

MELPAR-A-GRAPH

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MELPAR NAMES KAHN CHIEF ENGINEER

Dr. David A. Kahn was named to fill Melpar's top Engineering Division position by Mr. W. C. Purple, Vice President for Engineering and Manufacturing, on October 15th. Dr. Kahn was formerly a Systems Associate under Mr. Purple acting as a consultant for the Company's military systems expansion program.

In his new position, Dr. Kahn takes over the functions of the Chief Engineer. These functions include direction of the Engineering Division composed of the Radar Department under Mr. L. L. Bonham, the Reconnaissance Department under Mr. E. J. Diehl, the Technical Staff under Mr. M. J. Fivel, the Computer Department under Mr. K. C. Streeter, and the Communications De-



DR. DAVID A. KAHN

partment under Mr. M. J. Watson. Additional assignments to Dr. Kahn are to be announced in the future.

Before joining Melpar in May of this year, Dr. Kahn was the System Research Manager of the Cornell Aeronautical Laboratory and enjoys an international reputation as a consultant on military systems research. A member of the Institute of Aerospace Sciences, the American Rocket Society, and the Institute of Radio Engineers, Dr. Kahn also holds membership in Eta Kappa Nu, Sigma Pi Sigma, and Sigma Xi honorary societies. He is the author of numerous technical papers dealing with the design of missile defense systems and close support missile systems.

63 EMPLOYEES ENROLL FOR IN-PLANT COURSES

Melpar's in-plant study program has enrolled 63 students in mathematics and physics courses being offered by the George Washington University and Capitol Radio Engineering Institute during the 1962 Fall Semester according to Mrs. J. T. Lafrank, Personnel Director.

With twenty enrollments, the CREI physics course in Transistor Fundamentals was the most popular of the courses. The balance of the enrollments were distributed between College Algebra, Calculus II, Differential Equations, and Basic Principles of Statistical Methods.

At press time an even 150 employees had applied for participation in the Melpar Tuition Reimbursement Plan covering courses taken on-campus, as well as in-plant.

DR. CARNE TO MANAGE NEW INTELLIGENCE DEPARTMENT

The appointment of Dr. E. B. Carne as Manager of the newly formed Intelligence Department was announced on October 1st by Mr. W. C. Purple, Vice President for Engineering and Manufacturing. As reported in the September issue of the MELPAR-a-graph, a \$1.9 million feasibility study of a Forward Area Electronic Intelligence (ELINT) subsystem has been assigned to the new department.

Dr. Carne came to Melpar in 1959 from Remington Rand Division of Sperry Rand where he had been Chief Development Engineer of the Utica, N.Y. plant. Since March 1961, he has been responsible for technical and administrative direction of programs in bionics, data processing systems, intelligent machines concepts and associated research activities, advancing to Manager of the Advanced Computer Laboratory in September 1961. His earlier Melpar assignments were on Project FINDER where he served progressively as Technical Staff Assistant to the Project Manager, Head of the Peripheral Equipment Section, and Technical Staff Supervisor. Dr. Carne received his Bachelor of Science in



DR. E. B. CARNE

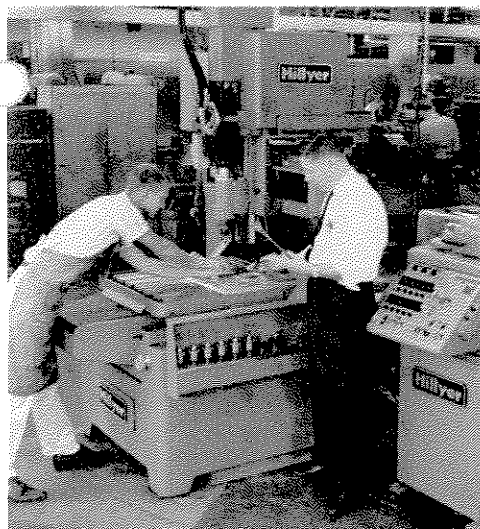
(See Intelligence Department, Page 3)

\$313,602 NAVY STUDY ASSIGNED TO RECONNAISSANCE DEPARTMENT

Melpar has been awarded a \$313,602 contract by the Bureau of Ships to perform a Navy equipment study. The one year study contract has been assigned to Mr. E. J. Diehl, Manager of the Reconnaissance Department. The study will be performed by the Reconnaissance Equipment Laboratory under Laboratory Manager T. K. Parks.

