everyone off. Everyone, including us got off. The driver got on and drove off. I looked at my brother, he looked at me, we both looked stupidly at the corner where the bus had disappeared. If you've ever had a two day hangover, you felt good compared to the way we felt. Our bags! Our "Feder" pillows, gone! Ach Du Lieber Himmel! We aged fifteen years each. After about twenty minutes of pacing and yelling at each other, because I, the expert didn't know what happened, the bus reappeared. Apparently it had been taken for refueling and cleaning. Thereafter only one of us got off at a time.

My brother was now getting impatient with me. I must admit, I was getting tired of hamburgers and milk myself. After some arguing, and a punch for me, we decided my brother would procure the next meal. Done. He got off and I remained with the "Feder" pillows, etc. He came back with hamburgers and milk, I couldn't stifle a grin, and got another punch. Have you any idea what it is to spend five nights and four days on a bus, eating hamburgers and drinking milk for breakfast, lunch and dinner? You'll never know how happy we were, after 48 hamburgers, to pull into Long Beach, California.

It was April 1st, 1955, and to this day the trip seems like a bad "April Fool" joke.

Everytime the "Big Mac" ad comes on television, I shudddderr.

Yes! I remember it well.

BIRTHDAY BALL 1976

It is that time of the year again when the Marine Staff NCOs of Fort Belvoir begin to plan the celebration of the Marine Corps Birthday Ball. The job of planning has been made a lot easier this year, because of the success of the Ball in 1975.

The 201st Birthday Ball will be held at the Holiday House Restaurant in Dumfries, Virginia. The buffet dinner, prepared so well last year, will be served again this year.

The 10th of November is the time to plan for an evening out with friends, dancing and a super meal. Although it's a long way off, the Staff NCOs would like to get an idea of who would like to attend the Ball. If interested, please contact the nearest Marine Staff NCO in DMS or call MSGT Sutton at 42285 or MSGT Wenrich at 43073. Make your reservations early.

LAST MINUTE REMINDER:

The next Contour will be distributed on 24 September, deadline for articles is noon, 14 September.

OCTOBER CONTOUR .....

The deadline for articles in the October 8th edition of the Contour is noon, 27 September.

INSTRUCTOR'S NOTEBOOK

Self-contained units of information can be combined in any of many ways to make up a total training program

MODULAR AV PROGRAMING

by ARTHUR M. SUCHESK

ACTIVITY AREAS

Successful modular programing calls for study of a number of factors. Once the programing concept has been defined, operation depends upon the development of five basic activity areas.

1

Consultation & Administration

The structure of modular AV programming is based on a foundation of professional audio-visual media specialists. I refer to personnel with a working history in the areas of education, training, and the audio-visual crafts, as opposed to individuals who are solely subject-matter specialists.

Consultation activities are instituted to provide guidance to management and requestors for the dimensioning, analysis, selection, and application of audio-visual communication technologies to identifiable needs.

Administration activity is concerned with the allocation and control of operating budgets; the direct supervision of the implementation of AV methodology and techniques, and general administrative housekeeping duties.

2

Creative Design

The function of creative design is to process design concepts and raw subject matter into workable programs. The following is a recommended guide for constructing a program or package: (1) Prepare statements of objectives and terminal behavior. (2) Obtain necessary subject-matter data. (3) Prepare a detailed target-population profile study. (4) Derive from previous steps the information level of the population, the fog index, and motivation classifications. (5) Based on the information level, sequence subject matter facts into a logical learning order. (6) Identify "sub-subjects," or "learning blocks" as program segments which will later become identified as the elements of a total program. (7) Break out the key points for each element. These will be used to develop review and test patterns. (8) Develop story and transition lines. (9) Develop skill and drill exercises. (10) Prepare script, storyboard, preproduction planning.

It must be kept in mind that, in order to effect a total transfer of ideas and meet target completion dates, it is essential that creative personnel maintain a close liaison and harmony with the requesting management, the subject specialists, and other personnel involved.

Recently North American Aviation faced an immediate requirement to qualify a mass of untrained personnel for aerospace skill assignments. In order to provide a variety of skills training to an increased and decentralized population, amid a changing technology, in a compact response period, we developed a new AV communication concept called Modular Audio-Visual Programming.

The modular AV programming concept is the first of a series of answers to the problem of automated mass training. It is accomplished by programming carefully ordered subject information into self-contained "modules" or "elements." A series of these modules or elements comprises the total "program" or "package."

In support of the advanced AV programming processes, such as pre- and postlearning surveys, statements of objectives, and statements of terminal behavior, are cross-media items such as motion picture films, closed-circuit television, simulators, programmed instruction books, and various other paper formats.

Once produced, the program becomes an on-the-shelf library item. The program may then be used in its entirety, or various elements may be selected for a specific requirement. Modular AV programs may be

Production

The transformation of software items such as preproduction plans and programmed scripts into hardware items such as quarter-inch tapes and 35mm slides is charged to the craft personnel assigned to production. Craft personnel are defined as those who practice AV craft techniques in the areas of graphics, photography, sound, and production support, resulting in professional, commercially acceptable products.

Client Implementation

The activity area of client implementation comprises the psychological and education interaction between the client, the producer, and the target population. For the duration of the modular AV program life cycle, client implementation plays a continuous role, including design review exercises, client instruction in the use of the program, population testing and evaluation, quality surveilance of materials, and updating services.

Research and Development

Research and development provides for a program designed to insure the continuing professional growth of all AV specialists in knowledge of the current audio-visual technology and in creative performance. It also is designed to acquaint the AV specialist with changes or new aspects in his responsibility toward the business system in which he participates.

The vitality of the modular AV programming concept is related directly to the environmtnt in which it is employed, and the flexibility of the AV media specialists assigned to its implementation. No one person or service system can remain static in our modern, fluid business environment.

self-administered, at the students' convenience, and in any convenient location.

Basically, the course material is presented on 35mm slides accompanied by instructions on quarter-inch magnetic tape. Kits of work exercises and support materials for student participation are furnished with each package. The AV equipment required to present the program is loaned to the requesting management along with the slides and tape (AV equipment is defined as devices capable of transmitting aural and visual intelligence in individual or in synchronous elements).

Modular AV programming enables total manipulative control of relatively static subject matter as well as constantly changing or "constant change" subject matter, while at the same time providing total flexibility for updating purposes.

Modular audio-visual programming, to be completely successful, must be established by studying the results of economic analyses based on trainee population size, the urgency of need, the recurrence factor, and the degree of difficulty likely to be encountered in presenting a particular subject. All of these factors must be subjected to a trade-off analysis, considering the investment versus the desired results. Once the programming concept has been defined, successful operation depends upon the development of five activity areas.

We have applied the modular audio-visual programming concept successfully to a broad range of subjects encompassing motivation, information storage, procedural orientation, manipulative skills, and skill transference. When we consider the need in the immediate future for training in all areas—in industry, and in society in general—the applications of the modular audio-visual concept appear limitless.

For the immediate future, I envisage automated AV training centers operating around the clock, as the effects of technological displacement and the demand for training the disadvantaged population becomes more pronounced. I further see management employing the "AV tool" as a means of facilitating communications and training during the transition from the "authoritative" to the "consultative-management" concept.

The challenge to society, education, and industry that is implicit in the modular audio-visual programming concept is well expressed in the following words: *You can't do today's work, with yesterday's tools, if you expect to be in business tomorrow.* □

This article is based on a paper delivered to the Industrial AV Programmer's section of the Audio-Visual Education Association of California (AVEAC) Conference at Asilomar, California, January 1965. The author is Advisor, Instructional Communication Systems, North American Aviation, Inc., Downey, California.

BIBLIOGRAPHY

"People Without Jobs, Jobs Without People," **Training in Business and Industry,** Vol. 1, No. 2 (Dec. 1964).

Technological Change: Its Impact on Industry in Metropolitan Chicago. Corplan Associates of IIT Research Institute, Chicago.

Analysis in Depth—The "War on Poverty." Chamber of Commerce of the United States, Washington.

Pressey, S. L., **A Third and Fourth Contribution Toward the Coming Industrial Revolution in Education.** Ohio State University (1926, 1927, 1932).

Ramo, S., **The Impact of Advancing Technology on Methods of Education.** (1958).

Skinner, B. F., and J. G. Holland, **Science and Human Behavior.** Harvard University (1959).

Corrigan, R.E., **Automated Teaching Methods.** (1960).

Lumsdaine, A. A., and R. Glaser, eds., **Teaching Machines and Programmed Learning: A Source Book.** Washington: Department of Audio-Visual Instruction, National Education Assn. (1960).

Finn, J. D., and D. G. Perrin, **Teaching Machines and Programmed Learning. 1962: A Survey of the Industry.** Washington; National Education Assn. (1962).

Roe, A., J. Lyman, and H. Moon, **The Dynamics of an Automated Teaching System,** Univ. of California at Los Angeles (1961).

McGeoch, J. A., and A. E. Irion, **The Psychology of Human Learning, 2nd Ed.** New York: Longmans Green & Co. (1952).

Davis, R. A., **Davis Scientific Report.** New York.

Skinner, B. F., "Development of Methods of Preparing Materials for Teaching Machines: Reports No. 1, 2, and 3." Harvard University (1954, 1957, 1958).

Silberman, H. F., **Automated Teaching Bibliography.** (1959).

Teaching by Machine. Washington: U.S. Dept. of Health, Education, and Welfare, Office of Education.

Mager, R. F., **Preparing Objectives for Programmed Instruction.** San Francisco: Fearon Publishers (1961).

Eigen, L. D., **The Construction of Frames of an Automated Teaching Program.** New York: Center for Programmed Instruction (1960).

Chalmers, E. L., E. J. Morrison, L. J. Briggs, and E. H. Pens, **Evaluation of a Method for Teaching Trouble-Shooting Techniques.** Lowrey AFB, Colo., AFPTRC, Tech Memo ML-TM-53-34 (Dec. 1957).

Stolurow, L. M., **Teaching by Machine, Cooperative Research Monograph No. 6.** Washington: Office of Education, U.S. Dept. of Health, Education, and Welfare (1961).

Revolution in Training: Programmed Instruction in Industry. New York: American Management Assn.

Coulson, J. E. Ed., **Programmed Learning and Computer-Based Instruction.** New York: John Wiley and Sons, Inc. (1961).

"Putting Technology to Work—The Social/Political Barrier," **Air Force and Space Digest,** Vol. 47, No. 10 (Oct. 1964).

Nelson, T. H., "Understanding Executive Skills," **Principles of Administration and Management.** Washington: Industrial College of the Armed Forces (1951).

Halperin, M. H., "Rifle: A System of Audio-Visual Indexing, Storage, and Retrieval." Paper delivered to Audio-Visual Educational Assn. of Calif., Industrial A/V Programmers Section (1965).

Finley, R. E., "A Selected Bibliography," **Revolution in Training; Programmed Instruction in Industry.** New York: American Management Assn. pp. 141-160 (1962).

Stolurow, L. M., **Teaching by Machine.** Cooperative Research Monograph No. 6. Washington: U.S. Dept. of Health, Education, and Welfare Office of Education (1961). "References," pp. 151-173.

CONTOUR

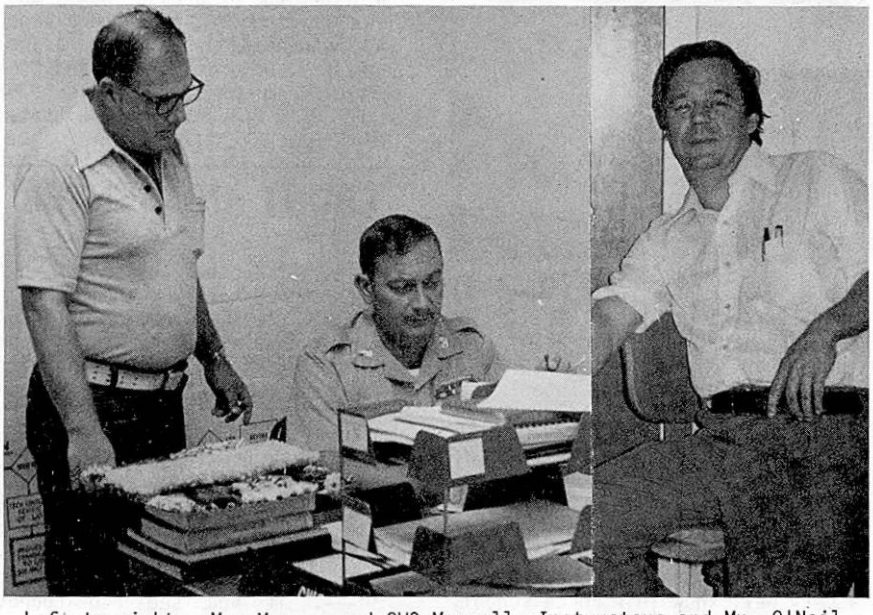
VOLUME 3 NO. 15 DEFENSE MAPPING SCHOOL 24 SEPTEMBER 1976

What Is This Thing Called PAAP?

No, its not what you think, but a new course offering being developed by the Department of Cartography. The Chief, CD, a sire of the course tells us that the godfather, CW3 Maxwell, named this particular baby "Principles and Applications of Analytical Photogrammetry." You don't have to be a doctor to take the course or instruct in selected lessons.

This DMS offering is being presented to fill a specific need for ground for discussing the applications of photogrammetry, and an appreciation of the problems encountered in photogrammetry." The first class is scheduled to begin in early January, 1977.

PAAP is a rather exciting combination of lecture, seminar and PE, designed to acquaint the geodesist/surveyor with the ins and outs of analytical photogrammetry. Subjects include least squares adjustment techniques and error theory,



Left to right: Mr. Murray and CW3 Maxwell, Instructors and Mr. O'Neil, Photogrammetrist, all of Department of Cartography.

training in our sister component, the Topographic Center. The students, at least initially, will be GS 12 through 14 professional level employees from the Department of Geodesy and Surveys. To quote Mr. Richard Peat, former head of that Department, these people will "....finish the class with a knowledge of the purpose of most of the general computer programs, a background analytical and analog photogrammetry, remote sensing, camera calibration and coordinate system transformations.

CW3 John Maxwell and Mr. Claudius O'Neal are coordinating the content and design of this course, which will run over 100 "classroom" hours plus considerable homework. The first class will be conducted at DMATC and will be taught in 3 four hour sessions per week. The nature of the material is so broad, that other teaching divisions were also asked to conduct specific classes. TSD will conduct portions on remote sensing, the APPS and stereoscopic principles. CW2 Chris Nohe, that well known surveyor, will instruct in coordinate system transformations as well as the input of ground and camera station control into photogrammetric adjustment programs. CD instructors, including SSG Gerald Eaton, Mrs. Barbara Herbstreith, Mr. Myles Mulholland and Mr. Claudius O'Neal, will teach the bulk of the material.

At this very moment, "Uncle Claude" is up to his ears in lesson outlines —— giving each one a thorough technical review. Practical exercises are being developed using aerial photography provided by Topo Center and the course schedule is being laid out.

The Chief, CD, Major Kinnan has been impressed with the cooperative spirit of the other Departments and offices within DMS as they participate in developing PAAP. He stated "I want to thank each person who has contributed to this mission effort. Many people at DMS and at TC have already substantially helped us launch the PAAP."

FRONT AND SENTER

Mr. Robert Senter, IAGS, has been visiting DMS since 7 September and will be with us for several months. Bob, who is the IAGS Cartographic Representative to Costa Rica has been with IAGS since 1962. Prior to that, he has been part of such illustrious AMS projects as Iran (maybe now we'll learn the truth about why Harnden, Freeze, Sprinsky and Locke liked Iran so much). A previous assignment with IAGS saw Bob in Peru (Seems as if he preceeds LTC Sprinsky into every assignment), and after the next few months of Career Development, there

(Continued on page 2.)

from the DIRECTOR

Wow, what a busy time! DMS has had the privilege of entertaining (and being entertained by) several distinguished visitors during the past few weeks, and more are to come. DMA's new Deputy Director, Maj Gen Young, was down for a tour and briefing as reported elsewhere; MG Johnson, USAES Commandant, helped us out with the opening of a new MC&GOC course; and Colonels Osterndorf and Debelius paid us informal visits on the same day (thereby causing great suspicion of Dramatic New Changes, which was unfounded). I feel that it is truly an honor to have visitors of this caliber, and am very proud of the honest and courteous way our briefers and guides describe their activity. It is a remarkable change from most organizations, where one lives in dread of the unsolicited response ("I've never met the Commander; Top always tells me to stay out of sight." Shudder). Whatever impressions of DMS our visitors take away, they are the result of forthright presentations.... with one exception. I must confess that when guests are scheduled, we cancel a loud and particularly vicious floating Whist game normally held over the lunch hour in Bagley Hall.

Other activities also seem to be peaking. The Deputy is staffing several new facilities initiatives to improve Wheeler and GAD teaching areas and the electrical problems in Bagley, which ultimately should result in a new DMS building. Additionally, several Service issues are causing purposeful strides, crumpled drafts, and mutterings in PPO, PRT, and TSD. Don Light is busily doing our homework so that the recently-approved mini-computer will be the right kind for all users.

Probably as a result of what we call Marine Finesse in presenting our aforementioned classroom improvement program to the Facilities Engineer, I have been going home (at this writing) to find the following at the house: A cherry picker dismantling a dead tree; another truck loading dead tree limbs; another truck loading wallboard through the attic dormers; three guys nailing same in the attic; a tank truck spraying fertilizer guck in the back yard; a scoop loader filling in holes and ruts left by the dead tree and trucks; and a dump truck filling in ruts left by the loader. Next time we'll try LT (USN) Leath on Colonel Cooksey.

MYSTERY PERSON

Okay nostalgia buffs, when was the last time you saw knee length trousers and a beanie cap like those our mystery person is wearing? And look at those knees!

After a cloistered childhood, he graduated from a small New England trade school and entered the service. We don't know what he did immediately after coming on active duty, but it was not until 2 years later that he was allowed to return to the United States. He attended a very well known Air Force school, but must have done whatever he did upon entering service, because he was again banished from CONUS. Other assignments include duty with ARVN and a "three letter" intelligence activity.

Upon assignment to our School (where else but TSD), he was known for his neatness (a well defined but always changing path from his desk to the door) and a certain member of his family who occasionally accompanied him to work and enlivened the upper floors of Wheeler Hall.

Guess who?

ANSWER TO 10 SEP MYSTERY PERSON

Why yes, he is none other than the mild mannered gentleman (?) who is the Chief of PPO, LTC Sprinski, (OOPS!!). Sorry Colonel, LTC Sprinsky, the ex-grease jockey that finally wised up and found cleaner working conditions in being a geodesist. Got his Masters and Doctorate from what he calls "THE WHITE HAT" University, Ohio State, (RAH-RAH BUGEYES)!!

FRONT AND SENTER

(Continued from page 1.)

may be yet another assignment, but we'll let Bob tell you about that.

Bob will be in "Charm School" for the next couple of weeks and upon graduation, he will be working with Carto for a while, helping them on the new PAAP course. He said he fully intends to get as much info from them as he gives. Bob's visit with us is not all work, as during his first week someone said "Tennis anyone?" and Bob came in the next morning with something called "Hamburger Toe".

So---, if you see Bob around, stop and say Hello; he's interested in how we do things and will welcome your comments, particularly concerning some new innovative way you happen to be teaching a lesson. Welcom Bob, glad to have you aboard.

The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

TWO + ONE D/CARTO INSTRUCTORS RE-UP FOR 17 YEARS

The Air Force has put it together again and this time added a Comrade-in-Arms from the Army.

During the two plus one re-enlistment in the Bagley Hall Auditorium on 27 Aug and in the Chief, Cartographic Department office on 30 Aug 1976, TSGT Dave Cook, SSGT Jerry Eaton, and SFC Marlin Yelton all echoed "I DO" administered by Major Joseph Kinnan, USAF, Ch, CD.

Marlin and Jerry asked for an additional 6 years but Dave only wanted 5 more. It would have been a triple (turkey, for you bowlers) (all on the 27th), but the Army missed a suspense date.

Marlin let the Army join him in 1961 and has seen combat with the 30th in Belvoir, 29th in Hawaii, 66th in RVN, 524th in Ft Hood, and the Defense Mapping School. Dave heard the Air Force was looking for a few good bowlers back in '65 and thought he would give it a try for a while in Westover AFB, Mass. That romance lasted 9 months then off to Hawaii. Jerry is still vague on his first enlistment in the Air Force. His friends in Florida (which is home), I am told, kept saying "Why" and his answer was always "why not." Lucky for us..... Dave was Jerry's sponsor when he left the swamps of Louisiana (Barksdale AFB) for Hawaii. ETS ('68) time came up for Dave and Jerry so they decided to try it together for the variable re-up bonus. Dave next volunteered for a tour with the Defense Mapping School in Oct. '71 and who showed up in Dec '71? Jerry. There was no big bonus in '72 but Dave and Jerry took 4 more anyway. They are still here after 4 years and being in the true spirit of an all Service organization added Marlin to their act.

"Rumor has it that: Jerry does bowl....sometimes, Dave once hit a golf ball, and Marlin is the only one of them that can hit a tennis ball."

"Marlin, Dave and Jerry are all mainstays within the Department of Cartography and the Defense Mapping School hopes to see them around for a while longer.

Sergeant First Class... At Long Last

Congratulations are in order for SFC Robert E. Rudy, one of Defense Mapping School's distinguished and long time instructors in the Department of Cartography.

Sergeant First Class stripes are pinned, vigorously, by Major Joseph E. Kinnan, USAF, Chief, D/Carto and SFC Rudy's fiancee Ginny Bevans.

SFC Rudy, a Master Instructor, has been and still is, with the School since 1971. He has, in addition to instructing AIT courses, instructed NCO courses, is an active member in the School's MTT program, and was selected DMS Instructor of the Month for July 1974.

We asked "Gene" what it felt like to go from a senior SSG (9+ years TIG) to a junior SFC and he said it felt ¢%&($%&**%¢ good.

So again we say congratulations, Gene on your promotion. Heres hoping the next stripe comes before 1985.

TRILLIONS AVAILABLE FOR GIVE AWAY PROGRAM

The average person has 30 trillion (30,000,000,000,000) red cells in their blood. Where do they come from? Red cells are made in the red bone marrow. The raw materials needed to build these cells are stored in the body.

At a certain point in the development of the red cell, hemoglobin is added. This hemoglobin consists of iron-containing red pigment (hemo) combined with a protein substance (globin). It is the hemoglobin that gives the red cells their ability to pick up oxygen in the lungs. Iron is the key raw material required for red cell production. Most of this is "scrap iron" recycled from old red blood cells; the rest comes from food. If iron is lacking in the diet, the amount of hemoglobin in the red cells is lowered, and the number of red cells in the body is reduced. The best food sources of iron are meat, eggs, green leafy vegetables, and whole grain bread and cereals.

