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Army Sets Policies to Strengthen In-House Lab Research

Policies to strengthen in-house laboratory capabilities are prescribed in a new Army Regulation, setting up a program under which $10 million is allocated for FY 1963 to stimulate creative research by Army scientists.

Related closely to many Bell Report recommendations, as reported in a page 1 article in this publication last month, AR 705-55 is titled "Research and Development of Materiel, Management of U.S. Army R&D Laboratories or Activities." Sent to the printer Sept. 27, it is expected to be distributed late this month.

The In-House Laboratory Independent Research Program, as detailed in the AR, is intended to provide individual Army scientists and engineers an additional opportunity to maintain and increase their competence by doing original work in areas suiting their talents. Objective: "To promote a vigorous internal research program of the highest technical calibre."

The $10 million has been allocated proportionately to in-house activities, and the laboratory technical director is authorized "widest latitude" to decide tasks of top potential. The AR specifies that a primary consideration in committing funds for the in-house research program is that the tasks undertaken will serve to strengthen scientific and engineering competence.

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Ad Hoc Group Attacks Problem of Improving Tech Information Flow

Dissemination of scientific and technical information on a timely, comprehensive basis to meet urgent research and development needs is being studied by 23 Army-designated task groups. Findings and recommendations are due Dec. 1 and policies to implement an intensive Army-wide program are to be drawn by Jan. 1.

Including officials of top level governmental agencies concerned with this problem, the task groups are the outgrowth of an important orientation conference of the Army Ad Hoc Group on Scientific and Technical Information organized recently.

The conference was held Oct. 1-3 under the auspices of the U.S. Army Research Office in its Highland Building Headquarters, Arlington, Va. Col Andrew A. Aines, Chief, Research Support Division, presided.

Senator Hubert Humphrey, whose recent activities have sparked inten-

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Secretary of the Army Cyrus R. Vance presented Exceptional Civilian Service Awards Oct. 5 to Dr. Elvis H. Sadun (above) of Walter Reed Army Institute of Research, Mrs. Katherine Mather (below) of the Army Waterways Experiment Station, Kenneth E. Woodward (right) of the Army Diamond Fuze Laboratory, and honored eight other employees. (See story in column 3.)

R&D Personnel Garner Majority of Secretary Of Army Top Awards

Civilians employed in Army research and development won four of the five top awards at the Sixth Annual Secretary of the Army Awards Ceremony Oct. 5 at the Pentagon in Washington, D.C.

Secretary of the Army Cyrus R. Vance presented Decorations for Exceptional Civilian Service, the Nation's top honor for employees, to:

• Mrs. Katherine Mather, U.S. Army Engineer Waterways Experiment Station, Jackson, Miss., for pioneering in the use of X-ray defraction for obtaining knowledge of the constitution and composition of concrete materials.

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Featured In This Issue . . .

Army R&D Newsmagazine

Vol. 3, No. 10 October 1962

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Purpose: To improve informal communication among all segments of the Army scientific community and other Government R&D agencies; to further understanding of Army R&D progress, problem areas and program planning; to stimulate more closely integrated and coordinated effort among the widely dispersed and diffused Army R&D activities; to maintain a closer link from top management through all levels to scientists, engineers and technicians at the bench level; to express views of leaders, as pertinent to their responsibilities, and to keep personnel informed on matters germane to their welfare and pride of service.

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Theme of the Month: The Army — Today and Tomorrow

By Secretary of the Army Cyrus R. Vance

EDITOR'S NOTE: When the Association of the United States Army held its eighth annual meeting Oct. 8-10 in Washington, D.C., an imposing array of the Nation's top military talent participated. Exhibits illustrated military might and the Nation's potential for increasing that power. AMONG NOTABLES who spoke were Secretary of Defense Robert S. McNamara, Army Chief of Staff General Earle G. Wheeler, General Paul D. Adams of the United States Strike Command and Assistant Secretary of the Army (R&D) Dr. Finn J. Larsen. Many prescient statements about the Nation's defense were made, including progress reports from commanding generals of the Army Materiel Command, Combat Developments Command, U.S. Continental Army Command, and other Commands in foreign areas. Secretary of the Army Vance's address was thoughtful and hard hitting, as excerpted herein.