HOLIDAY

Melpar will, as in the past, join the nation in observing the Thanksgiving Holiday on Thursday, November 22.



NEW LOOK IN THE MACHINE SHOP . . . Melpar's machine shop is taking on a new look as a result of an \$85,000 modernization program that is adding new equipment and an environmentally controlled facility. Melpar's first numerically controlled equipment, an automatic tape controlled milling and drilling machine, has been installed by the Hillier Corporation, and is shown in operation above with Machinist W. H. Abitz (left) and Engineer M. L. Via. According to Mr. L. C. Wright, Manager of the Manufacturing Division, the modernization program was initiated in order to maintain our competitive position in the face of increasingly stringent requirements imposed by our customers, both in extremely close tolerances and the use of exotic materials such as titanium, platinum, and ceramics. He said that modernization was also needed to tailor the productive capacity of our shop equipment to short-run, high-precision components and assemblies so that they can be produced with a minimum of tooling costs.

Photo by Glittenberg

FUHR PROMOTED TO MANAGER OF ADVANCED COMPUTER LAB.

The promotion of Mr. W. H. Fuhr to Manager of the Advanced Computer Laboratory was announced on 1 October by Mr. K. C. Streeter, Manager of the Computer Department.

Joining Melpar in 1957, Mr. Fuhr's assignments have been primarily in the area of special-purpose digital computer development. Since his assignment to the Advanced Computer Laboratory in September 1961, he has been Project Engineer for three study contracts in the fields of bionics and machine intelligence. Beginning



W. H. FUHR

his career at Melpar as an Electrical Engineer on the GIRDHS Program, Mr. Fuhr advanced to Senior Electrical Engineer in June 1958 and was promoted in September 1959 to Project Engineer of a FINDER Program electrical design group responsible for one of the larger sub-systems in this special-purpose data-handling system. He became a System Supervisor for the installation and testing of FINDER when it moved to its field location.

After earning his BSEE in 1954 from Tulane University, Mr. Fuhr accepted an instructorship in Electrical Engineering at Tulane while pursuing graduate studies toward the MSEE degree which he received in 1957.

Mr. Fuhr is a member of Tau Beta Pi AIEE, IRE Professional Groups on Engineering Management and Electronic Computers, and the Louisiana Engineering Society.

DR. FUSCHILLO RECEIVES KUDOS FROM CUSTOMER

Melpar has received a letter of commendation addressed to Dr. P. E. Ritt, Vice President-Research, from Aeronautical Systems Division, Air Force Systems Command, USAF, regarding Contract AF 33(616)-8386 which was recently completed under the direction of Dr. N. Fuschillo.

The letter took particular note of the excellent job of reviewing the literature and making recommendations for research on high temperature electrical conductors. It attributed the successful completion of this contract to Dr. Fuschillo's efforts as project leader.

Technical Papers Presented By Research Division Chemists

Two technical papers were presented to the American Chemical Society at its national meeting in September by co-authors Dr. H. deSchmertzling, Mr. K. Abel, and Dr. J. I. Peterson.

The paper entitled "Transesterification of Lipids with Boron Trichloride" was presented by Dr. H. deSchmertzling and reported investigation by the authors of the use of boron trichloride as an acidic catalyst for methylation of fatty acids and transesterification of lipids. The second paper was presented by Dr. Peterson and entitled "A Technique for the Classification and Identification of Bacteria By Gas Chromatography." The authors show that gas chromatography is a useful technique for the classification and identification of bacteria.