Red cells have a life span of about 100 days. The rugged conditions under which the fragile cells live are the reason for their limited life span. They must withstand constant knocking around as they are pumped into arteries by the heart. Traveling through blood vessels at a high rate of speed, bumping into other cells, bouncing off walls of the arteries and veins,

(Continued on page 6.)

U.S. NAVY BIRTHDAY OCTOBER 13, 1976

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Rockville, Md. 20852
National Ocean Survey

C17

September 1, 1976

Colonel Edward K. Wintz (SD)
Director, Defense Mapping School
Fort Belvoir, Virginia 22060

Dear Colonel Wintz:

During the past two and one-half years, we have had several National Geodetic Survey employees attend Defense Mapping School courses. I would like to express my thanks to you and the members of your staff for the excellent training provided to our employees. We have noted tangible results in our overall field activities manifested by the improved performance of employees who have attended the training. Another indicator of the value of this training is the number of employees who have expressed interest in attending.

We hope to continue sending our employees to the DMS and look forward to continued excellent training.

Sincerely,

Carl N. Davis
Commander, NOAA
Chief, Operations Division
National Geodetic Survey

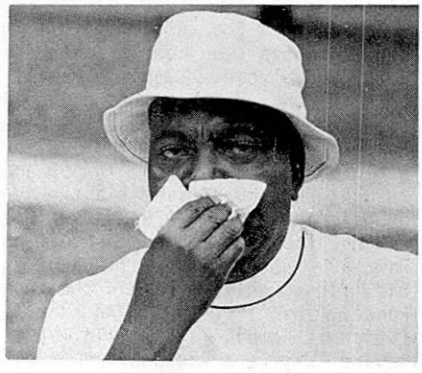
The Contour takes pleasure in printing this letter received recently from the National Oceanic and Atmospheric Administration.

BIG WEB IN THE SKY

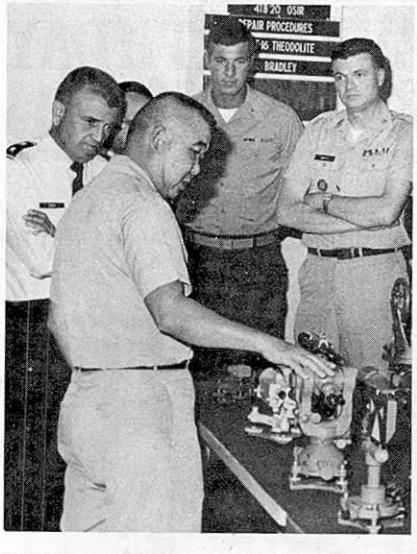
The Contour wishes to take this opportunity to announce the sad, untimely demise of 6 of OSIR's Black Widow spiders. Yes, Agnes, Beth, Clara, Dora, Erma and Gayle have gone on to their final reward. (The big web in the sky?)

Fay is still with us, but looking peaked (a lonely widow) so if we receive some more spiders quickly, Fay will certainly perk up and may be able to train the new recruits. Please pass the word, OSIR is looking for Black Widow spiders (aren't we all?). They can be found in dark, damp places, under woodpiles and wet plywood.

P.S. Please do not bring them to the Editor, take them to Mr. Green, Chief, OSIR Division, Bldg 220.



Farewell Agnes...Beth..Clara...Dora Erma... Gayle



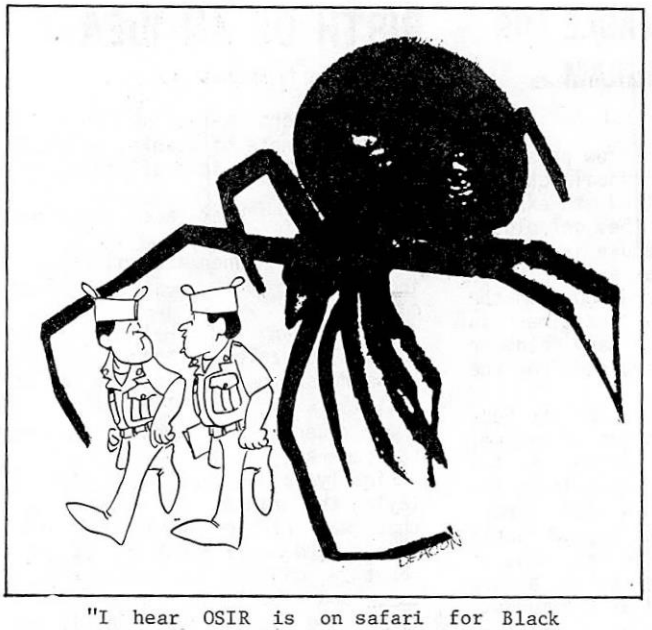
CW4 Takaki briefs Maj Gen Young on equipment used in the Survey Department courses, as COL Wintz, Lt Col Westphal and Lt Col Kazanjian look on.

MAJ GEN YOUNG VISITS DMS

On the 7th of September, DMS was happy to officially welcome Major General James A. Young, the new DMA Deputy Director.

Maj Gen Young, accompanied by his Executive Officer, Lt Col Kazanjian, received a tour of all the DMS teaching departments and staff sections. He was escorted on the tour of our facilities by COL Wintz and Lt Col Westphal.

Mr. Cummins, Chief, OAR, briefs Maj Gen Young on DMS administration and records procedures.



"I hear OSIR is on safari for Black Widow Spiders; Have you seen any lately"?

Jewish Holy Days Convey Age-old but Timely Message

The Jewish High Holy Days, Rosh Hashanah and Yom Kippur, which this year fall on September 25-26 and October 4, are the central events of the Jewish calendar.

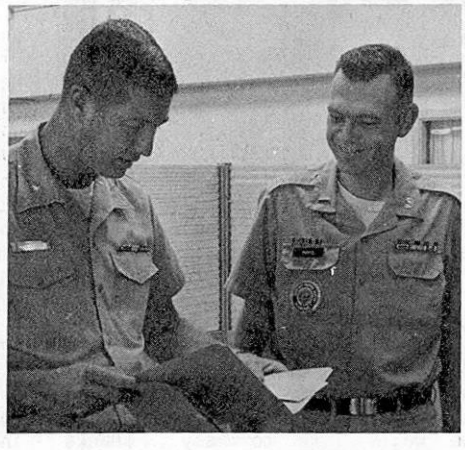
For Jews in the military and in all careers and endeavors, Rosh Hashanah and Yom Kippur convey a message today that is as timely as when these holy days were first celebrated more than three thousand years ago. In an age when we tend to emphasize the *self*, these days focus on our responsibilities to each other and our need to follow God's will to achieve true and permanent happiness. At a time when people are searching for meaning in their lives, these holy days teach that the Lord rewards those who live according to His plan. Finally, these days teach that the Lord does not make impossible demands upon His servants. In the words of the prophet, *"What does the Lord require of you? Only to do justly, to have mercy, and to walk humbly with God."*

—Armed Forces Chaplains Board

SUGGESTION AWARDS

(The Party Line)

CW3 Lonnie Parker and TSgt Ralph Ruetze were recently commended for their participation in our DMS Suggestion Program. They were both presented with certificates and a cash award of $10.00 each for their suggestion entitled "Change in Student Mosaic Assembly Procedures" (using masking tape instead of gum arabic). Their contribution resulted in a time-saving and simplified process in DMS courses requiring students to assemble uncontrolled photo mosaics as a practical exercise.



BIRTH OF AN IDEA

(The True Story)

by Lonnie Parker and Ralph Ruetze

On the 15th of September, Lt Col Westphal, DMS Deputy Director, presented CW3 Lonnie D. Parker and TSgt Ralph Ruetze with certificates and checks for a suggestion which was adopted.

The suggestion was to change the student mosaic assembly procedure so that the students could salvage their mosaics rather than just cleaning it off the board immediately after laying it.

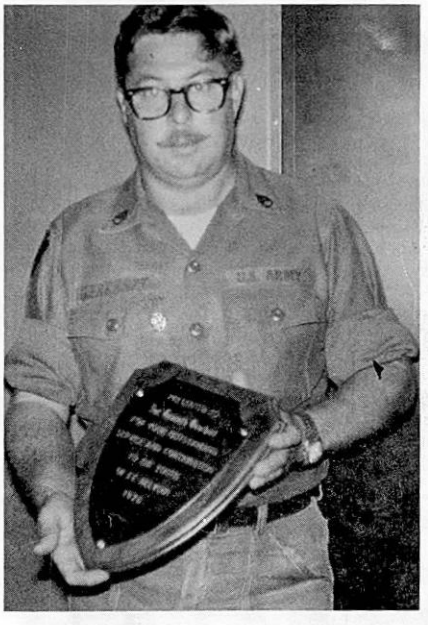
Now that official nice words are over, the truth of how the idea was born will be revealed.

One bright morning, as our two geniuses were sitting around thinking (with feet up on desks) the conversation turned from the trivia of daily gossip to work. "Hey, Technical Sergeant Ruetze, there must be an easier way to clean mosaic board," said Chief Warrant Officer Parker. "Yes," replied Technical Sergeant Ruetze, "Major Shane has noted a great interest in assuring that our dedicated pupils have an end product, rather than destroying the mosaic after assembly." (Note the polite language used among the professional members of TSD. For the sake of editorial brevity, the actual language will be simplified. In addition, it is the only way that LTC Sprinsky can enjoy the article.)

So our two adventurers set out to build the proverbial "better mousetrap." The first method tried was to assemble the mosaic on cardboard. It was interesting to note that, not only does cardboard smell when wet, the resulting warpage gives an unusual 3-D effect without a stereoscope. Undaunted, they forged ahead. The next thing tried was using aluminum press plates. Eureka!! The warpage problem was beaten. However, the prints wouldn't stick after they dried. The next attempt was using clear acetate as a base. If we scored the surface for adhesion (Note to COL Wintz: Score means scratched.) The print didn't come loose; there was no warpage, but when we untaped the acetate from the desk top, we had what could only be called a "tubular mosaic." In order to view the mosaic, you had to peel down through the mosaic the same way you look through a telescope. About this time, spirits began to flag. However, the encouragement from our

(Continued on page 6.)

YOUTH ACTIVITIES AWARDS D/CARTO INSTUCTOR



On Saturday, 11 Sep 76 SSG Kenneth Gearhart, D/Carto, Carto Comp Div, was presented an award for his outstanding contribution to the Dependent Youth Activities here at Ft Belvoir by MG Hancock, CG, CSC. The award was presented during football opening day ceremonies at Specker Field.

SSG Gearhart better known as "Turkey") has devoted many hours of his off-duty time in support of the numerous activities involving youth. We would like to say thanks "Turkey" for a job well done.

TRILLIONS AVAILABLE FOR GIVE AWAY PROGRAM

(Continued from page 3.)

squeezing through narrow passages, and adjusting to continual changes in pressure, all tend to exhaust the red cells. As they get older, resistance to such abuse is reduced and the cells break apart. Fragments of red cells are found in the blood, spleen, and sometimes in other body tissue. Many old or dead cells are removed from the blood by the spleen.

Red cells also provide the body with a motor transportation system. After picking up oxygen in the lungs, red cells deliver it to the tissues, where it is used. Ordinarily, only one fifth to one fourth of the oxygen load is released, as the tissues are not able to absorb more than they need at the moment. The rest of the oxygen remains in the hemoglobin as an emergency reserve supply.

The concept of an emergency reserve supply is what the Red Cross Blood Donor Program is all about. We all need an emergency reserve supply of blood that we can draw upon. We can provide that reserve supply for everyone in DMS and their families, including parents and parents-in-law, even grandparents and grandparents-in-law——— simply by meeting our quota of 57 units per year.

One pint of blood contains about 2.5 trillion red blood cells. Making a donation to the Red Cross program is a small contribution that is worth TRILLIONS. The key to our success is many people giving a little. With your help the program will mean a lot to us all.

BIRTH OF AN IDEA

(Continued from page 5.)

fellow DMS'ers helped us to drive on. As a note of thanks, we would like to review some of those kind comments:

COL Wintz: "What are those two up to now?"

MAJ Shane: "When are you all going to get that mess out of my classroom?"

CW4 Rottman: "Ha, Ha!"

MGYSGT Gonzalez: "***"

Numerous others: "They're at it again!"

CW2 Yacenda: "It won't fit on the camera."

Finally, along came the idea of laying the prints on masking tape that was placed on the masonite boards and....IT WORKED! It took about 5 minutes to put down the tape and about the same time to clean the board and behold, the students had a product to take with them and the clean up was fast and easy. Our two heroes then ventured forth to Carto to get their opinions of the process. After fielding comments such as "The print looks wrinkled when wet," etc, etc, and after seeing the dried product, an idea became an established procedure. Then our slightly dented but undaunted adventurers tested the process on the on-going MC&GOC Class. After the completion of the mosaic the whole thing worked and we were sure that 21 framed mosaics would go down in history to be framed and cherished in years to come. We eagerly watched as twenty out of twenty-one students rushed to the trashbasket and unceremoniously deposited the mosaics.

Yea, many months passed, and then one day, in walked our new Deputy Director to happily present checks for the adopted suggestion. Needless to say, TSD greeted his kind and generous words with the usual degree of military courtesy and dignity found in our beloved Department.

New DITY Keeps Movers Humming

New DoD procedures that became effective June 1 incorporate a monetary incentive for Servicemembers who move their own household goods. The Do-It-Yourself (DITY) move monetary incentive is based on 75 per cent of what it would cost the government to move a member by a commercial carrier. It is expected that this percentage factor will approximately split potential savings between the member and the Department of Defense.

The Department will continue to make direct payments to the contractor for equipment rental, plus operating expenses. These costs, plus the cost of any packing materials, will be deducted from the incentives amount due to members after the move is complete.

The following examples illustrate how the incentive payments are computed:

• Assume an E-7 moves 6500 pounds of personal property in a 16-foot truck a distance of 860 miles.

Estimated cost of move by commercial carrier	$1100
75 per cent monetary incentive limit	825
Cost of move under DITY moving program	600
Member's incentive payment	225
Savings to Department of Defense	$ 275

• Assume an E-5 moves 1000 pounds of personal property in a 4x6 trailer a distance of 400 miles.

Estimated cost of move by commercial carrier	$ 210
75 per cent monetary incentive limit	158
Cost of move under DITY moving program	90
Member's incentive payment	68
Savings to Department of Defense	$ 52

How to Do-It-Yourself

Generally, here's how the Servicemember goes about making a so-called DITY move. Before making any move he/she reports to the local Transportation Officer to be counseled on entitlements and responsibilities.

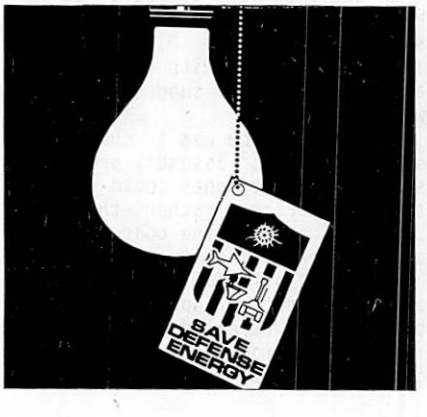
If the member opts for the DITY move, he/she presents an inventory of personal property to the Transportation Officer who will provide assistance in selecting the proper equipment to make the move.

The rental equipment contractor will furnish the proper equipment and operating funds (for gas, oil, tolls and weight tickets) and bill the Department of Defense. In addition, the member may be furnished packing and crating materials.

Profit Motive

All Services offer the DITY program to give personnel more options, but it was felt that a provision needed to make the DITY move program more attractive to Service personnel was a monetary incentive to compensate members opting into the program for their labor, and to generate a savings to the Department of Defense.

The incentive was authorized by the Congress under the General Provisions to the DoD Appropriations Act of 1976 which permits the payment of a monetary allowance in lieu of transportation of household goods and baggage to members participating in the DITY moving program.



INSTRUCTOR'S NOTEBOOK

16 things to know before you plug in the projector

by David H. Curl

How can filmed and televised presentations best be used to ensure maximum learning? In other words, how can you get an hour's worth of learning from an hour's worth of film? Not enough is known yet about the communication of subtle attitudes, but researchers in the armed forces, industry, and professional education have learned a lot about how to use films to teach people facts, concepts, skills and procedures more effectively. Boiled down to its simplest form, their advice runs something like this:

Choose an appropriate film
Select the film on the basis of specific behavioral objectives. Have required learner behavior clearly in mind and don't be tempted to use a film that doesn't fit the needs of your trainees.

Preview the film
Be familiar with its content and its approach before using any film with a group. Note what is included and what is left out. Pay special attention to new technical terms and notice the amount of previous knowledge assumed on the part of the viewer.

Plan the lesson
Write down pertinent study questions for discussion both before and after the film. List new vocabulary and introductory material. Include other appropriate media and references.

Motivate the learners
Be sure the trainees know what they are expected to learn from the presentation and why this knowledge or skill is important to the organization and to their own careers.

Increase anxiety
Tell the trainees that they will be tested afterward and explain exactly how they will be expected to prove that they have learned.

Introduce the film
Make sure before showing the film that all viewers know exactly which key points to look for. Quiz the trainees on terminology and essential background. Check their readiness to profit from using this film as a learning resource.

Discourage note taking
Distribute study guides in advance to help learners identify major points during the film without the risk of missing important content while they are writing down notes.

Encourage mental practice
The best way to learn a skill is to practice actively while observing a good demonstration. When this is not possible, tell the trainees to imagine themselves performing the procedure as it is being shown on the screen, instead of passively watching. Instruct viewers to *think* the answers to questions asked in the film and to summarize facts and principles in their heads.

Eliminate distractions
Move to another room if you have to, but don't try to compete with air hammers in the street, noisy air conditioning, the paging system, glare from windows, and people coming and going. Don't expect learners to be alert in a hot, stuffy room, either, or to stay awake in a darkened room during a film shown after lunch. People won't learn if they can't see the picture, and they daydream when they can't hear the sound.

Stay with the projector
Keep the volume at the proper level and adjust the tone control to compensate for room acoustics. Keep the picture framed and in focus. Stay alert for loss of loop and know how to restore loops without film damage or needless interruption. Have a spare lamp ready and be prepared to change it without delay.

Stop the film
If the film is very long, stop it frequently for discussion and review of key points. There's nothing sacred and inviolable about the length of a thirty-minute film. If only part of the film is really relevant, show only that part and ignore the rest. If you own the print, cut it up into single-concept segments and discard the outdated or inappropriate footage.

Repeat key material
If the film itself doesn't reinforce by repetition, it's all the more important for you to do so yourself either during the showing or in a recap immediately afterwards.

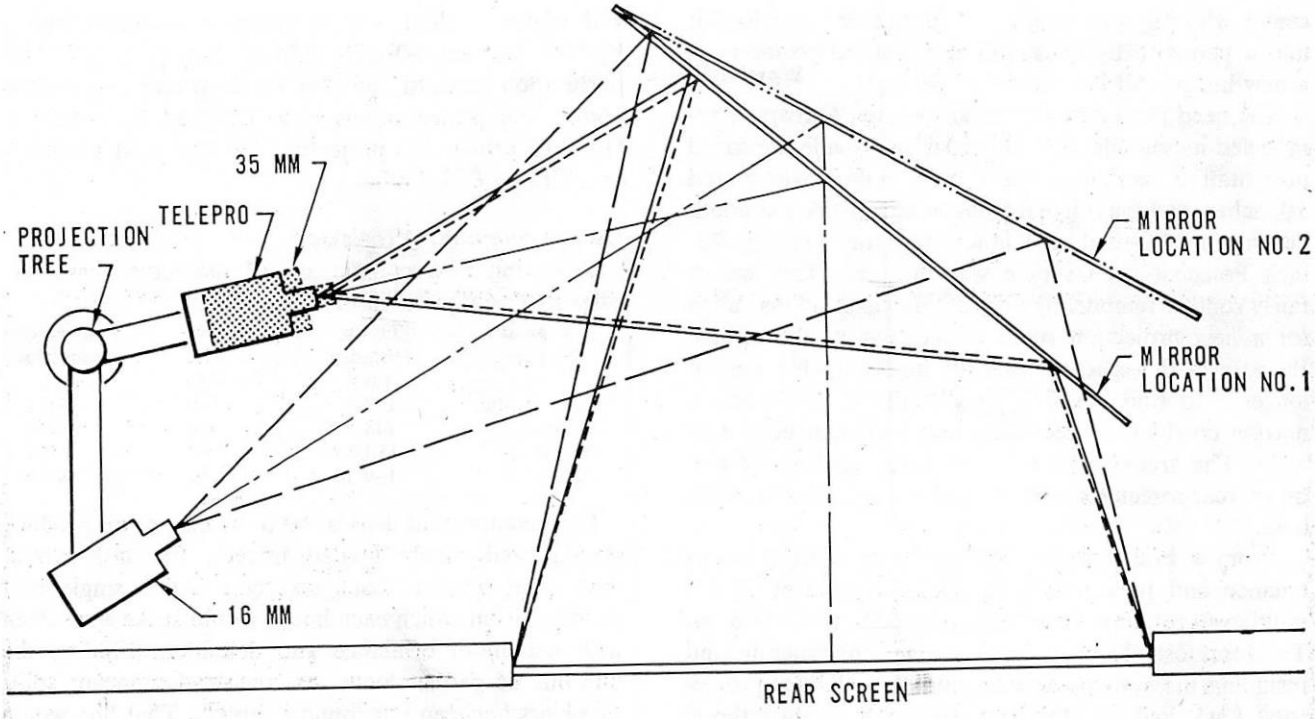
Discuss the film
Discuss principles and applications of the subject matter immediately, especially if you expect trainees to transfer their learning to other situations. Discussion for transfer is a must if learners are going to use equipment that is somewhat different from the type shown, or if "things aren't done quite that way in this organization."

Reshow the film
Everyone will learn more if you show the film again immediately after discussing it, or first thing the next day. If you can't make class time available for a second showing, try to make it convenient for individuals to review the film on their own time.

Test learners' performance
If a procedure was to have been learned, then testing should demonstrate the skills involved, either with actual equipment or in a realistic simulation. Verbal tests seldom are valid measures of procedural skills.

Give immediate feedback
Prompt confirmation of correct responses and correction of wrong responses is satisfying to the trainee and helps to prevent his learning of incorrect habit patterns.

