MELPAR-A-GRAPH

Volume 8, Number 7 MELPAR, INC. • A SUBSIDIARY OF WESTINGHOUSE AIRBRAKE CO. August, 1963

MELPAR INCREASES EDUCATIONAL ASSISTANCE TO GRAD STUDENTS

Education Plan Also Extended to Nontechnical Fields for Master's and Doctoral Candidates

Starting in September, Melpar employees working toward a Master's degree or a Doctor's degree in any field related to Melpar's business will find the Company carrying the lion's share of the financial load of advanced study.

These two new provisions of the Tuition Reimbursement Plan are effective September 2:

1) An employee who holds a Master's degree, and who is pursuing an approved doctoral program in any field related to Melpar's business, will be reimbursed 100% of tuition and lab fees.

2) An employee who holds a Bachelor's degree will be reimbursed 75% of the applicable costs of approved graduate courses taken to fulfill the requirements of a Master's degree in any field related to Melpar's business.

Reimbursement for approved undergraduate, technical-institute, and correspondence courses, and for graduate courses (in technical fields only) other than those taken to fulfill the requirements for an advanced degree, remains at 50%.

Since the Tuition Reimbursement Plan was established in 1956, Melpar has paid over $100,000 to employees for tuition and lab fees. Three employees have completed Master's programs supported by the plan from start to finish. More have been helped financially to complete a Master's or Doctor's program begun before they came to Melpar. And, of course, hundreds of employees have had the expenses of undergraduate, technical-institute and correspondence courses shared by the Company.

BIG PLANS. Educational goals of Richard Smith (left) and Charles Adkins get a little closer with the new provisions of Melpar's Tuition Reimbursement Plan. Surrounded by catalogs and bulletins from the Education Assistance Office in Personnel, they discuss their graduate study schedule.

Dick Smith, a physicist in the Physical Electronics Section, is concentrating on solid-state physics on his way to an M. S. degree. Chuck Adkins, a principal engineer in the Aerospace Division, is about to start a doctoral program in theoretical mechanics. Last February he won his M. S. in Engineering after completing a program supported from start to finish by the Company's tuition refund plan.

September 4 Is R-Day For In-Plant Courses

The temperature may hover around ninety, the sun may set each evening in a sultry sky, and smoke may still curl from the barbecues of suburbia—but autumn is on its way. Surer sign than a howling hurricane is the timeliness of this announcement: *Wednesday, September 4, is registration day for in-plant courses.*

From 8:30 to 9:30 a.m. on September 4, representatives of The American University, The George Washington University, and Capitol Radio Engineering Institute will be in the Main Conference Room, Falls Church, to accept enrollments in in-plant courses offered by their schools. Later in the morning, the representatives will move to the Leesburg Pike Plant Conference Room (upper LP #4). They'll be on hand there to register students from 10:30 to 11:30.

Melpar guys (and dolls) ready to desert beach and pool for the academic swim all be interested in the list of after-hours courses to be offered at the Falls Church and Leesburg Pike plants this fall. The line-up is a mixture of old standards with several courses in math and science never before available in plant. Our Tuition Reimbursement Plan applies to all the courses.

The George Washington University will offer these courses: College Algebra, Trigonometry, Calculus I, Mathematics

(Continued on Page 4)

Melpar Receives $94,900 Contract for Study Of Fresnel Region Phenomena

Rome Air Development Center, Griffiss Air Force Base, recently awarded Melpar a $94,900 contract to study and evaluate the interference aspects of Fresnel region phenomena.

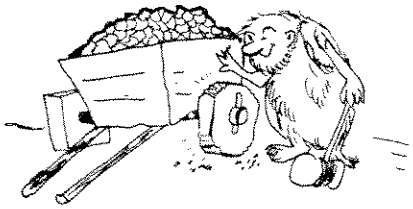
The Fresnel region is in the near field of an antenna. Under the contract with RADC, Melpar is investigating experimental techniques for utilizing the radiation characteristics in this region to determine the far-field radiation characteristics. One of the objectives is to develop a method of predicting interference between large antennas.

The 12-month study is under the direction of Paul E. Taylor, Manager of the Antenna Laboratory. The principal investigators are D. W. S. Prins and Earl Carpenter.

Safety Committee Appointed For Shirley Engineering

A new Safety Committee for the Shirley Engineering plant was appointed in July. The members are A. A. Anderson, F. E. Boyko, J. L. Buckler, L. S. Carter, R. L. Crafts, K. J. Fawcett, M. E. Garner, R. H. Johns, F. E. Papin and C. E. Schachte. Permanent chairman of the safety committee at Shirley Engineering, and at each of the other Melpar locations, is Melpar safety engineer Stephen Bush.