H. A. STRAIGHT PRESENTS REPORT OF SPEECH RESEARCH TO IRE SYMPOSIUM

Mr. H. A. Straight presented a technical paper to the 8th National Communication Symposium which was sponsored by the Institute of Radio Engineers 1-3 October in Utica, New York.

Mr. Straight's report entitled "Speech Data Processing in Real Time," presented the logical techniques by which a high-speed special-purpose digital computer developed by Melpar compares the digital description of speech spectrum patterns with previously recorded description. The author stated that this set of logic is capable of determining which stored pattern most nearly approximates an unprocessed pattern, and is unique in that it makes possible the sorting and compilation of speech statistics in real time. The set of logic also provides a system with the capability of "learning" speech through the tabulation of a set of mean patterns which will sufficiently describe input data.

In approving Mr. Straight's report for presentation to the IRE Symposium, the

DR. J. D. TINER CHAIRS BIOLOGY SYMPOSIUM

Dr. J. D. Tiner, at the invitation of the Society for Industrial Microbiology, organized and chaired the Sterile Techniques and Economic Biology Symposium for the Society's 1962 Annual Meeting at Oregon State University on August 31st.

In addition to organizing and chairing the Symposium, Dr. Tiner also presented a paper entitled "A Systematic Approach to Laboratory Use of Microbe-free Organisms."

MACHINE INTELLIGENCE SUBJECT OF CARNE REPORT TO IRE SYMPOSIUM

Dr. E. B. Carne presented a technical report to the 8th National Communications Symposium sponsored by the IRE in Utica, New York, 1-3 October.

In presenting the report, entitled "State-of-the-Art Applications of Bionics (Machine Intelligence) To Communications Systems," the author acknowledged the considerable assistance of his colleagues in the Advanced Computer Laboratory in the formulation of the ideas presented, particularly Messrs. P. H. Halpern and W. H. Fuhr, and of Mr. W. M. Stone of the Advanced Programs Analysis Staff.

According to the author, Bionics is an interdisciplinary field concerned with the structural and functional aspects of living systems and their application to technology. A major subdivision, Machine Intelligence, deals specifically with the study of learning mechanisms and the design of learning machines. The author states that presently, systems can be built which, on the basis of past experience, can provide solutions to simple problems. He describes the general characteristics of such systems and shows how these can be applied to various communications type problems.

According to Dr. Carne, the relatively simple devices available today are capable of performing extremely useful functions in real time and with a reliability far better than by either a human operator or by conventional electronics.

Air Force Cambridge Research Laboratories, Office of Aerospace Research at Laurence G. Hanscom Field, Bedford, Massachusetts, stipulated that "Because of the high caliber of this paper and the general interest in this topic, and because it relates to work performed under Contract AF 19(604)-5579, as well as the present investigation being conducted under AF 19(628)-214 with Melpar, it is requested that reprints of this paper be distributed as a Scientific Report in accordance with the attached distribution list." The requested distribution included nearly everyone in the Free-World who has an interest in this subject.

INTELLIGENCE DEPARTMENT

(Continued from Page 1)

Engineering [Hons.] in 1949 and his Doctor of Philosophy in Electrical Engineering in 1952 from the University of London, London, England. He is an Associate Member of the AIEE, a Senior Member of the IRE, and a Graduate Member of the IEE (London, Eng.). Dr. Carne is the author of a number of technical papers dealing with the design of data processing equipment and machine intelligence studies and is in demand as a lecturer on these topics.

The Intelligence Department has been organized with three laboratories headed by Mr. C. W. Morrow, Mr. C. F. Parker and Mr. M. M. Risdon.