Remember that films are resources to be learned from; they seldom are complete teaching units in themselves. The value of films and all instructional media depends upon how actively and creatively they are used in order to gain the most learning from each lesson. □



Right spot for projector: *Lay scale cutout of beam on plan with base at screen and fold at mirror. Projector goes at tip.*

THE PROJECTION TREE

At Aerospace Corporation in San Bernardino, California, a non-profit organization engaged in the scientific and technical advancement of Air Force missile programs, technical presentations and briefings are a demanding part of everyday life. Conferences, briefings, meetings, reviews, seminars, symposia—each requiring some sort of audio-visual support—are scheduled at Aerospace at the rate of approximately one per hour during every work day.

From these demands came a uniquely designed rear-projection system that may be the only one of its kind in existence. It's called "The Projection Tree."

The tree's "trunk" is a five-inch steel pipe rooted in concrete to eliminate vibration. A ball-bearing assembly at the top and another at the bottom allow it to be rotated with finger-tip ease. Perched on its "branches" are four projectional devices, each for a different purpose. One man can rotate it, automatically hit optical

center with any one of the four projectors, and lock it into a permanently registered and focused position for a new image. All this within 15 seconds.

The need for a new system arose after Aerospace remodeled its seminar room in order to provide improved presentation facilities. The room's ceiling was raised 10 inches, and the original front-screen projection booth became an elevated (movable) stage on which a 75-inch Polacoat glass screen was installed. This was a fairly routine remodeling project. However, plans called for a new projection room at the rear of the screen. Because of the space constraints involved, this was no longer a routine job. The only available space was a narrow corridor 50 feet long and less than eight feet wide. The tracks and wheeled carts used in several other rear-screen projection systems would not work here.

From a brainstorming session by men from maintenance and presentation services the concept of the multilevel, rotating, fixed-focus projection tree was born. The foremost challenge in designing, constructing and installing the system came in mounting all four projectors. Each had its own lens size, each its own throw distance. The objective was to have each device project images along the same place, fill the screen in the same way, and achieve the same top-quality viewing for every eye in the room, with superquick reaction times.

The four projectors originally mounted on the tree were a Bell & Howell 16mm sound film projector, a Telepro 6000 random-access lantern-slide projector with digital readout, a Buhl overhead projector, and a Kodak Carousel AV-580 35mm slide projector with pushbutton forward and reverse. In recent months the 16mm film projector has been replaced by a Bell & Howell Carbon Arc projector, and the Buhl projector by a Graflex OH-3000.

Comparing characteristics

Following is a comparison of projector characteristics that now exists in the system:

Type of Projector	Throw Distance (in.)	Lens Size (in.)	Lens Height From Floor (in.)
Lantern Slide	152.5	5.0	81⅝
35mm	143.5	2.0	81⅝
Overhead	150.0	14.0	81⅝
16mm	199.5	¾	81⅝

Had commercial lenses been available to produce standardized, finely graded images, the task would have been simpler. Each projector had a single best position, from which each image would strike the screen with maximum brilliance and definition. Finding the fine line of perfect focus and registration meant splitting hairs between four optical centers. That line would coincide with the center of the tree trunk.

The first fixed point was the glass screen. Also fixed was the distance a specific lens must project its image to fill the screen. This throw distance would determine the orbit of each platform mounted on the tree. The Telepro 6000 seemed the most permanent member of the system, because it would be the most costly to

Behind the scenes, *one man can mix and match lights, tapes, movies, and slides.*

He presses *brake pedal, and rotates tree until right projector clicks into place.*

replace. Its five-inch lens filled the screen from a distance of 152.5 inches.

The Telepro's projection beam was drawn to scale on a piece of graph paper, with the throw distance representing the height, and the width of the screen image representing the base of an isosceles triangle. When the triangle was folded (see page 33), the fold represented the relative angle and distance of the mirror, represented by the fold, and the tip of the triangle pinpointed the lens of the projector.

Strictly on the basis of performance, a large (66 by 78 inches) precision-ground one-quarter-inch plate-glass mirror was selected for this system. It reflected the brightest and sharpest image.

Two strings were extended (one along the lens axis from the center of the Telepro lens, the other from the center of and perpendicular to the screen) until they intersected. This indicated the distance of the mirror from the two points. By sighting along one string and adjusting the mirror until both strings appeared as one straight line leading directly into the center of the Telepro lens, the angle of the mirror was determined. A plumb line was dropped from this point of intersection, the mirror set perpendicular and its steel support bar anchored to the floor.

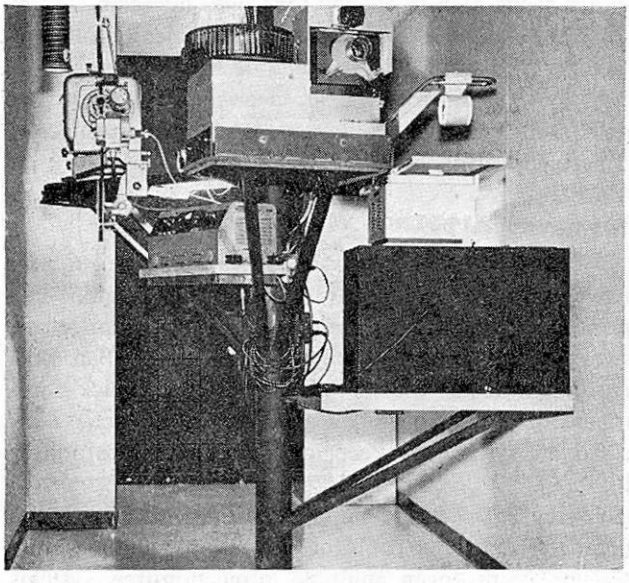
While testing lantern slides on the screen, image distortion was noted. Tracking the distortion to its source led to the mirror's plywood backing. When released from this backing, the mirror popped free and distortion disappeared. To support the mirror and keep it free of distortion, one-quarter-inch spacers were inserted where the plywood and mirror were clamped together. This allowed the mirror to "float" in space.

Once the distance of 81⅝ inches from the floor was established as the basic height for each lens, the remaining platforms were positioned and welded. Each projector's image was set to fill the screen without slop-over, the machine was permanently mounted and its position was marked on the 360-degree indicator plate at the base of the tree.

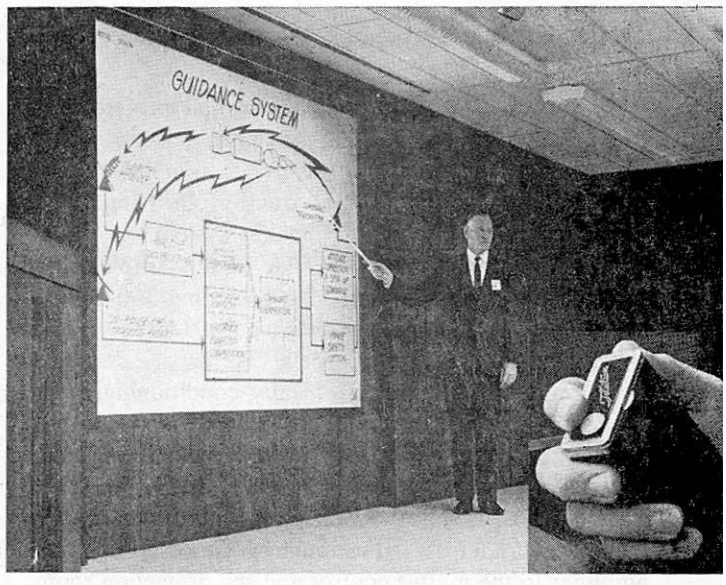
The original plan was to stack a couple of overhead projectors and interswitch transparencies between them. Using an alternate plan, however, Rey Sigl, builder of the tree, made a changer of aluminum channel, similar in design to the old-style 35mm changers. It smoothed out overhead presentations appreciably, but suffers from the same disadvantage any changer must have until overhead mounts are standardized. There are still some mounts this specially made changer will not accept.

Because of its smaller lens and longer throw distance, the 16mm sound film projector was the most difficult to adapt to the revolving-tree concept. Five modifications were required before the proper balance was found. Had this projector been used as the base reference (rather than the Telepro 6000), four of these modifications could have been avoided.

First, the lens size was changed to one-half inch, since the throw distance for the ⅝-inch lens was so short that the projector prevented the tree from rotating.



It looks weird, *but once in place at the rear of the Aerospace seminar room, the tree is 100% effective.*



Up in front, *everything looks smooth. The speaker can use remote control unit (insert) to run the show.*

Even with the half-inch lens, an extended, collapsible shelf (modification No. 2) had to be built and a track mounted on it, so the projector could be wheeled into and out of position.

When focusing problems developed along this "railroad line," installing a ¾-inch lens became the third modification. This brought the throw distance more in line with the tree. In fact, it was too much in line; the projector was located in the exact center of the tree trunk. Rather than replace the lens a third time, the angle of the mirror was changed, and a two-position lock was welded to the mirror's steel support bar. This fourth modification solved the focusing problem but added approximately five seconds and one more step to the setup procedure. The five seconds, however, pay off in a higher-quality image.

Reflector helps quality

To further improve the quality of the 16mm picture, the projection beam was strengthened by replacing the old-style incandescent lamp with a 1200-watt reflector. This led to the fifth modification: installation of an adapter. Because it was not commercially available, a special adapter was designed by Cliff Seimears of the audio-visual department.

Just as the projection tree is the steel axis around which all projectors are fingertip-controlled, the master control console is the electronic axis around which complex audio and visual circuits are operated. Incorporated into this system are consoles for the TelePrompter (which doubles as a mobile unit), the Altec 1567A Mixer Amplifier, the Advanced Transformer Dimming Control System, the Harmon-Kardon Galaxy Mixer Preamplifier, and the Concertone Model 605 tape recorder and its custom-made, two-mixer tape preamplifier and monitoring amplifier. The following controls are provided:

1. Projectors: On-off switches for all projectors; a forward and reverse switch, a digital selector and a voltage rheostat for a 3000-watt lamp in the Telepro 6000 projector; audio sound track from 16mm projector fed through Altec to speaker system.

2. Stage Audio: Altec 1567A Mixer Amplifier for signals from five Omnidyne 578, providing 360-degree-coverage stage microphones to drive five Jensen 12-inch concert series speakers; special Aerospace-designed, two-circuit mixer for electronically conditioning a signal for tape recorder (see Tape Rack Controls below); Lever lights for individual instant switch and gain control in each microphone circuit.

3. Monitor Audio: A portion of the stage audio from the briefer is fed through a specially designed amplifier to the master control and the projection room; control for cueing tape recorders and 16mm sound track on monitor system that bypasses speaker system; calibrated control for monitor output to speakers; separate control for monitoring audience-participation microphones.

4. Intercom System: This system was designed to enable the master control operator, the projectionist, and the operator acting as monitor director (who stands at the rear of the meeting room) to speak to one another during a presentation. With this system the monitor director can alert the master control operator and/or the projectionist of any malfunction such as projection-lamp loss, film jamup, image distortion, improper register, etc.

5. Audience Participation Audio: Signal from six Unidine 545-3 Shure microphones in theatre ceiling fed through Harmon-Kardon Galaxy Mixer Preamplifier, patched into special two-circuit mixer (see Tape Rack Controls below), then placed on tape in Concertone 605 recorder. Lever lights provide instant switch and gain control in each individual microphone circuit.

6. Tape Rack Controls: On-off switches for recorder and its standby; special two-mixer preamplifier (designed and built by Cliff Seimears of the company's audio-visual department). for conditioning stereo signals (from Altec and Harmon-Kardon) combining them electronically, and feeding them to Concertone 605 tape recorder as monaural signals.

7. Lighting: Individual dimmer for podium spotlights; rheostat to dim or switch off fluorescent ceiling lights as complete unit or as individual lights; continuously controlled illumination for viewing, reading and note taking.

8. Remote Controls: Briefer's remote control of random-access lantern slides; hand-held impulse transmitter sends high-frequency tone over intercom system to signal change of slides or transparencies on all projectors.

9. Power Controls: Separate circuits for projectors and room lights; controlled current for each projector; concealed wiring.

The summing up

What has been the results at Aerospace? C. R. Rogers, Head of Administrative Operations, said, "The projection tree, though it may not be the ultimate answer, has enhanced presentation services at San Bernardino with just the sort of clear, simple, quick communications our assignment demands. And because it's a flexible system, we keep finding new ways to update it."

In regard to future applications, the tree could be computerized, or it could be adapted to multiple rear-screen setups, even multiple projection-tree systems appears to be feasible. □

CONTOUR

VOLUME 3 NO. 16 | DEFENSE MAPPING SCHOOL | 8 OCTOBER 1976

POSSIBLE WORLD RECORD SET

With typical dispatch and efficiency, the Graphic Arts Department has done it again. With the DMS Combined Federal Campaign less than three days old MSGT Sutton turned in cash and pledge cards totaling $1383.50. Not only did they quickly achieve the DMS goal of 100% participation, but the "Reproduction is Fun" bunch also exceeded their Department dollar goal by 60%. The Graphic Arts Department has always claimed that if you want it done right, call on them. This time, at least, they're right. Well done GAD!

CONGRATULATIONS

by Gene Murray

Breaker Breaker has anyone seen SSG Kressler? That's a negatory, good buddy, as of 30 September his handle is WO1 Kressler, and that's a big 10-4. WO1 Kressler's home 20 is Dogue Creek, where he resides with his wife Robbie, and their three sons Ben, Jim and Joel. WO1 Kressler's home town is Quakertown, PA, where he graduated from high school in 1961 and then entered Letourneau Technical Institute in Longview, Texas; he later transferred to Texas A&M. WO1 Kressler entered the Army in July 1966. After basic training he was assigned to the Engineer School, Ft Belvoir, VA. His next assignment was Hawaii where he served for three years as a cartographic draftsman and then returned home to DMS where he has been assigned for the past three years. He did pause to refresh himself at the University of Nebraska, Omaha, where he received his BS degree in Engineering Science.

Congratulations, and God Bless from all your DMS friends and that's a Big 10-4!!

TOGETHERNESS

by Gene Crews

On a long, hot summer day in July, two people — one male and the other female — departed from different geographic locations with the same destination in mind, the Defense Mapping School. PFC Susan A. Schirk left her home in Emmaus, Pennsylvania, and PFC David S. Teigen departed from St. Paul, Minnesota. Both had volunteered for the Construction Drafting Course.

After a few weeks at Fort Belvoir, Sue and Dave learned that they had more in common than just being classmates. Their daily contact had developed into a companionship, and, as a result, togetherness became a part of their life when

they were married on 14 August. Following a weekend of bliss, they continued their studies in Wheeler Hall, but resided off post.

During their course studies, they "battled" for top class honors, and seesawed back and forth for the number one class standing. The struggle came to a close on 23 September, when the class graduated. Dave had won the Distinguished Graduate recognition, but Sue received the promotion. So, it is difficult to determine who won and who lost. Well, they still have each other so that makes them both winners!

Fort Belvoir hasn't seen the last of these two outstanding graduates. Sue is assigned to the 11th Engi-

(Continued on page 3.)

from the DIRECTOR

The principal topic among the staff down in Bagley Hall is the paint and decorating efforts in the main hallway. The ceiling of this passage, as we all know, contains piping and conduits sufficient to handle WWMCCS and the Alaskan pipeline combined. An automatic sprinkler system wends its way through the entire complex, thus frustrating grand plans for a false ceiling.

At this point, I must explain that I have no aesthetic sense at all. While others respond to Picasso and opera, my heart beats faster on hearing a Nathan Chime steam whistle or the cough of a Continental industrial engine. Naturally, we had to turn elsewhere for a solution to the hallway. Where else but SGM Harris and Lt Col Westphal? After getting these polished gentlemen to put down their tomes of Proust and Sarte, I found they had the same advice: See John Houchins!

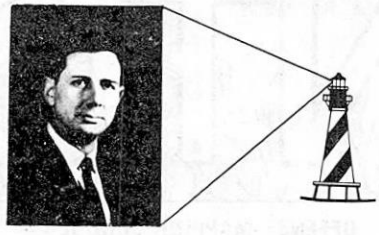
John would dispute the premise that he is the sole repository for good taste at DMS, but all roads let to him in The Great Hallway Decision. In a flash, he came up with a comprehensive and detailed plan. The plan was unique in that he kept it to himself and only revealed the parts as they were put into work. We are now halfway through the project, and some would say John is more than right in disputing the premise.

The upper third of the walls, the ceiling, and the pipes are all flat black. Rivulets of black reach to the floor, and the floor itself looks like the scene of a particularly hideous crime after the police have left. Old makeready map stock festoons the few decorative remnants John has allowed to remain (like the fire sprinklers). Putty and caulking compound are filling in the ravages of several decades' worth of bulletin boards, maps of the month, and directories.

But wait! John says it will turn out fine, and is fond of prefacing things with "Rome wasn't built...." and, "You have to break a few eggs ...." I hope he's right! I described the project to the Admiral the other day and was rewarded with the quick flicker of a sidelong

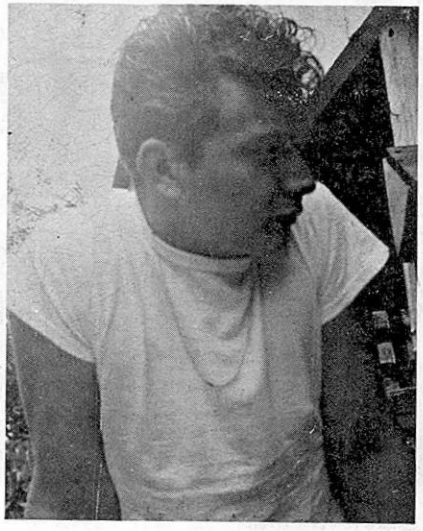
(Continued on page 3.)

From The Lighthouse



Mr. James Murphy, Manager, Experiments and Supporting Technology Earth and Ocean Physics Applications, Office of Applications, NASA Headquarters, gave an interesting and informative presentation about NASA's experiments in gravity and geoid compilation, polar motion, new instrument techniques, satellite laser ranging, and satellite-to-satellite tracking. In addition to our DMS people, we were pleased to have guests from DMA Headquarters, DMATC, DMAHC and the Army Topographic Laboratories. Also, Major Baker, DMA Liaison, from the United Kingdom was present. We will invite other NASA speakers in the future to talk about the space shuttle and LANDSAT programs.

MYSTERY PERSON



Now I ask you - doesn't this look like someone from Ossining New York? You know, that famous place where they chant "you sing, we sing, we Ossining-sing," or something like that. We don't really think the Judge said ".... or else", but at any rate, he joined the military. While he never really "spent time," he has worn stripes. Among his aliases (aliasi?) he lists "rag-arm" and "Godfather." A clue for some of the old timers, he once taught in a course who's acronym was the same as a record company. Never blue, as is the medal, he always has a kind word.

ANSWER TO 24 SEP MYSTERY PERSON

Isn't it amazing how an experience in a small New England trade school (The United States Military Academy) can change a young man. In those banishments from the United States, he served in Korea with the 13th Engineer Battalion and in Viet Nam with the 18th Engineer Brigade as well as with MACV as a Senior Engineer Advisor.

As a DMS faculty and, later, staff member, he is well known for two traits. The first is an absolutely uncanny knack to program our Wang 2200 calculator, outdoing the machine's normal shenanigans of giving ambiguous error messages with guile, slyness and fox-like cunning. The second trait is his propensity for answering "either-or" questions with "yes."

By now you know that our chubby little mystery person is MAJ Jay J. McClatchey, PPO's Chief Elf (or Gremlin). His tennis partners all report that he <u>still</u> has funny looking knees!

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Address all communication to:
Editor, <u>Contour</u>, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

ANCHORS AWEIGH!

by Gene Crews

The Defense Mapping School was honored recently with the first sailors ever to attend the Construction Drafting Course. Seaman Joe A. Morgan enrolled in the course while TDY from his unit, Great Lakes Recruit Training Command in Chicago. Petty Officer Third Class William J. Riley came from the Bicentennial Task Force, based in Philadelphia. Both individuals are classified as draftsman illustrators by the US Navy.

Joe and Bill expressed an appreciation for the course but were eager to get back to "swabbing the decks." Joe has returned to the Great Lakes and Bill was reassigned to the Philippines.

Anchors aweigh, men! We wish you luck and continued success on your voyages.

(Editors Note: Unfortunately Bill Riley had to leave early and was not available for a picture.)

"FIRST AND LAST"

First we'll talk about the last, first; then we will talk about the first, last.

For the first, which is last, on the first day of Autumn, the 21st of Sep, SFC Ricardo Cruz reenlisted for his last six year hitch (he says) which will give him 20 years, 1 month and 11 days of Federal service.

Now for the last, which is a first, Lt Col Westphal (in a long line of firsts) administered the Oath of Enlistment to his first

Army person, but he still has a first to perform, enlisting a Navy person.

Rick was accompanied by his wife and last recruiter, or was it his first recruiter and wife or..... Congratulations Rick from all of DMS!

USAWOA ELECTIONS

On 25 Aug 76 two members of DMS were elected officials of the Lord Fairfax Chapter of the USA Warrant Officers Association. CW3 John A. Maxwell, Ch, Carto Comp Div, D/Carto was elected President and Mr. Paul W. King, CW4 (Ret), OBS, was elected Treasurer. The remaining officers elected were CW3 Franklin Coburn, 30th Engr Bn (Topo) as Vice President and CW2 Glenda Kaufman, OPO, DA, as Secretary.

The Chapter is comprised of over 160 Warrant Officers (active, reserve, or retired) in the MDW area. The Chapter currently has many projects and activities "in the works" or planned, in areas of mutual interest to all Warrants (such as pay equalization, housing discrimination, etc).

TOGETHERNESS

(Continued from page 1.)

neer Battalion, North Post, and Dave has reported for duty with the Training Aids Division at Tompkins Basin.

The Defense Mapping School wishes these two fine people all the luck in the world in their recent assignments, and an everlasting life of happiness in their marriage.

FROM THE DIRECTOR

(Continued from page 2.)

glance. A few minutes later he said, almost to himself, "I've got to get down there more often!"

DONOR DAY BIG SUCCESS

The results are in! The September 16th Blood Donor Day proved to be a tremendous success. Many DMS personnel and their families took time to go by the Recreation Center and make a donation to the American Red Cross - DeWitt Army Hospital Blood Donor Program, PRT turned out en masse! Your thoughtful contribution is greatly appreciated by the DMS family. So far this year members of DMS have contributed 49 pints of whole blood. By doing so, they have provided protection for themselves and their families should the need for blood ever arise as a result of an accident or necessary operation. We are on the way toward meeting our quota of 57 units for the year, but it will take your help to meet that goal. Is it a worthwhile goal to attain? You bet! If DMS meets the quota of 57 units established by the American Red Cross - DeWitt Army Hospital Blood Donor Program, EVERY MEMBER of DMS, his immediate family, parents, grandparents, even grandparents-in-law are eligible to receive blood should the need arise. It means that these benefits are available to EVERY MEMBER of DMS regardless of whether he or she has made a blood donation or not. This is extremely important for those members of the DMS family who are unable to donate for medical reasons. Help us provide protection for those among us who cannot provide this protection for themselves. The next Blood Donor Day is 21 Oct. Mark that day on your calendar and plan to take the afternoon off! Making a blood donation entitles you to 4 hours off to relax and read a good book. Help us and help yourself on 21 October.