Let me begin by wishing the Association of the United States Army a most successful meeting. Youngest of the four Service associations, in the short period of seven years you have developed a highly respected organization dedicated to the national security and a strong defense establishment. We encourag the members of the Army to support the Association and we in turn appreciate your support. We welcome your suggestions and look forward to your continuing contribution to our national defense in the years ahead.

I held certain views about the Army when I entered upon the task of Secretary of the Army exactly 100 days ago this morning. Today, these views have become convictions. They have to do with the Army's importance to our Nation, with the Army's underlying philosophy, with the qualities which I believe the Army should possess, with the people of the Army, and with the Army's future.

To a degree, one can measure the importance of an Army. One can conduct war games of strategic situations, observing therein the relations of cause and effect, and can thereby place a value upon the Army's contribution. It is useful to do these things and we constantly strive to improve the way we do them.

But in a broader sense, the value of the Army to the Nation cannot be precisely measured.

Observe the situation today in West Berlin—and put a price if you can on the value of the battle groups your Army has stationed there.

Or tell me the worth of the 32nd, 49th and 100th Divisions and the associated National Guard and Reserve units which convincingly demonstrated our readiness to fight as they mobilized and trained last fall and winter.

Somehow our people know—and our allies and adversaries as well—that when our Army is committed our Nation is committed. This fact, in war and the deterrence of war, cannot be measured in a precise balance.

The Army's value to our Nation also shows in the fabric of our history in peace—from the Cumberland Pike, started by the Army in 1806, to the St. Lawrence Seaway, completed by the Army in 1959, and in the years between, countless other endeavors, both large and small.

In fact, it is with a sense of wonder that I review the institutions, both civil and military, that have sprung from the rich soil of the Army, and have found their way to an independent existence.

We in the Army accept with quiet pride the fact that the heritage of our Army is inseparable from the heritage of our Nation. From pre-Revolutionary days to the present, American patriots have chosen to serve in our Army—either as a lifetime vocation or as citizen-soldiers under that ancient concept which has been so fundamental to American life, and which continues to be fundamental as we adapt to the atomic age.

A second set of my convictions has to do with the Army's underlying philosophy. To describe this philosophy I need only recall to you the statement of one of the Army's most distinguished soldiers as to the Army's creed.

This fine soldier stated two years ago that there is no neat or parochial

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Group Attacks Problem of Improving Tech Information Flow

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sive high level effort to solve scientific information problems, conveyed his message to the conference in a taped recording. It stated, in part:

"I like the idea of this conference and the planning which has gone into it. What you are doing is precisely what we have been striving for on Capitol Hill. We want modern information systems so as to help strengthen our Nation's research and development program. And that is what you want and are prepared to do.

"We want up-to-the-minute, comprehensive information to be available to every administrator, to every bench scientist and engineer. The information should be immediately available *when* each man wants it, *in the way* he wants it, so as to fulfill his particular needs—without bother, without inconvenience and with a minimum of irrelevancy or 'static.'

"You and I know it is a formidable problem. It is growing more difficult. Many factors account for this difficulty. I refer to factors like:

- The worldwide 'explosion' of science and technology—on both sides of the Iron Curtain.
- The fact that *boundary* lines between *disciplines* are dissolving.
- The fact that a finding in one scientific area proves applicable in other *totally unforeseen* areas.
- The immense diversity of traditional and current information systems.
- The fact that *resources* for information—men, money and material—haven't kept pace with the potential demand for information.
- The variety and magnitude of user needs (which the user, himself, often fails to recognize).

"But the problem can be met head-on, and you are the ones to do it. What you are doing is, as the conference planners have shown, an integral part of a vast Government-wide effort. . . ."