Mr. C. F. Parker, Manager of the Receiver Laboratory, came to Melpar in 1953 with an impressive background in radar and radar missile guidance with Western Electric Company and the Naval Research Laboratory. During his career

at Melpar he has had broad experience in the design of radars, electronic counter-measures and antennas. As a Project Engineer he is responsible for the development of the ACE Airborne Counter - measures



MR. C. F. PARKER

System, the modernization of the SLQ-7 Countermeasures System, an investigation of the hardening of communications and radars against atomic blast (Melpar's initial entry in this field), the design and development of a missile launch detector, and the development of a constant beam-width antenna on which he is co-holder of a patent. Promoted to Section Head in 1959, Mr. Parker directed the design of airborne ECM systems, an electronically steerable antenna system and radar lenses and decoys. Other assignments at Melpar have included supervisory and engineering positions encompassing such projects as the field evaluation of the TACAN System, initial design and development of the forward radome antennas for the RB-58 Aircraft, and the weapons system analysis of advanced SAC weapons. He has also developed numerous microwave components. A Senior Member of the IRE, he has authored several papers dealing with antenna and reconnaissance system design. He received a BS degree in Physics from the College of William and Mary in 1949 and a BSEE from Massachusetts Institute of Technology in 1951.

Mr. M. M. Risdon, Manager of the Feasibility Laboratory, came to Melpar

PLANT ENGINEERING RESPONSIBLE FOR FACILITY PLANNING, INSTALLATION AND MAINTENANCE

Plant Engineering, Melpar's newest service group, was formed earlier this year to combine all functions relating to the design, installation, and maintenance of Company facilities under the direction of the newly created position of Chief Plant Engineer. Plant Engineering is also responsible for the operation of all Company trucks and passenger vehicles. Mr. J. F. Hilfiker was appointed to this new position on 2 July by Executive Vice President A. C. Weid. Joining Melpar in 1952, Mr. Hilfiker brings to his new assignment broad experience in drafting, production engineering, standards engineering, facilities administration and supervision. He is a member of the Plant Engineers Association and the Society for Advancement of Management.

Charged with the allocation of space in the Company's Northern Virginia plants, Plant Engineering's staff of Industrial and Plant Engineers design all Company facilities. Previously accustomed to doing their own facility planning, operating units that have requested facility changes during the last few months have found the professional service they have

in 1953 with mechanical engineering experience in instrument design. His early assignments at Melpar included design of electronic packaging and mechanisms for an electronic intelligence data processing system. His subsequent assignments as Project Engineer for a GIRDHS electro-mechanical design group. Project Engineer for a FINDER system design section Supervisor of a System Analysis Group, Assistant Manager of the Reconnaissance Department and Manager of the Field Reconnaissance Laboratory, have directed his career into systems design and analysis, and engineering management. Mr. Risdon received his BSME from Virginia Polytechnic Institute in 1950 and is a member of ASME.

Mr. C. W. Morrow, Manager of the Microwave Laboratory, has been associated with Melpar's work in antenna design and development since shortly after joining the Company in 1953. Mr. Morrow's early efforts included antenna designs for direction-finding systems and study of micro-wave beam shaping techniques. He has designed dielectric lenses for microwave use and made a study of



PLANT ENGINEERING OFFICE . . . Chief Plant Engineer J. F. Hilfiker reviews new facility lay-out with Senior Industrial Engineer J. A. Jobe (seated). Others shown are (left to right): Mrs. H. Gainey, Secretary, Plant Engineer-Electrical R. L. Payne, Plant Lay-out Specialist R. J. Emerson, and Draftsman A. Hannibal. Photo by Glittenberg

been provided by the Plant Engineering staff to be well planned and, with few exceptions, implemented on schedule.

In order to satisfy the multitudinous demands placed daily upon Plant Engineering's Construction and Maintenance Sections, rigid priority scheduling has been necessary so as to ensure efficient and timely performance of these services.

the near field of such devices. He has participated in the design of antennas for a variety of aircraft and missile applications. Mr. Morrow supervised the development of antennas for an airborne ECM system which included new techniques in spiral antenna design. He also directed Melpar's efforts in the delivery and installation of

portions of the AN/GLR-1 antenna system and the UHF television transmitting antenna for the Empire State Building. Mr. Morrow has authored numerous technical papers on antenna design. He is a Senior Member of the IRE; a member of the American Physical Society, and of two honorary scholastic societies — Sigma XI and Sigma Pi Sigma. He received a BS in Physics from the University of Richmond in 1950 and an MS in physics from the University of Tennessee in 1952.