THE SECRETARY OF THE NAVY

WASHINGTON, D.C. 20350

NAVY BIRTHDAY
1976

As all of us take part in this country's bicentennial celebration, we in the Navy are also celebrating our two hundred and first birthday. The significance of these two events cannot be overemphasized. They serve to illustrate the enduring quality of our political system and the sacrifices made by men and women of the United States Navy to preserve our way of life.

The American sailor has made the United States Navy the finest in the world today, when our country is as dependent on the sea as it was two hundred years ago. In light of this, our fellow countrymen continue to expect the Navy to maintain our sea lines of communication. We must provide this security at sea, never forgetting that the price of peace is eternal vigilance.

J. William Middendorf II

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

MARINE CORPS BIRTHDAY BALL

201st.

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NOVEMBER 10, 1976 1900-0200

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CONTOUR

VOLUME 3 NO. 17 | DEFENSE MAPPING SCHOOL | 22 OCTOBER 1976

CPT HEY NAMED INSTRUCTOR OF THE QUARTER

Captain Jim Hey, veteran Instructor in the Terrain Evaluation Division, Department of Topographic Sciences, was honored 15 October 1976 as the recipient of the DMS Instructor of the Quarter Award. In making the award, Colonel Wintz cited Captain Hey's consistently strong performance in teaching Terrain Analysis - and anything else required - to Officer classes in both DMS and US Army Engineer School Courses. As usual Colonel

Wintz had a difficult time picking the outstanding instructor from those nominated by each Department. Department of Survey nominated Mr. "Will" Freeze and Mr. John Mann. SSG "Bill" James and SSG "Bill" Snyder were championed by the Department of Cartography. The Department of Graphic Arts submitted Mr. "Jake" Jacobs and GYSGT "Ernie" Williams.

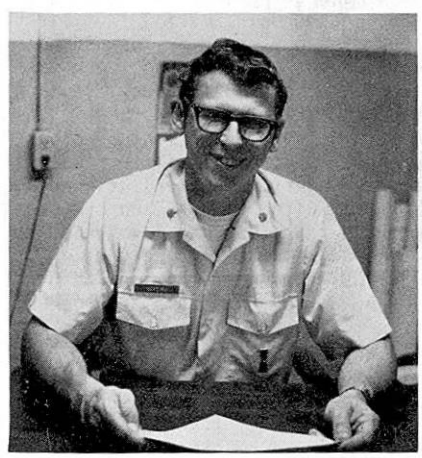
The Award Ceremony, attended by a majority of the Staff and Faculty at day's end in the Bagley Hall Auditorium, marked the premiere of the Educational Advisor's modified sound system. As a result (for the first time) everyone heard the Director's remarks. Highlight of the ceremony was the look of disbelief on Captain Hey's face when informed by Colonel Wintz that he would not have to pay for the award (a pen and pencil set) at a later date.

Captain Hey now joins a select group of instructors honored by the Director as "The Best Of The Best." His picture and award citation, hanging in a place of honor in the newly refurbished main corridor of Bagley Hall will attest to the fact that Jim does a much better job of teaching our students than he does at bowling/golf/softball/basketball/.... Congratulations, Captain Jim Hey!

FOCUS ON DEPT OF SURVEY

The Contour recently visited with Major John C. Herring, Chief, Department of Survey. This Department, as most of the Contour readers know, is the home of the famous Black Widow Spiders, recruited for DoD to spin webbing used as crosshairs in our surveying Dumpy Levels. Department of Survey has a lot more to its credit than just the spiders, below is an interview with Major Herring on what Department of Survey does best.

CONTOUR: What technical skills does Department of Survey teach?
Major Herring: We teach 5 courses, 4 basic skills, with one skill taught also at the advanced level. Our Geodetic Survey (Geo Surv), Geodetic Compilation (Geo Comp), Construction Surveying (CONSS), and Optical Survey Instrument Repair (OSIR), courses teach basic skills. We get Army, Air Force, and Marine Corps students right out of basic training for these courses. The Advanced Geodetic Survey Compilation (Adv Geo Surv Comp) course students are grades E-5 through WO. In addition we also, on occasion, get civilian students from Government agencies. In particular NOS sends students on a regular basis to the Advanced Geodetic Survey course.
CONTOUR: Approximately how many classes and how many students per class per year?
Major Herring: We get approximately 300 students and run about 19 classes per year.
CONTOUR: What in your opinion has been the strongest teaching method your faculty employs and how do you see the TV and self-paced study programs tying into your curriculum?
Major Herring: Virtually all of our courses are "hands-on," especially OSIR (except for the spiders). However, we utilize all the standard teaching methods, especially the lecture. The TV and self-paced instruction are utilized



to reinforce the lecture. To get a particular point or principle across, the lecture is the best method, to introduce the concept or procedure followed by a Practical Exercise (PE). The PE you might say is the dirty end of the business, that is, getting your hands on the instruments in live field conditions, going out and slugging through the mud, wind and cold. The students and instructors do work in

(Continued on page 6.)

from the DIRECTOR

Major Kinnan, Captain Faxon, and I just spent three fine days at Ohio State for their International Symposium on The Changing World of Geodetic Science and the celebration of the Department of Geodetic Science's 25th anniversary. TWA's Flight 415 out of National was burdened by these worthies as well as Colonel Cordova and other representatives from NASA, NGS, DMA and DMATC. We spent most of the time at the airport exchanging OSU codewords (over dere, pee wee-wees, dat wum, etc.) to get back in harmony with one of the best academic departments in any teaching institution.

The social aspects of the symposium were a significant part of the trip. Faces from the past crept up so frequently that in one instance I found myself thrusting an introduction on some poor soul who was attending a Diabetes conference in an adjacent auditorium. The Department was begun through the efforts of Dr. Weikko Heiskanen and initially was very dependent on expertise from Finland, hence the good-natured accent imitations in the codewords. During my first tour at OSU, many fellow students were caught up in the enthusiasm that the discipline generates and became members of the faculty. As a result, the Department also has, or has had, full time professors from Hungary, Switzerland, India, and the United States. On our second OSU tour, Jan and I returned to an environment where our old friends were now my instructors. The awkwardness of this arrangement didn't become obvious until our dog (an oaf named Harold) bit a guest at a cocktail party one week before he was to sit on my oral examinations. Harold didn't like sudden moves. As a matter of fact, he wasn't too fond of slow ones, either.

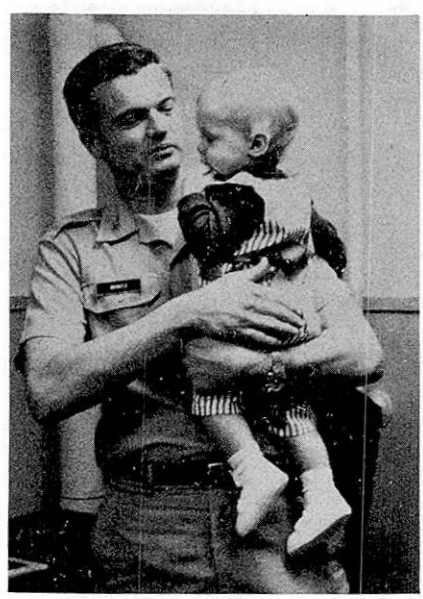
The professional side of the symposium was significant and will impact our instruction here, particularly in Advanced Geodetic Survey and the new analytical photogrammetry course (I still can't bring myself to calling it PAAP). The quality and quantity of guests and speakers attending the symposium reflect highly on OSU's Department of Geodetic Science, and we wish them well.

INSTRUCTOR'S NOTEBOOK

by Dick Christ

THE STIRRINGS OF A GIANT

Since early spring the EA has been occupied with two separate but related actions. The first has already borne fruit; this was to identify, procure and distribute new audio-visual hardware to support DMS instruction. With a few minor exceptions this hardware has arrived and has been distributed. As any experienced instructor knows the worlds' finest - audio-visual hardware is useless without accompanying software. This second part of the equation is the other previously mentioned action - the acquisition of instructional software. Approaches to this problem can take roughly two directions, either make it yourself or buy it off-the-shelf. Each approach has its own obvious advantages and disadvantages, such as cost, production leadtime, equipment availability, actual need, degree of "fit" to the instructional objectives, and a number of other factors unique to particular situations. A variety of steps have been and are being taken to assist in the identification and acquisition of materials needed to support instruction. In this connection, although DMS has had course managers for many years, they have not been formally recognized, and their duties have not been clearly defined. This deficiency is being corrected by specifically assigning the responsibility of identification of course needs to the course managers. Once these requirements have been identified, their acquisition becomes the problem. In this vein, guidance is being made available concerning copyright releases for commercially available material. Additionally, commercially prepared instructional packages, similar to the recently acquired Purdue Remote Sensing Multimedia Program, are being investigated. Mentioned in an earlier Contour column was the program to catalog DMS instructional materials. Progress in this area continues. Presently available in Department offices is a listing of all DMS video-tapes and programmed texts. October should see a listing of all DMS audio-visual equipment followed shortly by a listing of all special texts and pamphlets. One prime purpose of this cataloging effort is to make all DMS people aware of what is already available "off-the-DMS-shelf." In the area of preparation of materials within DMS, programmed texts are continuing to come off the production line; at least two sound-slide shows are in-production, and the FY 77 television production is about to be launched. Listings of activities in the area of preparation of instructional materials could continue endlessly and will be the subject of future articles. However, one of the most gratifying aspects of watching the stirring of this gigantic effort is the shift of measuring progress in terms of "numbers of items produced" to "satisfying specific needs" with the emphasis on quality and taking time to do the job right.



". . . honestly - your Dad's promotion to Warrant Officer does not mean the end of the world. . ."

(Overheard, between COL Wintz and Kressler Jr.)

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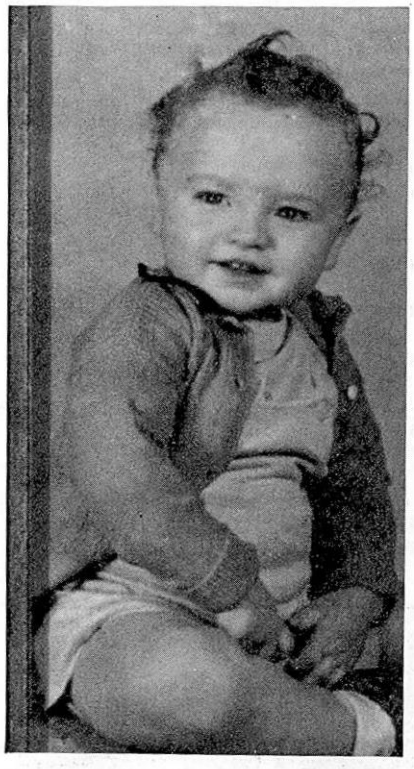
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

MYSTERY PERSON



What a darling. It's really a shame that some of our featured persons had to grow up.

This person thought staff was something shepherds used and now they are one. Truly dedicated, this person is more excited by too many (or too few) manhours than by (fill in the blank - not to exceed two words or one three syllable word). We're still studying such sagely comments as "My cookies don't come cheap" for some hidden meaning.

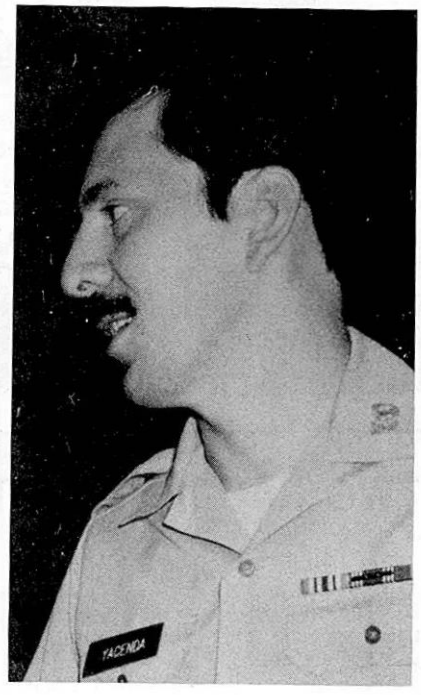
One final clue - the spouse of this little darling has their name on grocery shelves everywhere.

ANSWER TO 8 OCT MYSTERY PERSON

Didn't guess did ya! Well it's none other than the PAAP Course Godfather — CW3 Maxwell of D/Carto.

CW2 YACENDA DECORATED BY STATE OF ALABAMA

At ceremonies conducted last weekend during the 1203d Engineer Battalion's monthly drill period, CW2 Andrew Yacenda of the Department of Topographic Sciences, received the Alabama Commendation Medal. Presented by LTC Hornsby, Battalion Commander, in behalf of Governor Wallace, the commendation cites Andy for "... meritorious and distinguished military or civilian services for or to the benefit of the United States or the State of Alabama."



The highest award presented to an individual by the State of Alabama, the Commendation recognizes the superior technical and instructional expertise and assistance rendered in support of the 1203d during numerous MTT's by CW2 Yacenda. Genuinely surprised by the honor, Andy indicated it has been a rewarding experience working with the 1203d and that he was pleased to have been able to help and see the unit mature.

VETERAN

By Davic Leusner
USASC, Philadelphia

There's quiet now, the guns are stilled
Yet in the fight our ranks were filled,
No trench, nor other lowly place
Has need of us for war's embrace.

We are veterans — inured from war
We know the tyrants off our shore,
Peace was our goal our lofty aim
It was our single hope to claim.

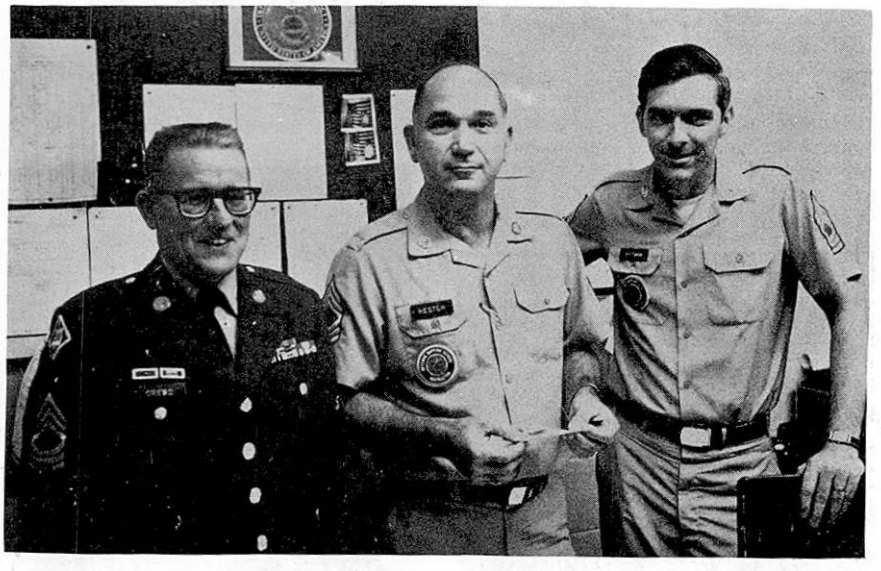
And — some have fallen, glory draped
Paid full measure for freedom's sake
We ask for them, your pledge, your vow
You'll keep in trust this peace somehow.

That each of you in somber thought
Holds high this peace so dearly bought,
That you will guard with love, esprit
This land of hope and liberty!

COLLEGE COURSE OFFERED

Registration for the Montgomery Community College winter semester conducted at Fort Belvoir will be held at the Defense Mapping School, Bagley Hall, Bldg 214 on Friday, 29 October at 1300 hours in Room 207. Only one class, Photography (VT 241) will be held this semester. This is a 3-credit hour class in the AA degree program. Questions may be directed to Mr. Arthur Fleshman, 664-6383.

GOOD TIMES ARE ON THE WAY!



Gene Crews, Hess Hester, and Dick Kottemann have more in common now besides being Master Sergeants. Recently, the instructor designator "H" in their primary MOS was withdrawn and replaced with "M", First Sergeant identifier. So, a word to the wise — be kind to them, for you may be assigned to one of their companies in the future. Bear in mind that Diamonds are Trump!

Dick will depart DMS in November and span the globe to Hawaii for duty with the 652d Engineer Battalion (Topo). His family will accompany him to pineapple country.

Gene will begin his journey to cow country for enrollment in the Sergeant Major Academy in January. His family will remain in the metropolitan area while he is conquering Mexico.

Hess will — two out of three ain't bad — remain in DMS to keep the home fires burning in the Department of Cartography. Sorry 'bout that, Hess!

TWO GAD INSTRUCTORS RETIRE

Two Instructors from the Photolith Division of GAD will depart DMS and the US Army for the green pastures of civilian life on the 31st of October.

SFC Estes will have served twenty-one and a half years upon retirement, the last four and a half of them here at DMS. During his tour with GAD, Ron has spread his talents around, instructing in the Press, Equipment Repair and Photolith Divisions.

SSG Walentynowicz will have served twenty years upon his retirement, with only the last six months of them here at DMS. With such a short time here as an instructor "Ski" couldn't spread his talents too far but nevertheless did establish himself as a big man around the School.

All of GAD will miss these two fine instructors and wish them the best of luck in their new careers.

The one that got away - Ron Estes, not the fish! (Unfortunately, SSG Walentynowicz was not available for a picture.)

GS Civilian Pay Chart

	1	2	3	4	5	6	7	8	9	10
GS-1	$5,810	$6,004	$6,198	$6,392	$6,586	$6,780	$6,974	$7,168	$7,362	$7,556
2	6,572	6,791	7,010	7,229	7,448	7,667	7,886	8,105	8,324	8,543
3	7,408	7,655	7,902	8,149	8,396	8,643	8,890	9,137	9,384	9,631
4	8,316	8,593	8,870	9,147	9,424	9,701	9,978	10,255	10,532	10,809
5	9,303	9,613	9,923	10,233	10,543	10,853	11,163	11,473	11,783	12,093
6	10,370	10,716	11,062	11,408	11,754	12,100	12,446	12,792	13,138	13,484
7	11,523	11,907	12,291	12,675	13,059	13,443	13,827	14,211	14,595	14,979
8	12,763	13,188	13,613	14,038	14,463	14,888	15,313	15,738	16,163	16,588
9	14,097	14,567	15,037	15,507	15,977	16,447	16,917	17,387	17,857	18,327
10	15,524	16,041	16,558	17,075	17,592	18,109	18,626	19,143	19,660	20,177
11	17,056	17,625	18,194	18,763	19,332	19,901	20,470	21,039	21,608	22,177
12	20,442	21,123	21,804	22,485	23,166	23,847	24,528	25,209	25,890	26,571
13	24,308	25,118	25,928	26,738	27,548	28,358	29,168	29,978	30,788	31,598
14	28,725	29,683	30,641	31,599	32,557	33,515	34,473	35,431	36,389	37,347
15	33,789	34,915	36,041	37,167	38,293	39,419	40,545*	41,671*	42,797*	43,923*
16	39,629*	40,950*	42,271*	43,592*	44,913*	46,234*	47,555*	48,876*	50,197*	
17	46,423*	47,970*	49,517*	51,064*	52,611*					
18	54,410*									

*The rate of basic pay for employees at these rates would be limited by section 5308 of title 5 of the United States Code to the rate for level V of the Executive Schedule which, under this adjustment, would become $39,600.

DMS GOLF TOURNEY

by Cathy McCloskey

The DMS Golf Tournament on the 1st of October was --- wet! In fact it was wet and --- chilly. I don't even know why we were all out there, but then I don't know anything about the game of golf — one thing I do know - now - and that is we sure have some robust, hardy people throughout the DMA family.

The chilly wet day did not deter the high spirits of the golfers, nor did it stop Penny, Pat and I from setting up and keeping up a fine array of food for the hungry players. All in all despite the weather, everyone had a good time. Below is a listing of the scores.

Low Gross: T. Popoleski - TC 76

Class "A":

1st	E. Condon	TC	71.5
2nd	S. Glovinsky	HC	72
	J. Kurkowski	TC	72
	T. Grande	TC	72
	R. Olson	DMS	72

Class "B":

1st	J. Yurkanin	TC	71
2nd	W. Wooldridge	DMS	72
	J. Dunleavy	TC	72

Class "C":

1st	J. Barts	TC	67
	T. Baybrook	DMS	67
2nd	J. Connor	DMS	69
	F. Wentzel	TC	69

DMS NAVY CELEBRATE BIRTHDAY

In observance of the Navy's 201st birthday, COL Wintz presented the following message to each of our assigned Navy people:

"The theme for our Navy's 201st birthday, "U.S. Navy: Heritage and Horizons," clearly asks us to look back at the past filled with events, milestones and personalities in which all Navy people can take pride. It also suggests that we look to the future, filled with challenges, possibilities and important responsibilities to our Nation. I and all the people of the Defense Mapping School join with you to observe this historic commemoration during our Nation's Bicentennial year on this day, 13 October 1976.

We are all proud that you and the Navy are a part of the Defense Mapping School.

Left to right: LT Leath, LI-2 Morey and LI-1 Smith after receiving their letters from COL Wintz.