The committee will serve for six months, meeting once a month to discuss safety conditions in the plant and to make recommendations concerning them.



Cost Shavings

The Value Improvement Program reports that over 800 useful "cost shaving" ideas have been submitted since last January. All the good ideas can't be mentioned here, for obvious reasons. But there is space to highlight a few representative ones. Maybe they'll suggest ways in which *you* can work smarter.

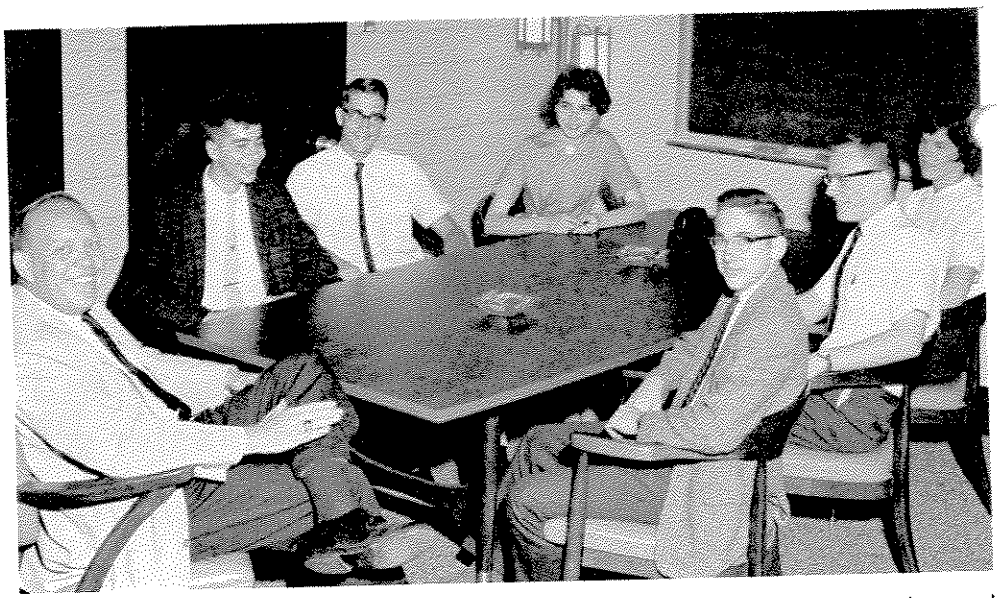
Martha Garwig, Accounts Receivable Supervisor, working with **R. V. Kincaid,** Senior Industrial Engineer, devised and installed a new billing system, incorporating the shipping order in the invoice. The new system has cut the time of preparing an invoice to less than half of what it was. It will result in an estimated savings of $2500 for 1963.

Not too long ago, every dip-brazed assembly and casting had a green tag attached to it when it passed inspection. **C. Wilson Norris,** now at the Oklahoma City plant, recommended that a single inspection tag be attached to each *lot* of parts, the back of the tag to list the serial number of each part in the lot. His suggestion will save $1812 annually.

Melpar was using several different types of covers for its reports, proposals, and other publications. Some of these covers required special imprinting, which meant they had to be ordered weeks in advance. **W. T. Cradlin** of Publications found a better way to do things. He suggested the use of a standard cover with a die-cut window for all proposals, reports, and similar publications. Information (title, agency, etc.) specific to a publication appears in the window. The new covers not only save $5280 a year, but they also reduce lead time, are superior in quality, and are easier to bind.

The cables for certain servo and shaft assemblies produced by Melpar are preformed on a plywood form-board prior to electrical wiring. For the various assemblies, 135 different form boards were required until **Nelson Hogge** and **Claude Hitchcock** of the Manufacturing Division cast critical eyes on the operation. They designed three universal form boards, adjustable for various combinations of parts, that replaced the 135 boards. Estimated savings: $2528 per year.

Any ideas? Contact Roger Bublitz on extension 2382.



AT EASE. Their summer projects wrapped up, NSF students assemble for a parting, and apparently amusing, word from Dr. Paul Ritt, Vice President for Research. From left to right, clockwise, are Dr. Ritt, David Koller, Clifton Howard, Suzzane Tach, Virginia Olsen, Douglas Lind, and Gordon Woods. PHOTO BY GLITTENBERG

Summer at Melpar Is Rich Experience for Young Scientists

Eager young faces brightened the Research Division's laboratories again this summer. Cooperating for the third year with the Summer Research Participation Program of the National Science Foundation, Melpar welcomed six high-ability students of area secondary schools to its doors for an eight-week period ended August 14. During this period, the teenage scientists tackled research problems in their fields of interest.