Melpar has been one of the leaders in the electromagnetic reconnaissance field during the last ten years. The Company has designed and built large airborne and ground systems as well as major sub-systems in this area.



MR. C. W. MORROW



MR. M. M. RISDON

SYMANOSKIE ELECTED TO AOA STEERING COMMITTEE

Mr. J. V. Symanoskie, Chief Draftsman, has been elected to the Steering Committee of the Engineering Documentation Section, Technical Documentation Division of the American Ordnance Association. Membership of the Engineering Documentation Section is made up of approximately 375 Chief Engineers, Drafting Managers and Chief Draftsmen from both Department of Defense activities and private industry. This Section is dedicated to the promotion of advanced developments in the drafting arts directed toward more uniform presentation of engineering data at reduced cost.

The responsibility for the Section's activities, programs, study assignments and the establishment of subsections is vested in the Steering Committee consisting of the chairman and twelve members.

GOING UP!

Promotions include W. R. Anderson to Project Engineer, R. H. Barnes to Purchasing Assistant, B. N. Boyle to Senior Planner, and W. B. Czechanski to Chemical Engineer.

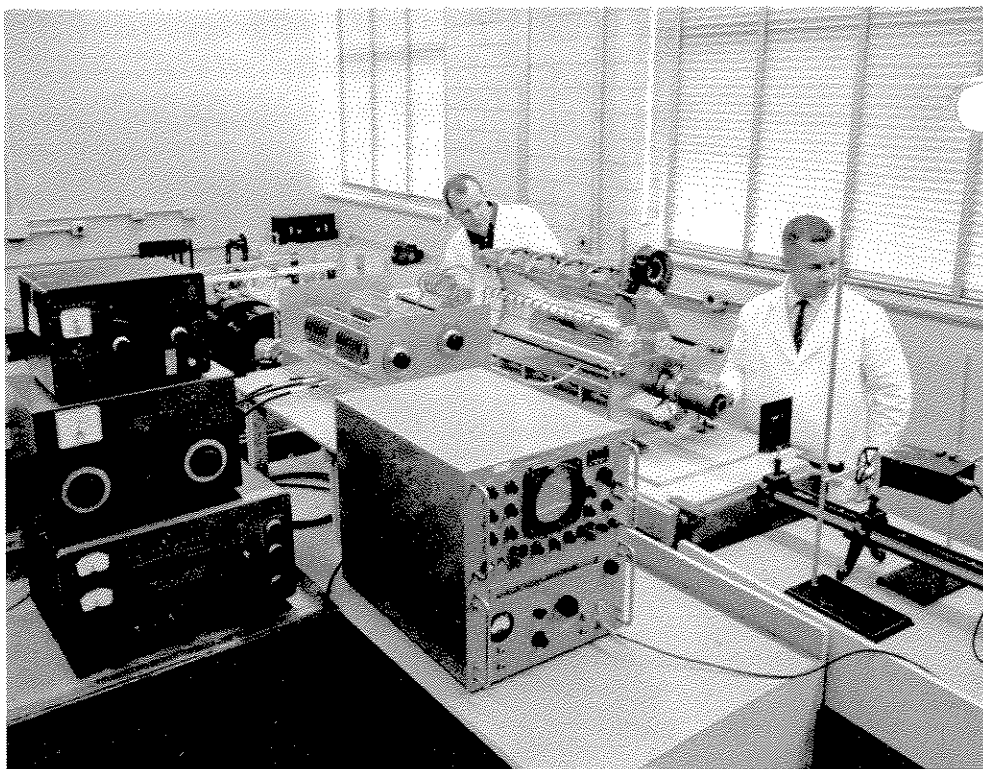
C. D. Goldsmith moved up to Senior Planner, A. P. Hogan to Shop Foreman, J. E. Lofquist to Senior Quality Control Engineer, and R. J. Menefee to shop Foreman.