Military Pay Chart

MONTHLY BASIC PAY EFFECTIVE 1 OCTOBER 1976

YEARS OF SERVICE

PAY GRADE	UNDER 2	2	3	4	6	8	10	12	14	16	18	20	22	26
COMMISSIONED OFFICERS														
O-10	2943.90	3047.40	3047.40	3047.40	3047.40	3164.10	3164.10	3406.80*	3406.80*	3650.40*	3650.40*	3894.60*	3894.60*	4137.30*
O-9	2609.10	2677.80	2734.50	2734.50	2734.50	2804.10	2804.10	2920.20	2920.20	3164.10	3164.10	3406.80*	3406.80*	3650.40*
O-8	2363.10	2433.90	2491.80	2491.80	2491.80	2677.80	2677.80	2804.10	2804.10	2920.20	3047.40	3164.10	3291.00	3291.00
O-7	1963.50	2097.30	2097.30	2097.30	2190.90	2190.90	2318.40	2318.40	2433.90	2677.80	2861.70	2861.70	2861.70	2861.70
O-6	1455.30	1599.30	1703.40	1703.40	1703.40	1703.40	1703.40	1703.40	1761.30	2040.30	2144.70	2190.90	2318.40	2514.00
O-5	1164.00	1367.10	1461.30	1461.30	1461.30	1461.30	1506.00	1586.40	1692.30	1819.50	1923.90	1981.80	2051.40	2051.40
O-4	981.30	1194.30	1274.70	1274.70	1297.80	1355.70	1447.80	1529.40	1599.30	1668.90	1715.40	1715.40	1715.40	1715.40
O-3	912.00	1019.40	1089.60	1205.70	1263.30	1308.90	1379.10	1447.80	1483.20	1483.20	1483.20	1483.20	1483.20	1483.20
O-2	795.00	868.50	1043.10	1078.20	1100.70	1100.70	1100.70	1100.70	1100.70	1100.70	1100.70	1100.70	1100.70	1100.70
O-1	690.00	718.50	868.50	868.50	868.50	868.50	868.50	868.50	868.50	868.50	868.50	868.50	868.50	868.50
COMMISSIONED OFFICERS WITH OVER 4 YEARS ACTIVE SERVICE AS ENLISTED MEMBERS														
O-3	0.	0.	0.	1205.70	1263.30	1308.90	1379.10	1447.80	1506.00	1506.00	1506.00	1506.00	1506.00	1506.00
O-2	0.	0.	0.	1078.20	1100.70	1135.50	1194.30	1240.50	1274.70	1274.70	1274.70	1274.70	1274.70	1274.70
O-1	0.	0.	0.	868.50	927.30	961.80	996.60	1031.40	1078.20	1078.20	1078.20	1078.20	1078.20	1078.20
WARRANT OFFICERS														
W-4	928.80	996.60	996.60	1019.40	1065.90	1112.70	1159.20	1240.50	1297.80	1343.70	1379.10	1424.70	1472.10	1586.40
W-3	844.50	916.20	916.20	927.30	938.40	1007.10	1065.90	1100.70	1135.50	1169.40	1205.70	1252.20	1297.80	1343.70
W-2	739.50	799.80	799.80	823.20	868.50	916.20	950.70	985.20	1019.40	1055.10	1089.60	1124.10	1169.40	1169.40
W-1	616.20	706.50	706.50	765.30	799.80	834.60	868.50	904.20	938.40	973.20	1007.10	1043.10	1043.10	1043.10
ENLISTED MEMBERS														
E-9	0.	0.	0.	0.	0.	0.	1055.40	1079.40	1104.00	1129.50	1154.10	1176.90	1239.00	1359.00
E-8	0.	0.	0.	0.	0.	885.60	910.20	934.50	959.10	984.00	1006.80	1031.70	1092.00	1214.10
E-7	618.30	667.20	692.10	716.10	741.00	764.10	788.40	813.30	849.90	873.90	898.50	910.20	971.40	1092.00
E-6	534.00	582.30	606.60	631.80	655.50	679.80	704.40	741.00	764.10	788.40	800.70	800.70	800.70	800.70
E-5	468.90	510.30	534.90	558.30	594.60	618.90	643.80	667.20	679.80	679.80	679.80	679.80	679.80	679.80
E-4	450.60	475.80	503.70	543.00	564.30	564.30	564.30	564.30	564.30	564.30	564.30	564.30	564.30	564.30
E-3	433.20	457.20	475.50	494.40	494.40	494.40	494.40	494.40	494.40	494.40	494.40	494.40	494.40	494.40
E-2	417.30	417.30	417.30	417.30	417.30	417.30	417.30	417.30	417.30	417.30	417.30	417.30	417.30	417.30
E-1	374.40	374.40	374.40	374.40	374.40	374.40	374.40	374.40	374.40	374.40	374.40	374.40	374.40	374.40

While serving as Chairman of the Joint Chiefs of Staff, Chief of Staff of the Army, Chief of Naval Operations, Chief of Staff of the Air Force, or Commandant of the Marine Corps, basic pay for this grade is $4,565.10 regardless of cumulative years of service (See * below)

*Basic pay is limited to $3,300.00 by Level V of the Executive Schedule

Highest Enlisted Rank. While serving as Sergeant Major of the Army, Master Chief Petty Officer of the Navy, Chief Master Sergeant of the Air Force, or Sergeant Major of the Marine Corps, basic pay for this grade is $1,652.10 regardless of cummulative years of service.

FOCUS ON DEPARTMENT OF SURVEY

(Continued from page 1.)

all kinds of weather, except rain and snow. But if it's cold and windy, we're out there! The OSIR students do not go outside except to make some of the instrument adjustments.

CONTOUR: Well how do you rate the TV and self-paced study programs compared to standard platform instruction?

Major Herring: We use the TV and self-paced instruction programs as an integral part of our teaching methods. A lot of our equipment is introduced to the student through TV before he ever gets to see it out in the field. Self-paced study programs are used primarily to reinforce points brought up in the lecture, and used probably more fully by the remedial students.

CONTOUR: What kind of assignments, after graduation, do Department of Survey students receive, where do they go, what type of units?

Major Herring: Well it depends on the particular student, in the construction field, for both Army and Marines, they can go to construction battalions or units. The geodetic survey graduate will get assignments with the topo battalions, or even specialized assignments such as the Defense Mapping School. Another area is the topo repairman; he can get assignments all the way from Corps company to depot. The Air Force students go mainly to Barksdale AFB, Louisiana, and DMATC Geodetic Survey Squadron, Cheyenne, Wyoming, and a few specialized assignments throughout the Air Force. A student who wants to teach, stands high academically, and we feel is instructor qualified, can be requested to fill DMS vacancies. We have used this method in the past to acquire some of our highly motivated younger instructors.

CONTOUR: What are the prospects of applying Department of Survey skills in the civilian job market?

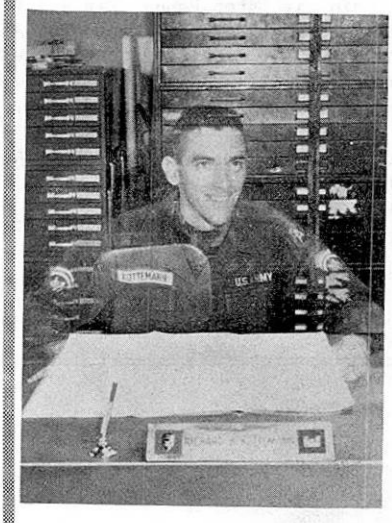
Major Herring: We have a very saleable skill in the Construction Surveying, Geodetic Surveying and Optical Survey Instrument Repair fields. Geodetic Computations alone is not a saleable skill, it must be reinforced with a surveying background or a data processing background. A good example was a couple of weeks ago when I was in Oregon on leave; I stopped by the state employment office and, while waiting to talk to one of the Veterans Affairs people, a young man in front of me was placed in a surveying job. In fact, in further conversation they said that they had two vacant surveying jobs that day. The salary for that particular job was $6.00 an hour.

CONTOUR: Where does Survey go on MTTs?

Major Herring: We go to many places in the States, Dothan, Alabama; Flint, Michigan; Long Beach, California; Corpus Christi, Texas; New Kensington, Pennsylvania and Richmond, Virginia, to name a few. We export our School through the MTT in both the topo and construction areas. Some units need extensive training support, usually because of a large turnover of personnel, or lack of senior NCOs, while others require only minor support. So far we are not as lucky as the Graphic Arts, no overseas trips. We do make about 35 trips per year within CONUS.

CONTOUR: What about the military-civilian interface within Department of Survey? What are some of the problems, how do you handle them?

Major Herring: I have over 40 personnel working for me. The people come from all Services (except Navy) and civilians. We have no real problem in Department of Survey, at least nothing that can't usually be quickly resolved. The people are well integrated; we have Marines working for Army, Army working for Air Force and civilians working for everyone. One of the good things about our civilians is they have been around the military for a long time, many are retired military; therefore our civilian-military interface is good. We have some small day-to-day problems, but nothing that good management can't solve. We have some good healthy inter-Service rivalry. The instructors are always kidding each other; right now the Marines are catching it over their new utility uniforms, but they give as good as they get and it's all done in good fun, and Esprit de Corps.



Old soldiers never die - - they just fade away . . . .

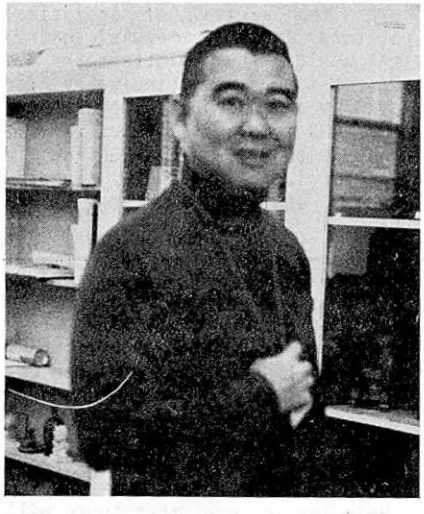
CONTOUR

VOLUME 3 NO. 18 | DEFENSE MAPPING SCHOOL | 5 NOVEMBER 1976

PORTRAIT OF A TOPO-MAN

by Will Freeze

Not long after World War II had ended, but several years before his native homeland had received statehood, a young Hawaiian boy of Japanese ancestry was drafted in the



United States Army to serve his country. He received his basic training in 1946 at Schofield Barracks in Hawaii. Because of his excellent bi-lingual capabilities, he was sent to Japan as an interpreter in a language detachment of the 123d Engineer Survey Battalion, and later the 7157th Engineer Detachment in Tokyo.

He served his country well during those active post World War II reconstruction and Korean War years. He remained in Japan for ten productive years, attaining the rank of Master Sergeant. During this period of his early career, he utilized his off-duty time to study the subjects that were becoming of great interest to him: Surveying and Cartography. These studies earned him an assignment with the 30th Engineer Battalion (Base Topo) in Presidio, San Francisco, California. After such a long stabilized tour in Japan, a tour of duty with a state side Base Topo Battalion proved to be a sharp contrast.

Topo Battalions provided extensive opportunities for TDY assignments to many interesting countries actively engaged in topographic mapping missions. His travels led to the Far Eastern countries of Okinawa, Philippines, Borneo, Vietnam, Laos, Cambodia, Burma, Thailand and New Guinea; Sudan, Libya

(Continued on page 5.)

NEW COURSE IN TOPO-SCIENCES DEPT

EGAD! There is a large puddle of Army Green in the DMS Purple Sea. TSD has designed and is preparing a new 8 week course for Army Officers only. The first course starts the new year right. When TSD returns from the Christmas Holidays, they will find that old St Nick has left a flock of Second Lieutenants, a smattering of First Lieutenants and a few Captains, all eager to start the Basic Topographic Officer Course (BTOC).

The course is a response to a request from 18th Airborne Corps for officers to man the Terrain Teams. Consequently, TSD responds with a 297 hour course that gets down to the nitty-gritty of Topo and Terrain. The primary emphasis of BTOC will be on techniques of Terrain Analysis with a strong appreciation for the functions of Survey, Photomapping, Carto and Repro. The end product of the BTOC will be a Junior Army Officer ready to function in a terrain or topo unit at the Platoon or Detachment level, armed with the skills and knowledges taught from a practical, no frills, viewpoint.

Unlike most Officer Courses, BTOC focuses on the "how to do" approach with emphasis on learning by doing. It is not known at this time whether BTOC will survive past the first DMA approved offering, but the BTOC Course is specifically designed to meet a clearly identified Service need and is an excellent example of the type of response TSD can render. Any Department that volunteers to teach Second Lieutenants can't be all bad!

Left to Right: CPT Keller, CW3 Parker, CPT Hey and CPT Baybrook laying the groundwork for a BTOC Practical Exercise: "....and that last requirement should put them just about here."?

from the DIRECTOR

Can you imagine how Charlie Schulz must feel every day when he faces that blank piece of paper that must be turned into another "Peanuts" adventure? We have the same problem this morning because DMS is kind of in a waiting period between important events. We've already covered the past and I have a superstition about writing articles on things that are to happen near Contour's publication date. It would never do to have a glowing account of an anticipated award ceremony hit the streets when the recipients have all just been arrested by the Vice Squad, for instance. Therefore, despite the impending Center Team meeting, DMA Awards Day, and Marine Birthday, we shall content ourselves with odds and ends this time:

..... I thought my article in the last issue on our OSU trip was the best I'd done. Marge, ever attentive to the Ego Control portion of her job description, said it wasn't so hot. The wife didn't get through it. Sigh.

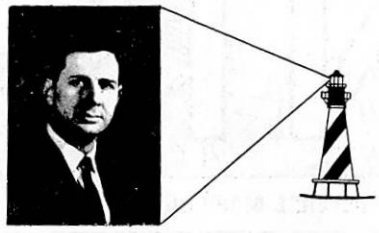
..... As reported elsewhere, Captain Jim Hey was our Instructor of the Quarter. I feel this was a particularly selfless selection on my part, since that officer has inflicted numerous injuries on my person with his screwball delivery to first base.

..... Again, best wishes to our Navy folks on that Service's birthday. We owe a lot to the excellent and dependable work in the trenches (at the oarlocks?) by Lieutenant Leath and Petty Officers Smith, Adamczak, and Morey.

..... We Californians continually find ourselves socially pressured to exclaim over the beauties of East Coast autumn. Hotcha! There, that's it for this year. I'd say more, but have to spend an early lunch hour cleaning all those many-hued, gold tainted products from the palette of Jack Frost out of our fish pond before they rot, stop up the drain, and make the water smell bad.

..... More next time on the Center Team, DMA Awards Day, Marine Birthday, and Vice Squad.

From The Lighthouse



FORMER DMS INSTRUCTOR JOINS WILD HEERBRUGG

Most DMS people remember USAF Capt Jim Jensen who served as an instructor in our Topographic Science Department from August 1973 to June 1975. Jim, a Purdue Geodetic Science graduate, taught the APPS and other photogrammetry related subjects in the Topographic Science Department. Upon his discharge from the Air Force, he took a job in mapping with the Alberta, Canada government, and as of January 1976, he joined Wild Heerbrugg as Manager, Photogrammetry and Surveying in the United States. The Wild office is in Farmingdale L.I., New York. Jim was a speaker on my session at the Seattle ASP/ACSM Convention 28 September - 1 October 1976. My session was entitled "Orthophoto Systems and Automation." Speakers from Bendix, Galileo Corp and Wild Heerbrugg presented their new analytical plotters and orthophoto printers. It was a pleasure to visit with Jim and the other manufacturer representatives during the Convention. The year 1976 seems to mark the arrival of analytical plotters in the commercial instrument world. These plotters are being considered as candidates for the Army's Topographic Support System. DMS is playing an active role along with USAES, MERADCOM and ETL in modernizing the Army topographer's equipment for the field units.

YOU'RE JUST THE RIGHT "TYPE"

The normal human adult of average weight has approximately 10 to 12 pints of blood in his body, or about 8 percent of his body weight. Under certain conditions the blood volume may be increased. These conditions include exposure to high temperature, low oxygen supply, muscular exercise, and pregnancy. Large reductions in blood volume due to hemorrhage, or loss of plasma due to extensive burns, must be countered by a whole blood transfusion.

There are four main groups of blood — A, B, AB, and O. When a person requires a whole blood transfusion he must have blood that matches his group, otherwise the cells will be destroyed and cause a serious reaction.

Samples of the donor's blood and the patient's blood are first crossmatched to make sure they "agree." If the cells from the donor's sample do not clump when added to the blood serum of the patient's sample, the bloods are "compatable" and a successful transfusion is possible.

Help us ensure that there will always be adequate blood supplies for people in need by becoming a Blood Donor. DMS is a mere seven units away from meeting it's quota for the American Red Cross - DeWitt Army Hospital Donor Program. Let's meet that quota and make blood supplies available to any member of DMS should the need arise. The next donor day is 19 November 1976. Put that date on your calendar and call 41247 to make an appointment for Blood Donor Day at the Recreation Center.

The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.
Address all communication to:
Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

MYSTERY PERSON

From the city of cars, he came,

From there he began his climb to fame?

In much younger years an altar boy

He remains to this day occasionally coy.

A university in cartown got him started,

And like many in '42 he departed.

20 years later he packed it all in,

Having served in England, France and even Berlin.

Since '66 he's been in our midst.

Despite all else, if he left he'd be missed.

You should need no more clues, but of course,

If you haven't guessed yet, remember the talking horse?

CAN YOU TOP THIS

by Cathy McCloskey

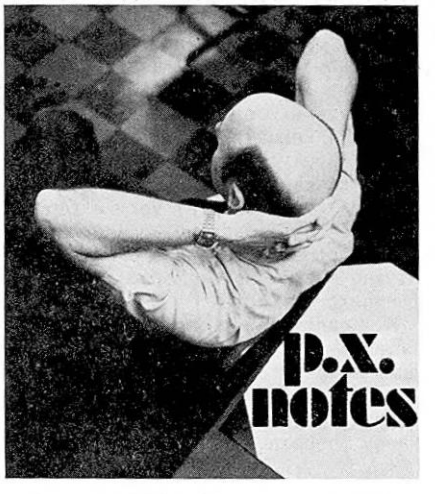
DMS officers please pay attention to the following!

Our NCO bowlers again made their mark in what must be a first somewhere — the 4 teams in 4 leagues won 4 games on 27 October.

Thanks to SFC Dean who passed this on to me.

ANSWER TO 22 OCT MYSTERY PERSON

Well my goodness, it's Baby Bruley from PPO!



by Bill Locke

This first "column" will probably be longer than those that follow, mainly so that I can give you some background information. As I hope you know by now, I've volunteered to be "your man" on the PX Advisory Council. I recently attended my first meeting of that august group, and would like to pass along to you some things that I learned and which you may find interesting, and a brief discussion of some of the topics covered so that you have an idea how I may serve you as a member of the Council.

The meetings will generally be the forum at which the various agency council members meet with Fort Belvoir AAFES management officials to review suggestions, complaints, etc., made by those the Council members represent - you. To give you some idea of the type of suggestions (or complaints) that are presented, the following items were offered by various members for discussion at the recent meeting. Although budget precludes any near time action, the Service Station will have more pumps dispensing low lead (or no lead) gasoline. They recognize more and more cars require that type of fuel and with only the one pump (now at the head of the island) it causes delays. Fort Belvoir is also looking for a solution to the congestion problem that often exists with people seeking to enter the Service Station area along with those trying to reach the Bank Drive-In window. The Council in conjunction with PX officials are seeking solutions to numerous complaints concerning film processing services, e.g., lost film, poor quality processing, etc. These are but a few of the things talked about, but should give you an idea of the range of subjects discussed. It appeared to me that the Council is serving a useful purpose and that PX Management officials are genuinely concerned in seeking improvements. I urge you therefore, to call and talk about anything you'd like me to

(Continued on page 4.)

A GAD MERIT PROMOTION

The first "DMS Instructor of the Quarter" moves on to bigger and better things, more responsibility and a more meaningful contribution to the basic mission of training personnel in the Graphic Arts.

As a Master Instructor, a South Dakota State University graduate with a degree in Printing Management, Mr. Dale Anderson, over the years has contributed in a highly professional manner to the mission, exemplofying the complete instructor, devoted fully to presenting instruction and guidance to the students of the Reproduction Equipment Repair Course.

Mr. Anderson's contributions to the instructional mission within the Graphic Arts Department have been many and varied. Besides being a Master Instructor in the Harris Offset Press block of instruction, he is equally well qualified on all photolithographic reproduction equipment. He has performed Lithographic Copy Camera troubleshooting, rebuilding, and repairing for military and other government agencies on many MTT trips.

As a new Instructor/Writer GS-11, replacing the retired Ralph Levine, we are sure Mr. Anderson will continue to contribute in the outstanding manner that he has in the past. Eleven is usually a lucky number, we are sure it will be for Andy and GAD.

I DO. . .

by Don Uber

There is much cause for rejoicing in the hallowed halls of Wheeler Hall due to the re-enlistment of SFC Errol D. Seaman. SFC Seaman (Dean to those of us who know him) raised his hand and said "I Do" to another three years of Army green on Monday, 18 October.

Dean's love affair with the Army life began in 1951 with the now deactivated 48th Engr Topo Bn and has spanned three continents including two tours with the 569th Engr Co in Vietnam. He is now assigned as a Senior Instructor in the Department of Cartography having come to DMS in June '76 after a three year tour as Company Operations Sergeant of the photomapping company, 652d Engr Bn in Hawaii. He brings to us many years of experience and expertise including several years as an iron worker and taxi driver - just listen to some of his stories sometime (he could write a book).

In the few short months that he has been here at the School, Dean has established the reputation among his cohorts as being a volcano of knowledge spewing forth information whenever it is needed and is constantly being sought out to shed light on one problem or another by students and instructors alike.

SFC Seaman's current base of operations is Woodbridge, Virginia, where he has set up housekeeping with his lovely wife Natalie.

P. X. NOTES

(Continued from page 3.)

bring up in your behalf. Not to discourage you, but I will probably ask you such things as, whom did you talk to? was it really 1130, could it have been only 1125? These questions are necessary so that proper action may be taken. I'm sure you realize that reaction to generalized complaints like "the PX never has my size socks" doesn't help much. It's when I discover you like burlap socks and your size is 18 that I can perceive just what your problem is and can seek a solution.

I intend to publish (with the Editors permission) "PX Notes" in the first Contour following our monthly meetings (normally 2d Thursday of each month), so let's have those suggestions and/or complaints. Just dial 4-DORE (or 43673) and we'll talk about your problem.

DID YOU KNOW? Starting 29 Nov, PX will extend evening hours on Thursday and Friday to 2000 to facilitate Christmas shoppers. PX now has an Equipment Rental Concession in Building 1191. Sunday, in an emergency, you can have the Manager of Main Exchange to get you something from the "normally not open on Sunday" military department. If any of the PX facilities don't stock something you need, you may not have to special order. Ask a salesperson or manager about the "Special Request." If it's in the AAFES supply channels but not locally stocked (due to infrequent demand for example) very often it can be obtained in a short time from another area store or our supplying warehouse. More items in the next "PX Notes."

A parting thought from your friendly PX — Shop lifting is dumb! There are more security people at the PX than you think (or I thought), so you think, twice. Happy Shopping.

D/CARTO BABY BOOM

In 1849, the most significant event in the United States of America was the California gold rush. In the early 1930's, the oil boom captured the headlines in the West. Not to be denied (as usual), the Department of Cartography started their own boom in October 1976 —— the Baby Boom!

Two healthy, vigorous (and noisy, we might add) young males were added to the D/Carto Dependent Roster on 13 October 1976. Willam Roderick Snyder was born at approximately 11 A.M. in Pennsylvania, and Mark Jason McKay arrived later (like father, like son) at approximately 11 P.M. in our own DeWitt Army Hospital.