STATED OBJECTIVES of the Army Research Office-sponsored conference are:

- Establishment of an integrated, dynamic information system to enable Army scientists, engineers, project officers and managers to remain *currently aware* of developments in their respective areas.
- To assist in the reduction of lead time in weapons system development by providing timely, relevant information which can be accepted with confidence and used as a basis for making sound decisions.
- Establishing an information exchange flow, not only within the Army but in consonance with the ASTIA (Armed Services Technical Information Agency) program, all Department of Defense elements, other Government agencies, industry and educational institutions.
- Tapping of foreign sources of scientific and technical information.

Army Chief of Research and Development Lt Gen Dwight E. Beach, in his welcoming address, emphasized that extensive Army efforts in the past to improve the flow of scientific information must be greatly expanded and closely integrated among user agencies to meet current needs.

Deputy and Scientific Director of Army Research, Dr. Richard A. Weiss, followed with an address on "Coordination of Scientific Information on a National Scale," in which he outlined the magnitude of the task ahead.

Dr. R. B. Stegmaier, Staff Assistant for Scientific and Technical Information in the Office of Review and Services, Director of Defense Research and Engineering, discussed what DDRE has done and is planning to improve scientific information flow.

Dr. Monroe Freeman, Director of the Science Information Exchange of the Smithsonian Institution, discussed "SIE and Its Relation to the Army Program." He explained various efforts underway or contemplated to give users greatly improved service.

Leading speakers from other Government agencies included: Dr. Bernard M. Fry, Deputy Director, Office of Science Information Services, National Science Foundation, who outlined NSF scientific information responsibilities and procedures; Kirby Payne, Department of Agriculture, who explained the agency's science and technology information program; and Allan Kiron, Advanced Research Group, U.S. Patent Office.

"The ASTIA Program and Relations with the Army" was the subject of an address by Col James O. Vann, Commander of the Armed Services Technical Information Agency. He stressed that the new Army program is planned to support, complement and be integrated closely with the ASTIA program. A tour of ASTIA was made to acquaint conferees with its facilities.

Richard Berg, Deputy Director, Office of Technical Information, spoke on the "Atomic Energy Commission Information Program and Army Relations." Likewise, Melvin S. Day, Director of the Office of Scientific and Technical Information, explained the NASA information program and Army regulations.

U.S. Army Materiel Command speakers—Col P. D. Hickman, Chief of the Data Systems Division, and Arthur G. Taylor of his staff—teamed in a presentation on "Management Information in Army Research and Development."

One of the key addresses on the final day of the conference was made by John C. Green, Director of the Office of Technical Services, U.S. Department of Commerce. His topic: "The Office of Technical Services and the Army."

Dr. Martin H. Weik, Ballistics Research Laboratory, Aberdeen Proving Ground, Md., gave the Army Mathematics Steering Committee report on scientific information problems.

Peppino N. Vlannes, Deputy Chief of the Research Support Division, Army Research Office, who planned and arranged the conference as project officer, presented the final summation.

Additional speakers included Glenn Bryce, U.S. Army Chemical Center; Charles E. McCabe, Chief of the Scientific Information Branch, Army Research Office; and Parmely C. Daniels, Army Research Office Reference Center.

Col Aines cited statistics pointing to the importance of the Army effort to work closely with other Government agencies toward achievement of more effective scientific information dissemination procedures. He quoted Senator Humphrey's estimate that $1 billion annually is being wasted in rediscovery of existing knowledge because of inadequate information flow.

The Federal Government in FY 1962, he said, financed $12.4 billion of research and development, and private industry financed an additional $4 billion. The Department of Defense, it was stated, accounts for about 72 percent of Government R&D expenditures, with the National Aeronautics and Space Administration and the Atomic Energy Commission jointly expending 24 percent.

Maj Gen C. W. Clark, Director of Army Research, is Chairman of the Army Ad Hoc Group on Scientific and Technical Information, Dr. Richard A. Weiss is Cochairman, and Col. Aines is the Program Director. Parmely Daniels is Executive Secretary. Forty-four additional members are

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representative of all major Army R&D activities.