Three of the students were assigned to the Chemistry and Life Sciences Department. Virginia Olsen of Woodson High, Fairfax, investigated both the synthesis of rare-earth chelates for use in lasers and the fractionization of jet fuels. Dr. Nicolae Filipescu, Francis Serafin, and Lee Kindley all had a hand in guiding her. Another Woodson High student, Clinton Howard, studied the theory and applications of nuclear magnetic resonance spectroscopy under the titelage of G. A. Muccini. And Suzzane Tach of O'Connell High, Arlington, with Melpar chemist Theresa Iapalucci as her mentor, investigated several reactions involving iron pentacarbonyl.

The other three students, all young men, took on projects in the Physics Research Department. David P. Koller of Ascension Academy, Alexandria, was guided by David C. Coulter in realizing and evaluating a circuit for synthesizing nasalized speech sounds. Advised by S. Joseph Campanella, Douglas Lind of George Mason High, Falls Church, prepared a technical paper, "The Orthogonalization of the Multivariate Normal Distribution Function." Gordon Woods, of Fairfax High, with James Wallen's guidance, designed and built a number of transistorized circuits.

The students' reports on their summer at Melpar leave no doubt of their enthusiasm for the program. The thoughts in the quotes below were expressed in one form or another by nearly all the students.

"I have learned a great number of experimental techniques."

"This research experience has opened new realms of thought to me and has channeled my interest into a specific field."

"This summer gave me considerable experience in the duties and responsibility of laboratory work, as well as technical knowledge."

What is perhaps the most quotable guote has an original twist:

"I think the most valuable thing I learned was about people. I have never been around adults as much as I have this summer—and I think they are truly fascinating!"

MELPAR-a-graph
Published by
MELPAR, Inc.
A Subsidiary of
Westinghouse Air Brake Co.
3000 Arlington Blvd. Falls Church, Va.
Editor M. R. Kiley, Ext. 2350

The Voice Is Familiar . . .

Hundreds of times a day the clear and measured voice of the paging operator floats out of the PA system. Thousands of times a day, Melpar employees placing a call hear a pleasant "Thank you." The voices of our PBX operators are familiar, but chances are that few of us could place their faces.

A visit to the telephone facility at Falls Church reveals that these calm, pleasant voices belong to calm, pleasant people: lead operator Emma O'Bier and operators Estelle Burrows, Vivian Kitchen, Betty McCormick, Lucille McVay, and Arlene Reynolds.

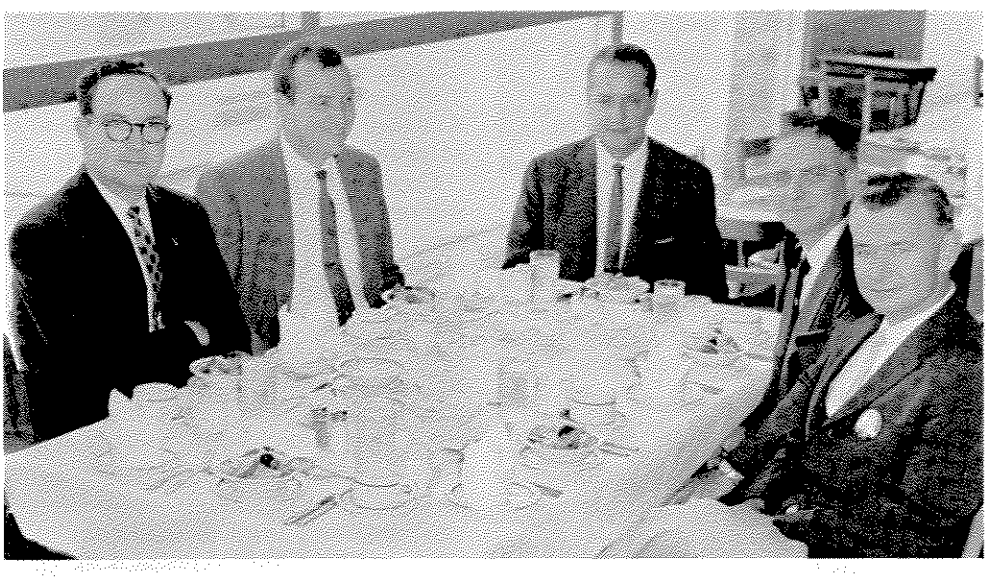
Their equanimity is remarkable in view of the buzz of activity in which they work. At the switchboard, hands dart deftly, and it seems incessantly, from console to plugboard. Roughly 4000 calls a day are placed or received for the 1000 lines now served by the board.