Willam (pronounced Wil-lum) will be residing in Pennsylvania with his mother, Barbara, while "Pop" is serving an overseas tour in the Frozen Chosen. SSG Snyder, Construction Drafting Division, is currently enrolled in the Engineer School's Soil Analysis Course and will depart for Korea in December.

Mark moved in with his parents, Jim and Doreen McKay, in the Dogue Creek residential area. SGT McKay is an instructor with the Cartographic Compilation Division.

We extend our hearty congratulations to both families and wish them many happy returns!

Check wild game carefully

Not all hunting dangers from guns

by Capt. (Dr.) Terry O. Adkins

Wild game—animals and birds—should be field dressed immediately after the kill to allow it to cool properly and to prevent bacteria that are located in the intestines from disseminating throughout the carcass. The intestines should be removed along with the heart, liver, lungs, kidneys, musk glands, etc. The body cavity should be wiped dry with a clean rag and propped open to air out.

Wrapping the carcass in a game bag helps keep dirt and debris from the meat and allows circulation of air for the cooling process. Never wrap warm meat in polyethelene, plastic or canvas since this retains the heat and speeds spoilage.

Special precautions should be taken with sick and parasite infested animals. Some animals have **warbles** (larvae of a fly) in their backs. These are usually in the hide or just beneath the skin. They usually come off with the skin and do not cause problems other than hide damage.

Tape worms are sometimes located in the musculative of wild animals. These are harmful to man and should be removed from the meat when found. The remaining meat should be examined carefully for other parasites which should be removed.

Animals that appear sick when killed or have wounds that appear to be several days old should be examined by a qualified food inspector. The liver, lungs, kidneys, and lymph nodes may help the inspector to determine the usability of the carcass.

Trichinosis is the disease which man gets from eating improperly cooked bear or pork which contains the trichina parasite. A good rule of thumb is to cook bear or pork until it is white. Never eat partially cooked bear meat.

Tularemia is the disease, sometimes called "rabbit fever," and man can be infected with it after skinning infected rabbits. Infection is usually spread through cuts or breaks in the skin of the hands while dressing rabbits. A person who has cuts or abrasions on his hands would be wise to use rubber gloves to dress this game. Tularemia sometimes is evident by white spots on the rabbit's liver and a rabbit that has a diffusely white spotted liver should not be eaten. Tularemia can cause severe pain and medical problems, even death if untreated.

PORTRAIT OF A TOPO-MAN

(Continued from page 1.)

and Ethiopia in Africa; Lebanon, Syria, Turkey, Iran, Afganistan and Pakistan in the Middle East. These were fruitful times for a topographer, they provided our particular topo man many opportunities to serve in many capacities. He continued to learn the map making profession from alpha to omega: aerial photography, cartography, geodesy, lithography, photogrammetry, surveying and topography. His vast range of experience culminated in his appointment as a Warrant Officer in 1961.

After his appointment as a Survey Technician here at Fort Belvoir, he again traveled overseas, this time to the 161st Engineer Company in Gun Chon, Korea for a one year assignment. He then returned to the 30th Engineer Battalion as its Operations Officer. In 1964 he attended the Topographic Engineer Officer Course (now MC&GOC) at Fort Belvoir. After completion of this course he sped on his way overseas again to the 69th Engineer Company in Germany to serve for some time as the Operations Officer and later as its Executive Officer.

In 1967 it was back to Fort Belvoir to attend the new Advanced Geodetic Surveying Course. The CONUS trip was short lived because he soon departed again for the 569th Engineer Company in Na Trang, Vietnam. He was a Survey Technician during the 1969 Tet Offensive. At the completion of his combat zone tour he returned to the Department of Topography, USAES, Fort Belvoir in late 1969.

The world traveler had decided it was time to settle down. He remained here at Fort Belvoir in the capacity of Survey Technician where he became a Charter Member of the newly formed Defense Mapping School in July 1972. Since 1969 he has served as a Master Instructor and as the Chief of the Survey/Computing Branch. He is presently a Special Assistant to the Chief of the Department of Survey.

Our potrait of a topo-man is none other than CW4 Susumu Takaki (to some Sus, or Mr. T) who has seen thirty years of continuous service since he made that first big step in 1946 from his beautiful island home in Hawaii. He has traveled thousands of miles in every conveyance imaginable over all kinds of terrain throughout the world and is now looking forward to the most significant trip of all, the one that will take him back to the place where it all began, where he can enjoy the fruits of a justly earned retirement under the azure skies of home.

We, your comrades, thank you Sus, and wish you God Speed, good health and long life; may your days of retirement be as fruitful to you and your family as your service has been to your country.

Monthly Basic Allowance for Quarters Rates

Pay Grade	Without Dependents		With Dependents
	Full Rate[1]	Partial Rate[2]	
Commissioned Officers			
O-10	$297.00	$29.40	$371.40
O-9	297.00	29.40	371.40
O-8	297.00	29.40	371.40
O-7	297.00	29.40	371.40
O-6	268.80	22.80	327.90
O-5	249.30	19.20	300.30
O-4	222.90	15.30	269.10
O-3	196.80	12.90	242.70
O-2	171.30	10.20	216.90
O-1	133.80	7.50	174.30
Warrant Officers			
W-4	$215.10	$14.70	$259.50
W-3	192.60	12.00	237.30
W-2	168.30	9.30	213.60
W-1	152.10	8.10	197.10
Enlisted Members			
E-9	$162.60	$10.80	$228.60
E-8	150.30	8.70	212.40
E-7	128.40	6.90	198.30
E-6	117.00	5.70	183.00
E-5	112.50	4.80	168.30
E-4	99.30	4.50	147.90
E-3	88.50	4.50	128.40
E-2	78.30	4.20	128.40
E-1	73.80	3.90	128.40

1 Payment of the full rate of basic allowance for quarters at these rates for members of the uniformed services to personnel without dependents is authorized by 37 U.S.C. 403 and Part IV of Executive Order 11157, as amended.

2 Payment of the partial rate of basic allowance for quarters at these rates to members of the uniformed services without dependents who, under 37 U.S.C. 403(b) or 403(c), are not entitled to the full rate of basic allowance for quarters, is authorized by 37 U.S.C. 1009(d) and Part IV of Executive Order 11157, as amended.

Basic Allowance for Subsistence Rates

Officers:	$55.61 per month
Enlisted Members:	
When on leave or authorized to mess separately:	$ 2.65 per day
When rations in-kind are not available:	$ 2.99 per day
When assigned to duty under emergency conditions where no messing facilities of the United States are available:	$3.97 per day

201st Anniversary

United States Marine Corps 1775 - 1976

CONTOUR

VOLUME 3 NO.19 DEFENSE MAPPING SCHOOL 19 NOVEMBER 1976

CW2 Nohe Wins DMA Award

CW2 Nohe receives award from VADM Cramer during ceremonies held in Bagley Hall Auditorium.

The Fourth Annual DMA Awards Day Ceremony was held at 1000 hours on 29 October 1976 at the Defense Mapping School.

The purpose of the Annual Awards Day was to focus attention on the outstanding accomplishments of Defense Mapping Agency personnel, both military and civilian. Awardees and guests from DMA Headquarters, the Aerospace Center (St. Louis), the Hydrographic Center, the Topographic Center, and the Defense Mapping School were present.

CW2 Christopher E. Nohe received one of the Outstanding DMA Personnel of the Year Awards. He was cited because of the remarkably thorough, complete, and professionally exact manner in which he has handled his job as Chief of the Survey/Computing Division of the Department of Survey, in spite of his youth and rank. His citation reads: "He serves as a source of inspiration to the people of his Division because of his innate qualities of humanity, attention to the rights of minority and women employees, consideration for the students of DMS, and wide and exceptionally thorough knowledge of geodetic and civil engineering theory and practice."

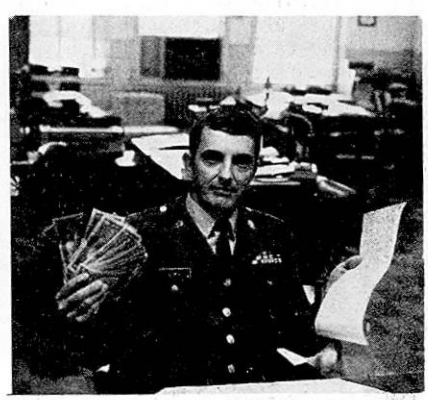
For those of us who work with Chris, we know him as a quiet, unassuming, overworked man who gets things done. He can and does substitute for any of his 17 military instructors or four career civilians on any lesson in the Division on fifteen minutes notice, heads out on a Mobile Training Team where necessary, and designs lessons for the new PAAP course in the Depart-

(Continued on page 4.)

SUGGESTION PROGRAM

by SFC Luke

As mentioned earlier in a memo, we admin types in OAR are attempting to infuse new life into the DMS suggestion program. While we certainly do not have sufficient cause to rejoice over our success rate, we have received a few suggestions since the first of November, which may indicate that some interest is beginning to emerge. It is my burning desire that after you read this article (which may be presumptuous on my part) you will be both knowledgeable and eager to participate in the program. Really, I'm just trying to drum up some business.



Really, I'm just trying to drum up some business.

There is no mystique involved in the administration of the suggestion program. Pains are taken to ensure that the person who submits a suggestion gets credit for his idea, if adopted. The suggestor's name is disassociated with the suggestion during the evaluation and approval process, thus eliminating the possibility of biased appraisals. There are two award scales, one for tangible benefits and one for intangible benefits, that are used to determine the amount of

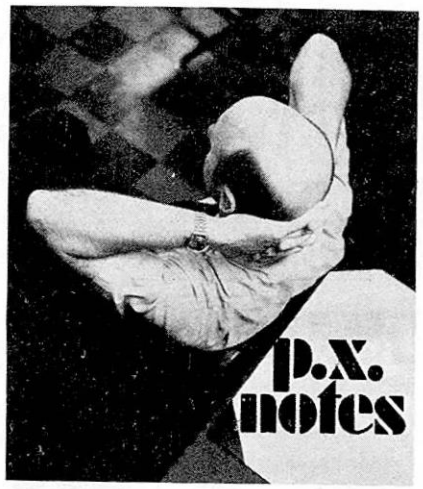
(Continued on page 4.)

from the DIRECTOR

I just returned from a very interesting trip to San Francisco in order to attend an ARPA (Defense Advanced Research Projects Agency) workshop on the psychology of cartography. Our contribution consisted of a review of the standard combat maps and the techniques we use to make them. The question period was particularly revealing, in that many of the queries indicated unfamiliarity but a great deal of interest in the format of the military topographic map. Despite reinforcement by many non-DoD products portraying the U.S., it seems that most of our citizens just don't run into the contoured map very often. I'm not wringing my hands over the talents of our population because of this, but do feel that we military should be very careful about assuming a high degree of previous map reading or map-making talent among our new enlisted or officer personnel.

Perhaps the most rewarding periods were during the meals and coffee breaks. I was sort of adopted by a group of young psychologists (perhaps they had a clinical interest) and academic cartographers (I didn't know there was such a breed): we rehashed the turbulent 60's and Vietnam, and I was amazed not to be put on the defensive. While the graduate student and junior professor or teaching assistant of today has a lot of feelings that are startling and unusual to us old poops. they do recognize the military's place in the scheme of things and went out of their way to make the only uniformed type comfortable in their academic environment. This particular group was a curious mixture of beards, moderate haircuts (Civil Servant Medium), baggy sweaters, and three-piece suits. The girls were dressed informally and gave many of the better presentations. Give-and-take after each paper was lively; if you don't have your stuff together in psychology, you'd better not start reeling off new theories. I think the biggest lesson I carried away was that in the academic world you can't judge the brilliance and creativity of a human mind by dress, gender or appearance.

It was a privilege to attend the ARPA workshop, and it gave me a lot of new insights in that human grouping called Americans.



by SGM Bill Locke

As a result of a motion made and passed at last week's meeting, the PX Advisory council will now only meet quarterly. HOWEVER, that does not affect my service to you. I am still available to receive your comments concerning Post Exchange matters, be they good or bad, and can seek solutions at any time. It must be that you're all pretty satisfied with our Exchange though, as my phone hasn't exactly been ringing off the hook.

Since I'm writing this just minutes before the Contour is laid up, I'll only cover those items I think are of a more immediate interest to you, and save some things for the next issue.

If you visited the PX several weeks ago and wondered why ID cards were being checked for people in uniform, I can tell you that it will happen again. I can also say that it protects our rights as authorized shoppers, because it's the other kind they're trying to catch, and catch they did. The last check (it's done quarterly, unannounced) yielded at least five persons seeking admittance who were not authorized exchange privileges.

From a personal experience last week. I advise anyone cashing a first endorsement check at the PX, to ensure that the cashier dates the back of it when she initials it, this is for your protection. Exchange management tells me this is policy, but even if it isn't, you have the right to demand it be done, or do it yourself. Why? So that if the check issuer stops payment claiming a "stale" check, you can prove the check was tendered prior to the "void after" date.

Some special things in store for you ladies. In the next couple of weeks, your exchange will be receiving a $32,000 shipment of ladies fashions. Among the goodies will be things from Jack Winters, Cloretta California and Alice and Jane. Good news for guys and gals doing some Christmas shopping. Between now and Christmas, the PX will feature everyday at least two different items at a 15% discount. During the last week for example, for one or more days, all leather coats and Corell Dinner Ware were featured. Might pay you to check the store. Finally, this week-end, the Exchange is planning "Truck Load" sales. A couple of items to be featured are 10 speed bikes and table tennis outfits. Some items will be going at 20% below retail. Another example of your Exchange working for you.

DID YOU KNOW? The AAFES Fiscal Year runs February through January. The Post Veterinarian inspects Exchange food service facilities much the same as Health Department checks eating places outside the gates. While you can only cash checks for $50 worth of cash, you can write as many checks as you want, in as many different AAFES stores as you want, for "amount of purchase" plus $10.

Watch this column for more exciting Christmas shopping news. Happy shopping.

DAILY BIBLE STUDY

A small group of DMSer's meets each morning at 0710 to study the Bible and pray. You are invited to come to Room 318, Wheeler Hall, any weekday, to share this special way to start the day.

LAST MINUTE REMINDER . . . .

The next Contour will be distributed on 3 Dec, deadline for articles is noon, 23 Nov.

The deadline for articles in the 17 Dec edition of the Contour is noon, 6 Dec.

The Defense Mapping School Contour is an authorized newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.

Address all communication to:

Editor, Contour, Defense Mapping School, Fort Belvoir, VA 22060

Director: COL Edward K. Wintz

Editor: Cathy McCloskey

MYSTERY PERSON

As you can see, our Mystery Man loved wearing uniforms even at this young age. Obviously he has made a career out of changing uniforms. Otherwise he would have looked very cute in his Indian suit as Operations SGT of the Army Operations Center in 1974. Not to mention the "slings and arrows of outrageous fortune" suffered by his Instructors at both the University of Virginia and the Inter American University. As he got older, the style changed and eventually his new uniform led him to the topo community in 1968. He was around in 1972 and so became a charter member of the Defense Mapping School.

January 1976 was a highlight in his career and again his uniform style changed slightly. Lastly, he complains about LTC Sprinsky's snide remarks, but he is not alone.

ANSWER TO 5 NOVEMBER MYSTERY PERSON

The White Book man is from Detroit
His numbers exceptionally adroit
A "6" is a "7"
Or sometimes an "11"
When wrong, he is seldom "controit"

From Berlin thru Africa to DMS
His desk in PRT always a mess
Quotas his game,
Ed Franke his name
He's the FRONT of that horse, we confess

DMS CELEBRATES MARINE CORPS BIRTHDAY

by Cathy McCloskey

On the 10th of November, DMS Marines and their guests celebrated the Corps 201st birthday - and what a celebration it was!

The big day began with most of the DMSers, along with our Marine students, in the Auditorium to hear the 13th Commandant's Message read by MGYSGT Gonzalez and the Commandant's Message read by Lt Col Westphal. In addition, some Birthday remarks were made by COL Wintz. Afterwards, there was coffee and cakes for everyone (thanks to SGM Harris).

Finally, the 201st Marine Corps Birthday Ball was held in the Holiday Inn in Dumfries. Around 100 guests were there, and the evening was PERFECT. Our Marines, spearheaded by MSGT Bill Sutton, did an outstanding job in putting the evening together. This ranged from the lovely programs and Birthday Message souvenirs to the excellent band and the superior food! I'm sure I speak for everyone when I say the evening was perfect, in fact I can hardly wait for next year. The sad part of the whole affair is that I blew it with the picture taking. I only got two pictures! I clicked away most of the evening but the light meter on my camera indicated that I never got that little "pointer" out of the "red zone" all evening. Oh well, ok Scoop, back to the showers - hopefully I will be a better photographer when next year rolls around.

CW2 White Promoted

Congratulations are in order for Chester White who was promoted to CW2 on 1 November 1976. Since his return to our faculty in May 76 he has been actively engaged in several experimental printing projects and an important statistical data gathering test. A major area of concern for us has been, does GAD provide the units which get our graduates, with a broad picture of their "task performance training" strong and weak points.

The present numerical ranking of students is effective, but it is just that, a ranking of students.

CW2 White is working on identifying the students accomplishment on each task tested. He has designed several forms which are being used during the practical exercise test to determine if the students are qualified or not qualified on each task or sub task performed. He has found some interesting data thus far and it appears that this moving away from numerical ratings to qualified or not qualified, is a possibility in the press course. Additionally, CW2 White has been conducting some of the Mobile Training Team efforts. He left immediately after the promotion ceremony for a two week training project in Alabama. Chester, all the members of GAD want to wish you the best for the coming year and congratulate you on your promotion.

SUGGESTION PROGRAM

(Continued from page 1.)

money that is to be awarded for adopted suggestions. The Director is authorized to award up to $1000 when tangible benefits are involved and up to $500 when intangible benefits are involved. Incidentally, to allay any doubts that you may have about the availability of funds for suggestion awards, Elia Burke has assured me that a sizeable portion of the DMS coffers is set aside each year for the suggestion program. The problem is not the availability of funds, but how to give the money away - legitimately. These are some important points that I feel you should understand about the program. For those of you who are interested, I will be happy to explain the program in greater detail or answer any questions you may have at your convenience.

In addition to a monetary award, there is a good chance of attaining some self-satisfaction from making a suggestion. How many times have you felt frustrated because an idea that you firmly believed in, fell on deaf ears when you presented it to your supervisor or other authority? Well, the suggestion program helps to overcome this resistance to change by providing a means by which your idea can be placed into official channels. Once you place your idea on a suggestion form and submit it, it will be thoroughly analyzed and evaluated and you will be notified of the results. If the suggestion is not adopted, you will be given a detailed explanation of the reasons it was rejected. If it is adopted, it can't help but give you personal satisfaction. Of course the monetary sweetner that may accompany your certificate of commendation will be most gratifying.

So do yourself and DMS a favor at the same time. If you have an idea that you think may help DMS or the government, take some time to think it through and then place it on a suggestion form. When I say think it through, I don't mean conduct an exhaustive study of all the possible ramifications together with the advantages and disadvantages of each. Just take the time to ensure that the basic logic is sound, and that there are no obvious restrictions (public laws, military regulations, etc.) that would preclude adoption. Submit the suggestion to OAR, and I promise that prompt action will be taken. You may be in for a very pleasant surprise.

NOHE WINS AWARD

(Continued from page 1.)

ment of Cartography. He put together and presented a portion of DMS TSS position, acted as key canvasser for the annual Army Emergency Relief Fund Drive, and with the help of an SFC and MSG, designed and executed the survey for the coordinated positioning of the platforms of the National Bicentennial fireworks display. In his spare time he performs research for his PhD dissertation. Spread thin? Well right now he is managing without his two old guard warrant officers, and is due to lose a key civilian. Finally, speaking of getting blood from turnips, he has donated two gallons of his blood to the Fort Belvoir Red Cross.

Pamela, when do you and his two children ever see him out at Woodbridge?

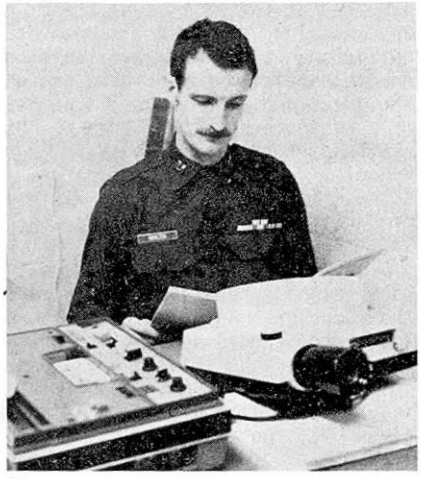
CONTOUR

VOLUME 3 NO. 20 DEFENSE MAPPING SCHOOL 3 DECEMBER 1976

REMOTE SENSING INSTRUCTION

by LTC G. E. Anderson

Remote Sensing, contrary to popular belief, is not a branch of metaphysics akin to Transcendental Meditation or ESP, but rather a Space Age field of endeavor concerned with sensing our physical environment from afar. Although aerial photography, as it is conventionally known to the mapping community, is a perfect example of remote sensing imagery, the concept



Capt Moulton reviews mini-series material.

of Remote Sensing has come to include Temporal and Spectral dimensions as well as the Spatial (pattern) characteristics of the typical black and white aerial photo. A good example of the Temporal aspect is the weather satellite movies we see on the news every evening. An application of the Spectral dimension is the technique of discrimination between clouds, which remain white, and ice, which is non-reflective and shows as black in middle infrared wavelength band imagery.

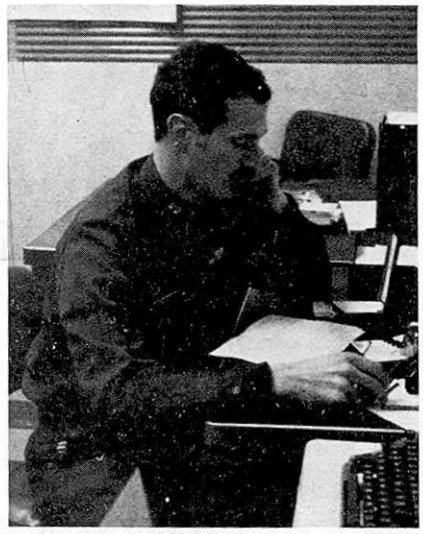
When one thinks of remote sensing, one should also think of satellites and non-photographic sensors such as television cameras and multispectral scanners telecommunication to the earth in near real time. However, conventional photographic applications continue also to be important, even from space, as we enter the space-shuttle phase of our conquest of space.

Remote Sensing techniques are considered to be of sufficient current importance to mappers that such significant organizations as the USGS and the Canadian National Mapping Agency have already dedicated large resources to their exploitation. Promising results have been obtained in medium and small scale regional mapping, economic geography, and map revision where vertical relief representation is not critical.