The 23 study tasks set in motion by the conference cover virtually every known aspect of the overall problem of collecting and distributing scientific information. Because they fall into natural groupings, seven subgroups have been organized, namely:

SUB-GROUP A. Dr. Herbert L. Ley, Jr., Life Sciences Division, Army Research Office (ARO), Chairman. Dr. Ley and Logan O. Cowgill of the Office of the Chief of Engineers are assigned Task No. 5. Col J. T. H. Spengler of the Technical Intelligence Office, U.S. Army Materiel Command (USAMC) heads Task No. 15. Mrs. Doris Condit, Special Operations Research Office, is responsible for Task No. 17.

SUB-GROUP B. Dr. Gilford G. Quarles, Chief Scientific Adviser, Office of the Chief of Engineers, is Chairman. He is assigned Task No. 1, along with Daniel Jones, R&D Directorate, USAMC, Col Wilford D. Gower, Policy Division, Office of the Chief of Research and Development (OCRD), and Richard P. Witt, Associate Director DEPS, Aberdeen Proving Ground, Md. Harold Silverstein, Office of the Chief Signal Officer, DCSOPS, has Task No. 20. James E. Norman, U.S. Army Missile Command, Huntsville, Ala., is working on Task No. 3, aided by Arthur G. Taylor, Data Systems Office, USAMC.

SUB-GROUP C. Chairman is Dr. William J. Kroeger, Frankford Arsenal, who also is assigned Task No. 18. Dr. John Hayes, Technical Information Center, Dugway Proving Ground, Utah, has Task No. 12 and Harry E. Pebly, Jr., is assigned to Task No. 19.

SUB-GROUP D. Mrs. Bertha Harper Cory, Statistics Research Analysis Laboratory, U.S. Army Personnel Research Office, is Chairman and is assigned to Task No. 14 with Dr. Selig Starr, Physical Sciences Division, ARO. Task No. 16 is headed by Max Rosenberg, Special Weapons Group, Picatinny Arsenal, and Martin Weik, Ballistics Research Laboratory, Aberdeen Proving Ground is working on Task No. 6.

SUB-GROUP E. Chairman is Dr. David P. Jacobus, Office of The Surgeon General, Walter Reed Army Institute of Research, who also has Task No. 9. George B. Cox, Scientific Synthesis Office, AROD, is assigned Task No. 22.

SUB-GROUP F. Chairman is Paul Olejar, U.S. Army Chemical R&D Laboratories, Army Chemical Center, Md. With Dr. M. Geneva Gray, Technical Library, Quartermaster R&E Command, Natick, Mass., he is assigned Task No. 2. Other task assignments are: No. 4, Dr. Royal H. Burkhardt, Office of the Assistant Chief of Staff Developments, Headquarters, Army Security Agency, Arlington Hall, Va.; No. 7, Robert L. Martin, Quartermaster R&E Command. No. 8, Gerald Beveridge, Technical Information Division, U.S. Army Biological Laboratories, Fort Detrick, Md. No. 10, Col Steven Malevich, Deputy Director of Plans, Programs and Intelligence, U.S. Army Combat Developments Command, Fort Belvoir, Va. No. 11, Leonard Rokaw, Technical Information Division, U.S. Army Materiel Command.

SUB-GROUP G. Lt Col G. W. Connell, Chairman, Combat Developments, Office of the Deputy Chief of Staff, Operations, is assigned Task No. 21. Col J. R. Pritchard, U.S. Continental Army Command, has Task No. 23 responsibility.

Regulation Prescribes Policies to Strengthen In-House Lab Research

(Continued from page 1)

Funds allocated to the independent research program cannot be used to compensate for deficiencies in regular funded programs or to support outside work, except where such outside or contract work is deemed necessary to support tasks conducted by in-house laboratory personnel. Within established capabilities, in-house resources are to be directed to "new and challenging" research tasks.

Under this concept, contracting with industry, universities and nonprofit organizations, or other Army or Government agencies is to be encouraged wherever it provides more efficient use of resources and more effective accomplishment of missions.

An important provision is that the level of in-house effort for a laboratory or activity is established by programs designed to provide continuity of effort within available resources, rather than by arbitrary, predetermined limits or ratios.