In an anteroom the paging operator, flanked by two phones and faced by a mike, is a study in perpetual motion. The paging phone, at her left, winks for attention about 800 times a day; the information phone, at her right, about 150 times a day. (The number of paging calls, incidentally, is inordinately high. Ask anyone who sits under a loudspeaker. Running up the total unnecessarily are the Houdinis who disappear from their offices without a word as to their destinations and the panic pagers who go to the air waves whenever they get a busy signal from a called line.) Since eight hours at the paging station would turn a diva's bell-like tones into a croak, the operators rotate in this job — each manning the mike for about an hour, or until her vocal cords give out.

Switching equipment for dialed calls is in a separate room. A good guess is that this equipment makes 15,000 connections a day. It's due to be even busier in the near future. According to Dorothea Johnson, Manager of Office Services, the Shirley Engineering plant will soon go from manual to dial service. Phones there and at Shirley Research will then all have numbers in the 3000 series.

TEN ACROSS THE BOARD. Five pairs of hands are caught in action at the switchboard. Operators shown are (front to rear) Emma O'Bier, Arlene Reynolds, Betty McCormick, Estelle Burrows, and Lucille McVay. PHOTO BY SALMON

This means that the PBX will be flooded with paging and information calls for a period after the changeover. But there's every reason to believe that, heard but seldom seen, our telephone operators will continue to serve with congeniality and efficiency.



PINS FOR A PAIR. Two 15-year men, Blanchard D. Smith and Francis E. Spellerberg, shared the spotlight at the July service-pin-award luncheon. Mr. Smith was presented with his ruby-studded pin by Vice President C. B. Raybuck, to whom he is a staff assistant. Mr. Spellerberg, a shop supervisor in the Manufacturing Division, received his pin from L. C. Wright, manager of the division.

Sharing in the special lunch are, clockwise from the left, Mr. Smith, Mr. Wright, Mr. Raybuck, Mr. Spellerberg, and Dr. T. L. Wood.

43 GRAD SCHOOLS ON RECRUITERS' SCHEDULE

Between October 16 and January 22, Melpar recruiters will visit 43 universities to interview students soon to receive a Master's or a Doctor's degree in science or engineering. The talent hunt is aimed at continuing the buildup of the Company's research and engineering capabilities.

Clarence Endsley, William Ehlman, Anthony DePasquale, Stephen Bush, and Dr. Thomas Wood will be the peripatetic Personnel participants in the pursuit of professional prospects. They will be joined by technical interviewers from the Research and Engineering divisions.

Traveling by everything but oxcart, the recruiters will hit schools as close as The George Washington University, in our back yard, and as far away as Montana State College at Bozeman. Heaviest concentration of the schools to be visited, however, is east of the Mississippi.

30 COMPLETE CONTRACT ADMINISTRATION COURSE

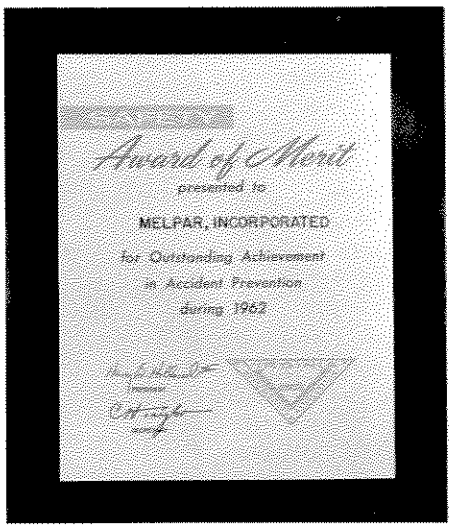
Twenty-eight Melpar employees with jobs related to finance, program management, purchasing, and contract administration, and two members of the staff of the Melpar Air Force Office, completed an intensive course in Government Contract Administration at the Falls Church plant this summer.

Taught by Walter Simes, U.C.L.A. lecturer and former Air Force contracting officer, the course dealt primarily with procurement laws and regulations, types of contracts, and principles and techniques of negotiation. It consisted of over 40 hours of lecture and discussion, running from Monday morning through the normal work week, plus a four-hour session on Saturday.

Participants were M. F. Allen, C. E. Amory, I. Apter, L. M. Barrick, D. L. Bier, J. H. Burt, S. B. Cirolini, C. K. Craggs, V. E. Dubois, R. C. Earnshaw, C. E. Emerick, H. E. Foster, N. F. Ganzert, H. I. Gerson, R. A. Henry, R. E. Kellogg, G. T. Klop, P. J. Krakes, N. Langford, D. C. Liggett, I. Lowther, J. B. Maher, J. D. McLain, Capt. D. R. Rennie, W. H. Rogers, J. J. Rooney, B. E. Serrin, L. B. Wickersham, S. S. Wilmarth, and H. C. Wilson. Divided into two groups of 15 each, they took the course in successive weeks.