If you wish to become more familiar with the subject, DMS has acquired the Purdue University minicourse series, "Fundamentals of Remote Sensing" consisting of 19 separate sound-slide-and-workbook lessons for use in a self-teaching mode. The one hour lessons are titled as follows:

Introductory Units:
- *Remote Sensing: What Is It?
- *The Physical Basis of Remote Sensing

Sensor Systems:
- *Photographic Sensor
- *Multispectral Scanners



Capt Moulton, TSD, Contact Officer for mini-series.

- *Side-Looking Airborne Radar

The Spectral Basis of Remote Sensing:
- *Spectral Reflectance Characteristics of Vegetation
- *Spectral Reflectance Characteristics of Earth Surface Features

Applications of Remote Sensing:
- *Applications of Remote Sensing in Forestry
- *Applications of Remote Sensing in Geology
- *Crop Surveys through Remote

(Continued on page 5.)

GERMAN GENERAL VISITS DMS

On 15 Nov, DMS was visited by BG F. M. Stadhofer, Chief of Combat Support Arms, Federal Republic of Germany. He toured the teaching departments accompanied by COL Wintz, MSG Brabetz, LTC Michatsch and an interpretor. In addition to the tour there was a briefing by COL Wintz and an APPS demonstration.

BG Stadhofer was born in Michelsbach/Vienna in Austria. After the war he ran his family's own small factory. In 1956 he joined the new German Armed Forces as a Captain. In 1959, he was selected for the German Armed Forces General Staff College. In 1971, BG Stadlhofer was appointed General for Artillery Troops and since 1975 he has been Chief of Combat Support Arms. He is married and the father of 2 daughters. He enjoys swimming, sailing and hearing the varied accents of our DMS German-American instructors during the briefing and tour.

from the DIRECTOR

I think I mentioned in an earlier column my distaste for writing in the past tense about something that really hasn't happened yet. Such was the case with DMA Awards Day. I gathered as much feedback as I could and waited for the inevitable bomb: "The Awards Day? Oh, sure it went fine ..... despite the fire." No such thing occurred; and we can now grudgingly report that despite my absence, the hosting of the event went well and all of Lt Col Westphal's efforts resulted in a fine ceremony. Darn! I was hoping for at least a small gaffe to prove I was indispensable.

Such was not the case. The Marine band was excellent, the world-famous Bagley Hallway was finished, and the front of the School never looked better. We received many fine comments on the appearance and bearing of SFC Yelton's crew of NCO ushers, and I would particularly like to thank them for their extra effort. Our product is military people, and it was gratifying to show some good examples to our sister components.

I did witness some of the gyrations before leaving for San Francisco. Sergeant Major erupted hourly with basso profundo rumblings about refreshments, flags, and police. Dick Christ was struggling with a mike extension cord that alternated between shorting and being electrically open. Deputy Westphal developed a slight facial tic while exhorting all of the above to be cool. It worked, guys, and many thanks.

A couple of postscripts. TC's Topocomments devoted almost an entire issue to the event, but neglected to mention where it was held. Tut, tut; remember the third of the five journalistic W's, old friends. We have since told a couple of guys down in the Ruth Building that DMA Day was conducted at Harrah's in Las Vegas, just to start trouble.

Finally, there is a move afoot to replace our building designator out front to state: "Bldg 214, Bagley Hall——Headquarters——Planetarium—Houchins Bicentennial Hallway." I am unaware of the leadership behind this movement at present.

Mr. Boale, Staff Director of Personnel, DMA, speaks at DMA Day Ceremonies. Seated L to R: VADM Cramer, MG Young and Mr. Andregg.

Quantico Marine Band provides music for the 4th Annual DMA Awards Day.

INSTRUCTOR'S NOTEBOOK

by Dick Christ

During the period 16-19 November the USAES, at the request of the Interservice Review Organization hosted a Phase I Study session for a wide variety of DOD Occupational Groups. The purpose of these meetings was to determine whether training programs offered by the individual Services exhibited sufficient commonality to be considered for consolidation as Interservice course offerings. The Defense Mapping School chaired one of the sessions which appropriately investigated the DOD occupational dealing with Mapping, Surveying, Drafting, Equipment Repair and Lithography. Despite the fact that DMS provides large segments of the instruction in these areas on a Joint Service basis, the remaining single service courses had to be compared at the task level creating an imposing workload. However, sufficient time was available to enable participants to share training ideas and techniques. A number of these are being explored by DMS staffers for possible use in our School. The overall session was a success and progress in a variety of areas was made toward increased Interservice training.

A number of staff and faculty have recently received letters from the Southern Association of Colleges and Schools calling attention to a training session to be conducted during the SACS Annual Meeting. DMS will send two representatives to the annual meeting with plans to record these training sessions for the benefit of all who may be called upon to serve as a Visiting Team member. It is pre-

(Continued on page 4.)

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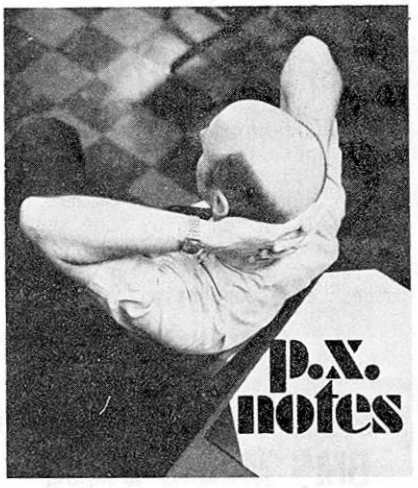


by SGM Bill Locke

Hope you kind readers have been taking advantage (those of you authorized) of some of the good deals your Exchange has been offering over the past weeks. I've sent out at least two special flyers since the last Contour for those of you who can't get to the PX to check the advertisements. If you didn't see them, complain to your Office/Department NCOIC. The third week-end in November provided you with some great opportunities for Christmas shopping, and if you missed the "truck load" sale, don't fear, there'll be one every week-end 'til Christmas. Each one will be bigger and better, so watch for my special flyers.

Thought you might be interested in how your Exchange is organized on a national basis, so the following is offered for your information. The World (and consequently CONUS) Headquarters for AAFES is located in Dallas, and it's this Headquarters, in conjunction with the House Armed Services Committee, who decides what items may be sold in the system and/or specific area. For example, major appliances are not sold at all CONUS stores, as their sale is dependent on local economy availability, among other things. After World Headquarters, there's the Regional Headquarters, which for us is the Capital Exchange Region located at Cameron Station and the Washington Area Exchange also at Cameron Station. Finally of course, there's our local Exchange - the one that's the most important. I guess I must have spent most of my career in a closet as far as knowing anything about the Exchange system, as it was only recently I discovered that there were "category" stores. As you may know (I didn't), we have a Category

(Continued on page 5.)

MYSTERY PERSON

This is not Jack Armstrong, although he looks like the All-American boy. Somewhere in the later development of this sweet faced and well pressed young man (look at those trousers), there is at least one skeleton. In a career association with the Department of Defense (ours, of course) spanning almost a quarter of a century, half were spent outside the United States. An alumnus of the infamous "Project Betty" (see Contour issue 29 April 1976), the highlight of his career occurred when he was lost in Dasht-e-Kavir, "The Desert of Death", and his 3/4-ton truck broke down (he was found and recovered).

Our mystery man has served in Ft Sill, Germany, Iran, "somewhere in the Pacific", and Ft Belvoir. A certified MCGer in the past, our man is now in a less demanding "allied trade". With the spare time thus gained, he attends theater and ballet with his charming wife. "He fools around alot", adds SGM Locke.

ANSWER TO 19 NOVEMBER MYSTERY PERSON

One little, two little, three little indians and all of a sudden we have the Boston Tea Party at Ft Belvoir in our own Department of Cartography. Can you see our mystery man throwing multiplexes into Tompkin Basin and yelling "No taxation with stereopsis." Does he wear his Indian suit under his Warrant Officer's suit? Our "brave" is WO1 Pedro Madera and who knows what goes on in his mind when he wears those funny red and blue lens spectacles.

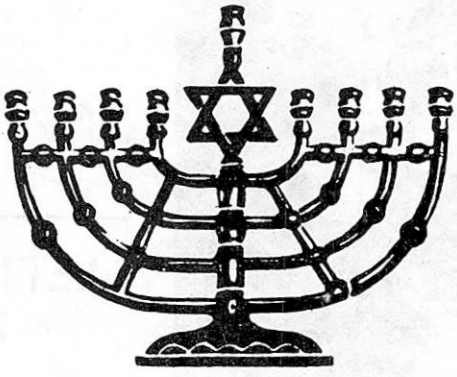
LETTER TO THE EDITOR

I would like to thank those that donated blood recently (especially on 18 November) for Pam Michowitz. As my last minute flyer said, she needs two units a week and her daughter about the same. Unfortunately, her daughter won't always need blood as her disease is terminal. So, if you're not donating blood for anyone special, I know they would both be grateful for all you can give. By the way, giving to Pam also counts for DMS. Thanx.

SGM Bill Locke

DICK KOTTEMANN SAYS "ALOHA" TO DMS

At the end of November, the Department of Topographic Sciences (TSD) said its final good-bye to MSG "Dick" Kottemann. Dick has been with the Defense Mapping School and TSD since May 1972. As an instructor with the Terrain Evaluation Division, TSD, and the only Terrain Analyst for quite some time, he "fathered" the present DMS Terrain Analysis Course. He also taught Military Geographic Documentation to EOAC, EOBC, and ENCOA classes, as well as teaching Map and Aerial Photo Reading. During his last six months, he "traded" his job as instructor for the more "relaxing" job as Chief Instructor Supervisor, TSD. Now, as winter descends on Ft Belvoir, Dick "trades" TSD for the warm and sunny shores of Hawaii and potential duty as a "first shirt." In preparation for his new assignment, he has been practicing in front of a mirror for the last six weeks and watching old Burt Lancaster movies. Best of luck, MSG "Dick." Enjoy!



HANNUKAH

On Thursday evening, December 16, Jewish personnel and dependents at military installations will mark the first night of the *Hannukah* festival by lighting the first candles of the holiday. An additional candle is added to the *hannukiyah* or *menorah* (candelabra) until the eighth night on Thursday, December 23. The holiday is also marked by the giving of small gifts to children, the eating of potato pancakes (*latkes*) or donuts, and playing the *dreydel* (tops) game.

This holiday marks the 2141st anniversary of the re-opening of the Temple in Jerusalem after its desecration in the year 168 B.C. Antiochus sought to tie Judea to his polyglot empire by imposing upon it the rule of a politically favored minority backed by a military garrison. Angered by their loss of freedom and the crass violation of their holiest site, the Jews allied around Judah Maccabee and recaptured Jerusalem in the year 165 B.C.

On the third anniversary of its desecration the Temple was re-opened for Divine service. It soon became customary to "proclaim the miracle" by lighting the Hannukah lamp, a tradition which has lasted to this day.

INSTRUCTOR'S NOTEBOOK

(Continued from page 2.)

sumed that the letters received are in anticipation of future letters requesting visiting team membership. Membership on a SACS Visiting Team will afford DMS the opportunity to gain valuable insights on how our counterpart civilian training institutions operate and what techniques are employed by these schools. More concerning the SACS Annual Meeting and Visiting Team membership will appear in future Contour articles as the information becomes available.

The Annual Audio-Visual Pictorial, TV and Training Aids Exposition will be held 29-30 November and 1 December at the Sheraton Park Hotel in Washington. Admission is free and the show is advertised as the largest of its type in the East. The greatest benefits to be derived from shows of this type are gained by directly discussing specific AV problems with the exhibitors.

A SPECIAL THANKS

On behalf of my daughter and myself I would like to thank all DMS people for their concern and prayers during the past month. The strain placed on us by the sudden death in our family was made considerably lighter by your thoughtfulness and cooperation.

LTC William H. Sprinsky
and Family

DMS Meets Blood Donor Program Goal

The results are in, and the 18 November Donor Day contributors brought our total for the year to 58 units. That's one unit more than our yearly quota goal of 57 units! DMS has accomplished this feat with 2 donor days remaining until year end: yesterday, 2 December and 2 weeks from now on 16 December.

Your cooperation and spirit in meeting this goal is greatly appreciated by the DMS family. But, now that this quota has been attained, it should not be filed away as just another goal successfully met. DMS has earned some important privileges as a result of this program. Everyone should do their utmost to insure that every member of the DMS family is fully aware of what these benefits are -

Blood supplies used by any member, in the blood program, will be replaced by the Red Cross. This privilege applies regardless of whether you personally made a donation or not, and is primarily beneficial to the civilian members of DMS. But the advantages of the Red Cross Program do not stop with just DMS employees. The family members of any person employed by an actively participating group are eligible for replacement blood supplies from the Red Cross. This includes:

a. Your spouse.
b. Children under 18 years of age.
c. Dependent children over 18 not able to be a blood donor for medical reasons.
d. Parents and Parents-In-Law.
e. Grandparents and Grandparents-In-Law.
f. Any relative living in the same household who is economically

(Continued on page 5.)

DMS MEETS GOAL

(Continued from page 4.)

dependent upon the group member. In addition to this, whenever you personally make a donation, you may designate anyone as a recipient of one unit of blood regardless of his or her relationship to you. Replacing blood supplies for someone else in no way affects the family benefits previously discussed.

The New Year starts soon and the work must begin to maintain DMS as an ACTIVELY PARTICIPATING GROUP in the Red Cross Blood Donor Program. When you make a blood donation, you help provide coverage for yourselves, your own family, and the entire DMS family. Add to this the fact that you can designate any recipient when you make a blood donation. Therefore, you can see that one unit of blood is a mighty important gift.

Christmas is coming and the new year is not far behind. Plan to give the gift that only people can give. Give the gift of life.

DEFENSE MAPPING AGENCY
BUILDING 56, U.S. NAVAL OBSERVATORY
WASHINGTON, D.C. 20305

15 NOV 1976

SUBJECT: Letter of Appreciation

TO: All DMA People in the National Capital Area

I want to express my sincere appreciation and thanks for the generosity and support given by you to the Combined Federal Campaign in the National Capital Area. Collectively, we contributed over $86,000 which demonstrates your thoughtfulness and concern for others less fortunate than ourselves. This is indeed gratifying and you should feel proud that your personal involvement and commitment in the CFC will allow the continuation of many worthwhile programs to aid those in need. Thank you.

S. D. CRAMER, JR.
Vice Admiral, USN
Director

Mail Schedule for Delivery of Letters and Parcels for Christmas

DOMESTIC MAILS

Contiguous 48 States

Surface Parcels	Dec. 10
Letters	Dec. 17
Priority	Dec. 21

Alaska and Hawaii

Surface Parcels	Nov. 30
Letters	Dec. 16
Priority	Dec. 20

INTERNATIONAL MAIL (From the U.S. to:)	Air Greeting Cards	Air Parcels	Surface Greeting Cards	Surface Parcels
Canada and Mexico	Dec. 20	Dec. 15	Dec. 8	Dec. 2
South & Central America	Dec. 16	Dec. 11	Nov. 18	Nov. 11
Europe	Dec. 16	Dec. 11	Nov. 18	Nov. 11
Africa	Dec. 14	Dec. 9	Nov. 4	Nov. 1
Near East	Dec. 14	Dec. 9	Nov. 4	Nov. 1
Far East	Dec. 14	Dec. 9	Oct. 25	Oct. 15

REMOTE SENSING

(Continued from page 1.)

Sensing
*Temperature Mapping of Water by Remote Sensing

Remote Sensing Programs:
*Mission Planning: Considerations and Requirements
*LANDSAT: An Earth Resources Satellite System
*Skylab: Earth Resources Experiment

Numerical Analysis of Remote Sensing Data:
*Pattern Recognition in Remote Sensing
*Typical Steps in Numerical Analysis

Image Interpretation of Remote Sensing Data
*Interpretation of Color Infrared Photography
*Interpretation of Multispectral Scanner Images
*Interpretation of Radar Imagery

The Topographic Sciences and Cartography Departments have collaborated in establishing a learning resources minicenter for reviewing the mini-series in the office of Wheeler Hall Classroom 316. For further information, please contact Captain Moulton, Classroom 203, phone: 664-2978.

PX NOTES

(Continued from page 3.)

A store which means authorization to carry most everything in the system. "Authorization" is the key word here, as there are things we are authorized to carry but don't. As with any business, you only stock and sell the things that are going to move.

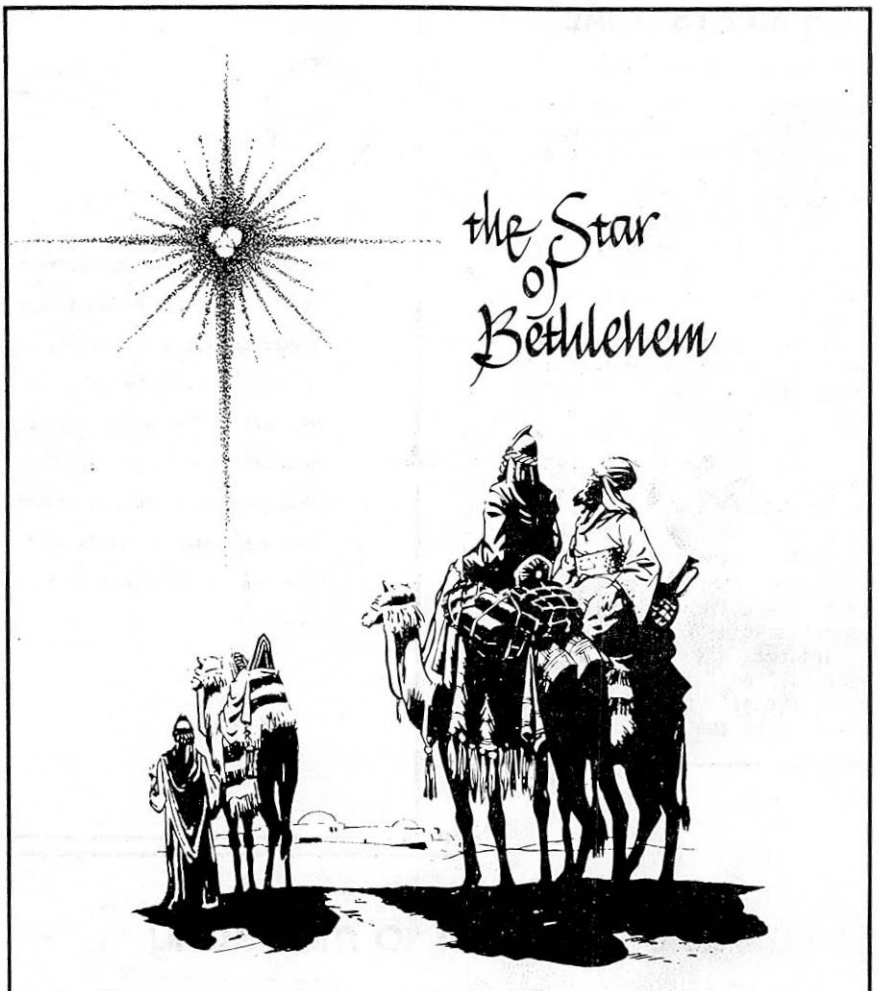
Since the Christmas shopping season is upon us, it might be a good idea to remind you of the Exchange policy on "taking back" items. Please retain sales slips, as your Exchange is no different than most other retail stores when it comes to "adjustments". You can't for example, return something to the Belvoir Exchange that you purchased at Andrews AFB. If you don't have the sales slip, it is possible that some adjustment may be made provided that management is able to positively identify the item as having been sold at Belvoir. As a rule, you can expect "adjustment" policies to closely parallel those of stores at the "Mall" for example. The key to any successful adjustment is probably one of attitude on the part of the "adjustee" and "adjustor". As the "adjustee", let's try to put ourselves in the position of the "adjustor" when we try to return the toaster that one of the kids put their Lincoln Logs in, or the pair of panty hose the cat played with before they were worn.

DID YOU KNOW? Exchange managers get a certain amount of money each quarter to buy "non-standard" items. These may be things that would offer a special savings or items not in the regular stock inventory that the manager thinks would appeal to you the shopper. It's called "Open To Buy" (OTB) funds.

There's a special area in the Childrens Department so that they can shop for presents that are within their budget. Check it out, I'll bet you've got a youngster who would really enjoy doing his/her own Christmas shopping.

Remember - The PX is generally cheaper and the profits from your Exchange contribute to the Central Welfare Fund, and thus returned to YOU. So help yourself TWO ways and shop first at your Post Exchange. Happy Shopping!

Mail early for Christmas



The "Star of Bethlehem" program will be presented again this year beginning 17 December. This occasion is the Defense Mapping School's 16th annual "Star of Bethlehem" program, presented during the Christmas Season, at the School's Planetarium in Bagley Hall (Bldg S-214) at Fort Belvoir for both military and civilian personnel.

The "Star of Bethlehem" is a 25 minute program of slides, music and narration. This moving drama is seen while the stars are projected above the heads of the audience on the dome of the Planetarium. The stars are in the same relative position as they were in the heavens on that wonderful night. The program is presented and interpreted from the viewpoint of the present day astronomer.

Facilities available necessitate limiting audiences to 35 persons per presentation. For organization groups of up to 70 persons, two presentations within a one hour period can be arranged. However, it is recommended that larger groups, especially groups of young children, have an alternate activity planned. The Defense Mapping School Auditorium will be available for this purpose. Arrangements for attendance MUST be made by RESERVATION ONLY through the Defense Mapping School, Fort Belvoir, Virginia, telephone 664-2347, 664-3386 (or government code 192, extension 42347, 43386) MSG Brown or Mrs. Zieres.

The program will run from 17 through 24 December 1976, with presentations beginning on the hour as follows:

December	1000	1400	1500	1600	1900	2000
17	X	X	X	X	X	X
18	X	X	X	X	X	X
19	X	X	X	X	X	X
20		X	X	X	X	X
21		X	X	X	X	X
22	X	X	X	X	X	X
23	X	X	X	X	X	X
24	X	X	X	X		

CONTOUR

VOLUME 3 NO. 21 DEFENSE MAPPING SCHOOL 17 DECEMBER 1976

BOOK PRESENTED TO DMS

On 1 December Mr. George Sullivan, Cartographer/Writer in the Department of Cartography presented a book "Aerophotography and Aerosurveying" to the Defense Mapping School. Now, you might ask "What's so special about a book?" Well it just so happens that the author is LTC James W. Bagley, US Army, Retired, the man for whom our Bagley Hall was named. LTC Bagley wrote the book while serving as Lecturer at the Institute of Geographical Exploration, Howard University, and it was published in 1941. Mr. Sullivan purchased the book in 1948 when he wanted to learn something about photogrammetry for self-improvement and increased knowledge. Mr. Sullivan said the text was one of the best sources of knowledge in the photogrammetric field at the time and the principles and concepts remain valid even in todays highly technical applications.