G. B. Milstead advanced to Electrical Engineer, J. C. Mould to Principal Engineer, J. T. Murray to Project Engineer, and H. B. Penne to Buyer.

DR. PODALL PRESENTS TECHNICAL PAPER TO AMERICAN CHEMICAL SOCIETY

A technical paper entitled "Polymer Unzipping I. Polyaldehydes" was presented by Dr. H. E. Podall before the Polymer Chemistry Division of the National American Chemical Society Meeting at Atlantic City, New Jersey in September. The paper was co-authored by Dr. Podall, D. Lee, Dr. N. Filipescu, and D. H. Rosenblatt of the Army Chemical Center, Edgewood, Md.

According to the authors, polymer degradative studies have recently been of considerable interest, not only because of their obvious practical significance regarding physical performance under extreme conditions, but also because of the basic information such studies provide relevant to the "tailoring" of new polymers. The authors report results of their polymer degradation study using polyaldehydes.



MELPAR'S INFRA-RED GASEOUS LASER IN OPERATION . . . Electrical Engineer I. G. Ambrose (left) and Senior Physicist O. T. Inge (right), both of the Research Division's Physics Section under Mr. R.C. Jones, demonstrate Melpar's Infra-Red Gaseous Laser in operation. Under development for the last two years, Melpar's gaseous laser is now operational giving us a position of leadership in this important field. Most "state-of-the-art" laser research to date has been confined to the solid state laser and with Melpar's new gas laser the Company is in a position now to extend the wavelength range to other regions of the spectrum not heretofore available. Lasers have important potential applications in plasma physics research, communications, weapons, and other national defense technology. Photo by Glittenberg

H. L. Phillips stepped up to Buyer, G. W. Pierce to Senior Buyer, S. W. Poorbaugh to Assistant Test Supervisor, and R. A. Riley to Accountant.

C. E. Schachte was promoted to Maintenance Foreman, W. W. Seaton to Senior Planner, G. C. Zellner to Senior Physicist, and R. C. Zolenski to Senior Planner.

MM GROUP PERFORMANCE AWARD FOR AUG.-SEPT. ANNOUNCED

Minuteman Division Manager K. E. Schreiber has announced the selection of Mr. Gene O'Brien's Screen Printing & Photo Group as the winner of the Group Performance Award for the August-September competition. This group is a part of the Printed Circuit Fabrication Facility under the direction of Superintendent R. J. Moneyhon.

Mr. Schreiber commended five other Minuteman groups for their unusually high showing in the close competition during the August-September evaluation period. These groups and their supervisors are: P-C Board Fabrication Inspection under Mr. G. E. Donohue,

AMERICAN CHEMICAL SOCIETY HEARS CHAUDET ON DETECTION OF GASES

The American Chemical Society heard the presentation of a paper entitled "Detection of Gases Through Minority Carrier Lifetime Determinations" by Mr. J. H. Chaudet at their national meeting at Atlantic City, New Jersey, in September. The paper was co-authored by Mr. Chaudet, Mr. M. R. Kagan, and Mr. F. E. Briden.

The authors report on the adaptation of the variation in minority carrier lifetime for the rapid and sensitive detection of gases. Gases in air may be detected by this means often in a matter of seconds at pressures down to 100 microns according to the authors.

The editors of the Chemical and Engineering News sought permission after the meeting to use this paper as the basis for an article which they published in their September 17 issue.

Receiving Inspection under Mr. K. Dreyer, Materials Handling under Mr. R. A. Markham, P-C Board Plating Group under Mr. J. W. Reid, Jr., and Assembly Training under Mr. W. G. Tilley.