Management training programs like that in contract management have been a part of the Melpar scene since 1949. In June of that year, Dr. Leo A. Schmidt, now Director of Administration but then Company Consultant, gave the first formal lecture aimed at developing managerial talents. Then, in 1951, he began giving the Company's first formalized course in management techniques. Titled "The Administrator," this course has been taken by hundreds of supervisors of the Company. Additional training was conducted by the Personnel Department during 1956 through 1961.

The tempo has stepped up recently. Just in the last year six related programs in managerial training were in action. Besides the course in Government Contract Administration, there were courses in management development, work simplification, data-processing concepts, and PERT techniques. In addition, a series of supervisors' panels was begun, for the discussion of Melpar's personnel policies and practices.



SECOND SAFETY AWARD WON BY MELPAR. For having the lowest injury frequency rate within its industry and size group during 1962, Melpar was awarded the Safety Award of Merit of the Virginia Manufacturers Association. The Company also won the VMA award last year, for its safety performance in 1961. Let's do it again for 1963!

DR. BOWEN CONDUCTS SEMINAR ON "ANTIRADIATION" DRUGS

As his contribution to Melpar's biweekly technical seminar program, Dr. Edward H. Bowen, Jr., of the Research Division's Exploratory Research Laboratory discussed "Chemical Protection from Ionizing Radiations" on July 30.

Dr. Bowen explained that besides the more familiar x-rays and gamma rays, ionizing radiations include electrons trapped in the Van Allen radiation belt and protons spewed out from solar flares. Some of these radiations have energies so high they must be measured in terms of millions or even billions of electron volts. Because of this fact, they constitute a marked hazard to future astronauts or moon colonists.

For this and other reasons scientists have recently become more and more interested in the possibility of providing protection from radiation by means of chemical agents. With either a powerful x-ray machine or a gamma-ray source such as cobalt-60 used as the source of ionizing radiation, it has been possible to protect animals ranging from mice to monkeys from doses of radiation twice that normally fatal. This protection is conferred by treating the animal just prior to exposure with a drug, an example of which is the amino acid cysteine.

Unfortunately, if you're a man and not a mouse, all the chemicals tested to date cause toxic effects such as nausea and vomiting, even when they are administered in very low doses. In addition, no drug known has any beneficial effect unless it is given *before* exposure to radiation. The only way to help individuals after they have been exposed is by giving antibiotic drugs or by bone-marrow transplantation. It is reasonable to hope, however, that with continued work, such as the research that Dr. Bowen is carrying on at Melpar, an effective protective agent with low toxicity will be found.

GOING UP!

Again it's the happy duty of the *Melpar-a-graph* to announce the names and new positions of employees who recently advanced to higher positions. Best wishes for continued success to:

John L. Astholz, Dispatcher; Robert M. Brickner, Senior Engineering Services Representative; and James H. Carr, Planning Coordinator.

Raymond L. Coldren, Inspection Supervisor; Anthony B. DePasquale, Personnel Supervisor; and F. Kent Eggleston, Branch Supervisor.

David J. Fromme, Engineering Assistant; Alfred Krieg, Experimental Machinist; and Betty M. Kozuch, Duplicating Services Supervisor.

John L. Leizear, Methods Supervisor; Harry M. McClarren, Maintenance Foreman; and Edmund J. Monseur, Test Supervisor.

Richard M. Schwartz, Planning Supervisor; Katherine M. Sivik, Staff Secretary A; and Arnold L. Smith, Engineering Assistant.

Frank J. Smith, Junior Methods Engineer; Robert J. Sorrell, Production Control Supervisor; and John S. Tarsia, Senior Engineering Technician.

Robert V. Utterback, Junior Engineering Assistant; Bruno M. Vasta, Senior Chemist; and Charles F. Wood, Senior Draftsman B.

IN-PLANT COURSES (Continued from Page 1)

for Engineers and Physicists I—all at Falls Church—and Basic Principles of Statistical Methods I, at Leesburg Pike.

The science courses on the list are offered by The American University. They are General Chemistry I, Chemical Kinetics, and Introduction to Quantum Mechanics.

Capitol Radio Engineering Institute will repeat its course in Transistor Fundamentals. This course, always well attended, will be followed in the spring semester by CREI's Transistor Applications.

All of the courses named are offered subject to sufficient enrollment. So if you're interested in taking any of them, circle September 4 on your calendar. Stand up and be counted on R-day!