COL Wintz accepted the book for DMS and it will be displayed in the showcase at the entrance to Bagley Hall. Mr. Sullivan's gift is truly appreciated and a special "thank you" is in order.

COL Wintz accepts LTC Bagley's book from Mr. Sullivan

Attending the presentation, L to R: Maj Kinnan, Mr. Light, Mr. Sullivan, COL Wintz and Lt Col Westphal

New Personnel Staff NCO Assigned

On 24 November 1976, DMS welcomed aboard SFC Ronald M. Fanning, DMS's new Personnel Staff NCO.

Ron was born in Detroit, Michigan on 20 December 1941. He graduated from Central High School in 1959 and joined the Army in that same year. He attended the Postal Operations Course at Fort Harrison, Indiana and was subsequently assigned as a clerk-typist to spend his first year in the exciting country of South Korea. The postal job appeared not to be the most interesting area to work in so he changed over to Military Personnel in 1960.

He returned to CONUS in 1961 and spent the next three years at Fort Riley, Kansas, Fort Carson, Colorado and Fort Chaffee, Arkansas.

Continued on page 5.

MOS TESTING

Effective 1 Jan 77, IAW DA MSG 241530 NOV 76, all MOS tests, to include regular, makeup, special makeup and initial MOS tests, are suspended with the exception of MOS tests for first-term soldiers requesting reenlistment. Testing for soldiers other than first-term enlistees will resume as Skill Qualification Tests (SQT) become available. (ATZA-PTS-TR/41917)

from the DIRECTOR

It's a sign of age when time appears to pass more quickly, but it seems like we are still recovering from last Christmas. After a few years' observation, the annual pulse of the federal establishment becomes visible; right now we are in the pre-Christmas hassle to get everything out of the way. This will be followed by the Holiday Doldrums when we promise ourselves we'll get all those projects done but don't, and then the post-New Year's Restart. I like to think it's a symptom of maturity that I'm still trying to restart from '75, but can only push that thought gingerly since other words come to mind (like "old fud").

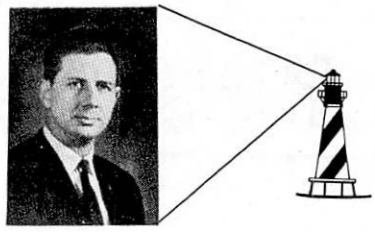
Still, here we are in the midst of an audit, Center Team meetings, and the Multi-Year Program Review. Graduations are coming at a hectic pace as our courses finish up in time for the students' holidays along with everything else.

Relax; the Doldrums are almost here and we will soon appreciate all of the activity. Remember the empty echo of a studentless Wheeler Hall? The smell of paint? Remember finding that guy you actually had business with and talking his leg off because down deep you were really - sniff - lonesome? Christmas cards, kids home and folks visiting? God, GAD, and McCloskey willing, this issue marks the beginning of that strange, emotional, boring, exciting time called the Academic Holidays.

From the Wintz clan to the DMS family, a very merry Christmas and a happy New Year!

The Defense Mapping School Contour is an authorized Newspaper, published bi-weekly by and for the DMS, Defense Mapping Agency. Views and opinions expressed in this publication are not necessarily those of the Department of Defense.
Address all communication to:
Editor, Contour, Defense Mapping School, Ft Belvoir, VA 22060
Director: COL Edward K. Wintz
Editor: Cathy McCloskey

From The Lighthouse



Mr. Charles H. Andregg, Deputy Director for Management and Technology and senior DMA civilian was recently honored with receiving the Distinguished Civilian Service Award from Vice Admiral Cramer. The award speaks for itself on the significance of Mr. Andregg's long and outstanding contribution to our nation's world-wide mapping program.

The photo serves as an example to all Career Civil Service employees who have the opportunity, like Mr. Andregg, to participate in the DMA Career Development Program.

Mr. Andregg graduated from Kent State University and began his mapping career in 1942 with the Louisville Field Office of the Army Map Service (AMS). Since then he has continued his education by attending the University of Louisville and George Washington University. While with AMS, he came up through the ranks and became the senior civilian advisor to the Commanding Officer.

In 1962 he transferred to the newly organized Defense Intelligence Agency where he became the Technical Director for Mapping, Charting and Geodesy. During this period he graduated from the Industrial College of the Armed Forces and later the Federal Executive Institute. Again in 1972, he played a key role in helping General Penny organize the new Defense Mapping Agency.

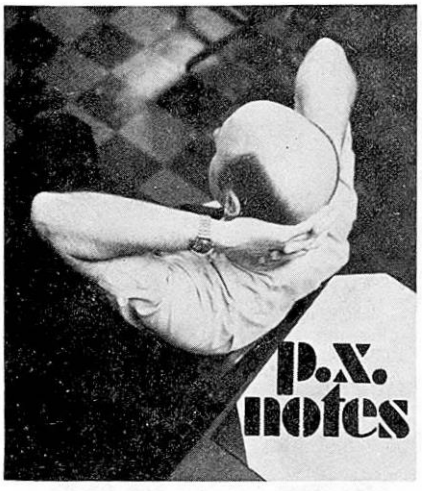
He served for two years as the Agency's Deputy Director for Programs, Production and Operations, then in July 1974 became the senior civilian in DMA, the position he now holds. In addition, he has been active in numerous professional organizations and was President of the American Congress on Surveying and Mapping in 1969.

Of course, everyone in the Career Development Program has different aspirations. Some will find their position in the technical areas, such as an instructor, others will aspire to higher management roles. In any case, a combination of education and technical competence coupled with the ability to get the job done at all levels seems to be very important ingredients.

The DMA Career Development Program is designed to develop our potential for filling the senior positions both in DMS, the other Components, and at DMA Headquarters.

The photo further emphasizes the integrated team of military and civilian people that are vital toward making a strong MC&G team that provides our Armed Forces with Mapping Charting and Geodesy products whenever they are needed.

Mr. Charles H. Andregg, Deputy Director for Management and Technology, receives congratulations from VADM Cramer upon receiving the DMA Distinguished Civilian Service Award as Mrs. Andregg looks on.



by SGM Bill Locke

As you've guessed by now, my original idea of doing this column "once in a while" has turned into a regular thing. I hadn't anticipated having so much fun and learning so many things about a system that has existed longer than I've been around (we won't talk about that one). I'd be interested in hearing from you concerning "PX Notes". Am I covering things you're interested in? Do you have an age old question I could research for you? Let's have some feed-back, and that goes for you non-DMSers who have the good fortune of reading this fine paper.

I would like to begin by exploding a few myths I've heard over the years. Since I wanted to be factual (all columnists start out that way I'm told), I spent nearly an hour recently with Mr. Seay, Fort Belvoir Exchange Manager (a very busy guy). Myth #1. PX employees get first chance at special sale merchandise. "Not true" says Mr. Seay. He admits however, that he's heard that same myth. Regulations require that all merchandise be "exposed to the shopping public" for 24 hours before an employee may buy the item. For further control, employees can only shop during assigned periods (while working) and must use designated registers when checking out. In fact, they must use these same registers when they are "ordinary shoppers" like you and I (day off vs. working day). All this in an effort to ensure that our system-theirs, yours and mine- is not abused. No one can guarantee that the system is never abused, there's always that human element. We all trust the mailman, right? But how many of us send postcards with personal messages? (No reflection on mailpersons in-

Continued on page 4.

MYSTERY LADY

Dizzy blonde? - Far from it. This young lady has now gained adulthood and is employed at DMS. She is still a good looking, intelligent, loquacious blonde. According to her husband, however, she is also very stubborn and bullheaded, which their offspring has also acquired, (like mother, like daughter). When she can find time, she gets involved in sports. From what I hear, she is good (for her age). Note the barefeet in the photo. She still has problems there. In fact, she arrived at work one day and did not even notice until about noon she had on mismatched shoes - one black and the other blue. She is probably best known for her outstanding secretarial ability and loyalty to her friends. Although she tries to convince us that she is a tightwad and cheap, her heart is solid gold.

ANSWER TO 3 DECEMBER MYSTERY PERSON

Our man, once so shiny and bright
Now works less accurately, all right!
Will Freeze he is called
And to geodetic surveyors, appalled
A nearest minute reading his delight

NEW FACES IN D/CARTO

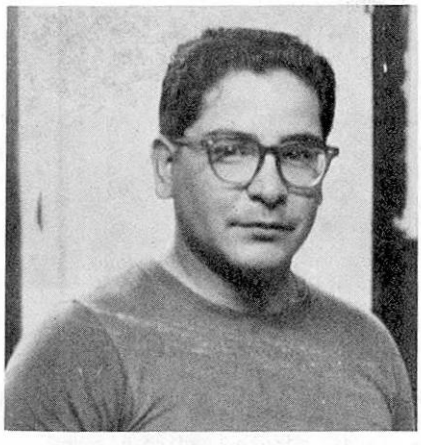
Left to right: TSgt Hudak, SP5 Stewart and TSgt Austin

TSgt William J. Hudak and TSgt Thomas H. Austin have recently been assigned to the Carto/Compilation Division. They were previously assigned to March Air Force Base, CA, as Cartographic Technicians. They are natives of New Castle, PA, and Washington, D.C., respectively. SP5 Steven S. Stewart has also been assigned to the Carto/Compilation Division, his home is Oklahoma. SP5 Stewart was previously assigned to the 649th Eng Bn (T)(A) in Germany. TSgt Hudak will be assisting with the PAAP Course while TSgt Austin and SP5 Stewart will be instructing in the Basic Cartography Course

FROM THE EDITOR

The Staff of the DMS Contour would like to take this opportunity to wish everyone a Merry Christmas and a Happy New Year. In keeping with the holiday spirit ("tis better to give than receive), COL Wintz has graciously "given" us some time off. There will be no Contour on the 31st of December. The next issue will be out on 14 January 1977. (Thanks Boss)

GAD SAYS GOODBYE TO SFC CRUZ



On December 7th the Offset Press Division bid farewell to SFC Ricardo (Rick) Cruz, who left for an assignment at Ft Leonardwood, MO, where he will be a Smokey Bear (D.I.). Rick reported to DMS in December 1972 as a SSGT. Since then he has achieved the status of Master Instructor, and was recently promoted to Sargeant First Class. He was also a member of the DMS Bowling Team for 4 years. We all wish him well in his new assignment.

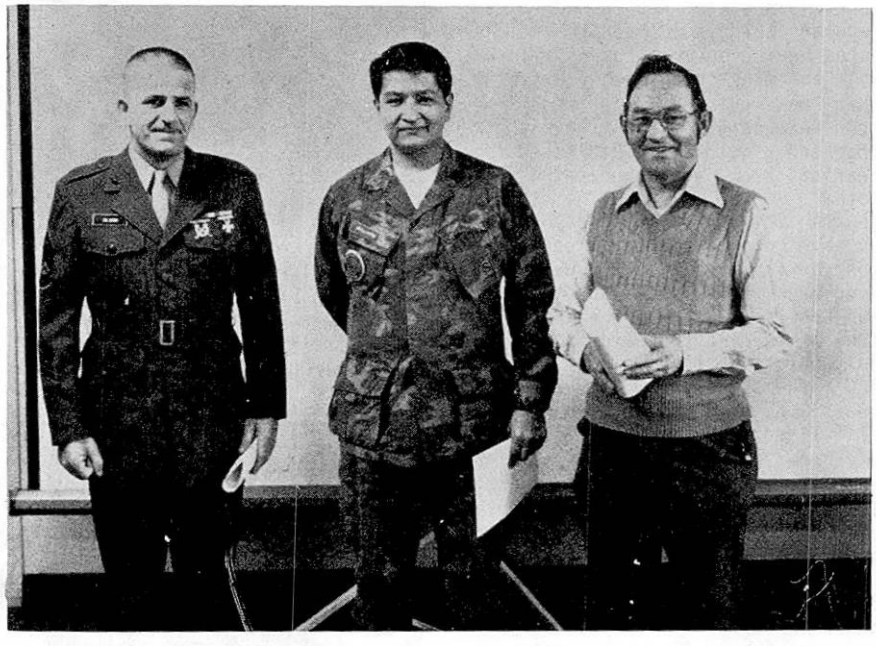
INSTRUCTORS RECEIVE LETTERS

In a ceremony held on 1 Dec 76, Mr. McCullough, Chief, GAD, presented Letters of Appreciation to GYSGT Marshall L. Wise, GYSGT Ernest R. Williams, GYSGT Ronald L. Olson and Mr. Arthur N. Fleshman of the Offset Printing Division.

GYSGT Wise was commended for his help in solving process camera and installation problems for elements of the Inter American Geodetic Survey during an MTT in June 1976. GYSGT Olson, GYSGT Williams and Mr. Fleshman were commended for the support they provided to the DMA Hydrographic Center in testing and evaluating the new laser generated lithographic process plate.

The Defense Mapping School adds its' congratulations to all of you for jobs well done.

Mr. Mac congratulates GYSGT Wise



Left to right: GYSGT Olson, GYSGT Williams and Mr. Fleshman

PX NOTES

(Continued from page 3.)

tegrity intended). Myth #2. The PX buys "seconds". Not true! Mr. Seay assured me that his personnel inspect every piece of merchandise (except sealed cartons of course) before it's displayed. Now we can't expect that every inch of every seam on every garment is examined, as that would be an insurmountable task, but the Exchange Quality Assurance Program protects you from inferior quality merchandise. Let's be realistic for a minute though. It's still up to you and I to "look it over" before we take it home. Far easier to find that manufacturers flaw in the store and save that return trip and adjustment time. No "standard" (my word) items are bought as seconds, although some "Money Saver" items may be (but not knowingly). We must remember that the Money Saver items are "good quality" merchandise at an "appealing price" comparable to items marketed in local discount stores.

Speaking of local discount stores, a reader asked about the old PX "Budget" store. For those of you who don't remember, it was designed to pass on shopper savings by offering "aged" or "damaged but usable" merchandise at substantially reduced prices. As you shop, you should find a special area within each PX Department where these things are now displayed.

Who buys for the Exchange was a question which occured to me recently, and upon doing some checking, found out that the Merchandising Division at the Capital Ex-

Continued on page 6.

PROMOTION

Congratulations are extended to SSG Warren K. Johnson upon his recent promotion. SSG Johnson is an Instructor in the Offset Duplicating Course of the Graphic Arts Department.

NEW PERSONNEL STAFF NCO ASSIGNED

Continued from page 1.

Two years in Germany as a Personnel Clerk netted him the Army Commendation Medal. Fort Benning, Georgia must have seemed to be nothing more than a pit stop in 1966 on the way back to Korea.

The return to CONUS and Fort Monroe, Virginia was only for a short time because he was sent TDY to Fort Harrison again to attend the Personnel Staff NCO Course. Then on to RVN as a Manpower Sergeant where he was awarded the Bronze Star Medal. Ron had another short stay at Fort Monroe where he received the 1st OLC to the ARCOM.

Sergeant Fanning was selected to attend the Advance NCO Educational System Course and did so in 1972 enroute to an assignment with the 21st Replacement Battalion in Frankfurt, Germany.

He was nominated for assignment to DMS in September 1976 and has since come aboard for what he is hoping will be his last unit before the big day he has been looking for so long. The award for the 2nd OLC to the ARCOM has come in from Germany. It will be presented at a later date.

Yes, he will be taking over the job of one of DMS's well known "homesteaders" and one of the very few remaining original Charter Members (SSG Willis).

Ron's wife Dorothy will be joining him in a few days and they will be living in George Washington Village, Fort Belvoir.

Ron, a warm welcome is extended to you and your wife.

IPS, PADS ANYONE?

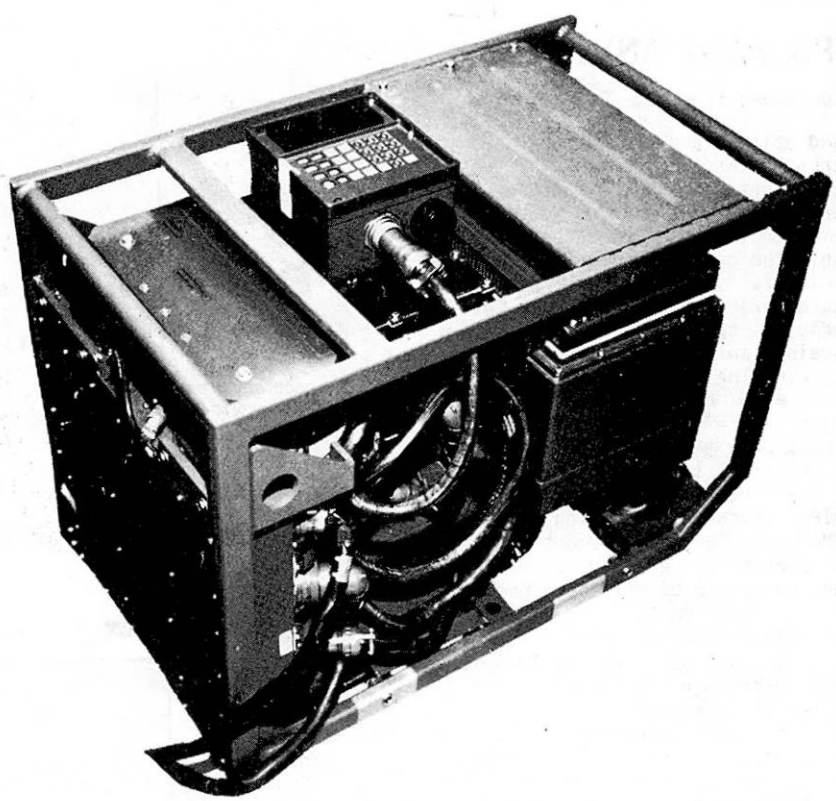
By Mr. Clay Kruck

Through the years, we of the mapping (OOPS! MC&G) community have been swamped with the letter game. Spoonfuls from this alphabet soup are (don't be upset if I didn't name your favorite) AMS, TC, AMSFE, APPS, TSS and PAAP. During the years we continue to add more and delete a few. It is now time to add to the list a couple of more, the IPS and PADS.

What are IPS and PADS? Well, they are two similar systems that are to help (???) the overworked surveyors to lighten their enormous work load.

The Position and Azimuth Determination System (PADS) is a system currently under development and test for the US Army. This system is to be used basically by (our cousins) the Artillery Surveyor (82C); however, that is not to say that the Geodetic Surveyor (82D) will not use this system in the future. The PADS is a land-based self-contained inertial surveying system that can be mounted in a jeep or helicopter. The system, weighing approximately 300 pounds, consists of 4 main components; (1) inertial measuring unit (IMU), (2) computer unit (CU), (3) control dispaly unit (CDU), and (4) power supply unit (PSU)! The system is designed to supply position (Northing and Easting), elevation, and azimuth of control points in real time. The PADS starts at a station of "known" position, elevation and at which an azimuth to another station is "known". This information is entered into the systems computer. After this is accomplished the system is driven or flown to the stations whose positions are required, and position, elevation,

Continued on page 6.



Position and Azimuth Determining System (PADS)

Pastel peach
and rose madder
fade into magenta
and crimson on the skyline
as the sun's presence,
its memory fades away;
with autumn branches
grasping
in twisted snarls barren,
its memory fades away;
the last breath lost
to an unfeeling cold
of the coming winter night.

Overcast blue violets
marbleized with grays,
here and there
through a break in clouds,
a spattering of pinpoint stars
twinkling.....

its memory fades away.

by Howard L. Lucas

IPS, PADS ANYONE?

Continued from page 5.

and azimuth are then established on those points. The vehicle used to transport the system must be stopped every 10 minutes during the mission for about 20 seconds to enable the computer to perform a zero-velocity update. These zero updates are used by the computer to adjust the system's parameters against an accurate velocity reference. The PADS current accuracies for a 6 hour open loop traverse mission are 20 meters (CEP) horizontal, 10 meters (PE) vertical and 1 mil (RMS) in azimuth.

The Inertial Positioning System (IPS) is currently being tested by DMA/GSS. The requirement for an automatic traverse system was generated by the US Air Force/Geodetic Survey Squadron (GSS) in 1969. The AF/GSS decided to monitor a feasibility study being conducted by the Army for the PADS, since the PADS proposal appeared to be in line with AF/GSS objectives. The PADS test results and subsequent tests conducted by the Army to the GSS specifications resulted in a separate funding of the development of a prototype IPS by DMA for employment throughout DOD.

The IPS can be mounted on a commercial type truck or helicopter. The IPS, while similar to the PADS in many respects (the use of gyros, computer, and zero updates), is a more sophisticated system and is principally intended for use by geodetic surveyors. The IPS accuracy specifications for a 4 hour thirty mile closed loop survey mission are approximately 5 meters horizontally, 2 meters vertically and 35 arc seconds in azimuth.

The PADS operation as used by the field artillery is not intended for geodetic accuracy, as time usually will not permit this luxury. The field artillery only needs points within a few meters of their true location and elevation, and azimuths within a small angular deviation, in as short a time as possible.

On the other hand, the IPS operation, as used by the MC&G community, usually has the required time needed for obtaining more accurate survey datas. Thus, the two systems IPS and PADS came into being and are being tested at the same time.

The test results received up-to-this date on both the IPS and the PADS have been very encouraging from the user's stand point.

PX NOTES

Continued from page 4.

change Region handles that job. AAFES selects merchandise for procurement from name brand sources and then non-name brand items are selected to "round out" customer selection variety and complete the stock assortment within authorized price limitations. The Exchange is in a tough position. It has a lot of competition out there in that "other" world and it's difficult for one store to compete with such a large variety and range of civilian retail stores - a fact that a lot of us overlook I suspect.

As this is the last issue before Christmas, let me remind you that the Exchange continues to have daily specials and it's still not too late to find a bargain. For your late shopping convenience, the store will be open on the 24th from 0900 to 1400 hours. I hope my "EXTRA" flyers have been helpful and that you all have a Happy Holiday Season.

DID YOU KNOW? Rising Wholesale Price Index will cause the Cost Price Limit on Exchanged stocked items to rise also.

AAFES Record Distribution Center in Atlanta is currently moving more than $3 million worth of records, tapes and cassettes to exchanges worldwide.

Our Exchange has increased sales by almost 6% in the past year. Congratulations shoppers, and to Mr. Seay and his able staff. That's more $'s for the CWF folks, keep on patronizing your exchange.

Remember - Support your Exchange, shop Belvoir first! If you're going somewhere else because we don't have it, put in a suggestion that we carry it. Get a friend to do the same. If there's a demand, chances are good it can be added to the regular inventory.

Merry Christmas all, and Happy Holiday Shopping.