Regarded by Army R&D officials as one of the most important and far-reaching measures ever taken to improve management practices within Army laboratories, AR 705-55 is an outgrowth of President Kennedy's expressed desire to bolster in-house capabilities of Government R&D agencies. The Bell Committee, headed by Bureau of the Budget Director David E. Bell, was created by the Chief Executive's direction.

The stated objective of the regulation is: "To promote the effective utilization of available resources and to foster an awareness of management policies and principles necessary for the proper utilization of these resources in accomplishing the research and development mission."

In-house work is defined as research, development, testing and evaluation (RDTE) performed at Army facilities by RDTE personnel on approved projects and tasks in the R&D program, and the technical supervision of RDTE personnel.

Army staff responsibility for establishing and assuring implementation of policies for the management and control of R&D laboratories or activities, the regulation states, is vested in the Chief of Research and Development. Under this guidance, the Commanding General of the U.S. Army Materiel Command, The Surgeon General and the Chief of Engineers have the responsibility of implementing RDTE policies.

The commanding officer of each Army R&D activity is directed to exploit every possible means of attracting and retaining creative, energetic, efficient and conscientious scientific and technical personnel; for using them productively; and for advancing professional development."

Similarly, the regulation directs that the position of the technical director of each Army laboratory or R&D activity will indicate clearly his responsibility and authority, and "reflect his stature in the organization and the scientific community."

Six policies are delineated for commanding officers to ensure more efficient utilization of personnel, covering compensation rates, training courses, recognition programs (awards, etc.), technical education of officers, uninterrupted tours of officers, and the "best available staffing."

Recognition of outstanding performance by the working scientists and engineers who are not in supervisory positions is emphasized in the regulation. It requires that complete advantage be taken of existing PL-313 provisions covering compensation

rates for senior technical personnel. Local recognition programs are to be encouraged, along with broader participation in the Army R&D Achievement Awards Program and other Department of the Army incentive awards activities.

TRAINING COURSES for management and supervisory responsibilities are to be provided for the career development of scientists and engineers who demonstrate a promising potential. Objective: To promote an awareness among them of their responsibilities for assuring that high technical standards are maintained "through the most effective and efficient use of available resources."

TECHNICAL EDUCATION of officers is to be a basis for their assignment to Army laboratories or other Army R&D activities. Officers are to "be given every opportunity to engage in technical work, in advanced education programs, and in the activities of professional scientific or technical societies."

UNINTERRUPTED TOURS are prescribed to obtain maximum utilization of technically educated officers assigned to laboratories or other Army R&D activities, in line with the objective of achieving the benefits of continuity of service from both military and civilian personnel.

Under this military-civilian team concept, military personnel will provide overall management and user experience and knowledge; civilians will provide the technical and scientific skills for the management of the technical operations. Military personnel, however, may be used in technical and scientific management areas when they have the qualifications.

Each commanding officer of an Army R&D activity or installation is directed by AR 705-55 to insure that the best available talent is recruited and that a "positive manpower management program" is instituted.

The Regulation calls for a minimum number of administrative positions and echelons of supervision and review. Positions such as assistant chief, deputy chief, special assistant or associate director "will be held to a minimum."

The AR section on manpower utilization requires a "critical review" of each scientific and engineering position proposed for establishment, excluding wherever possible lower level nonprofessional and administrative tasks. Management personnel are instructed to assist operating personnel to assure that, where feasible, manpower requirements to initiate or strengthen a program are promptly evaluated and supported by internal sources.

"FREEDOM OF ACTION, a feeling of accomplishment and most important, significant results, can be achieved," the AR states, "by giving to the scientists and engineers the responsibility for designing their own work plan, the resources required, the necessary authority to accomplish their plan, and holding them responsible for results.

"It must be recognized that the resolution of R&D problems often requires unique approaches. The solution of difficult problems should not be complicated by needlessly narrow or stringent interpretations of established procedures and regulations."

PROGRAM OBJECTIVES, the AR points out, are to be determined with respect to Army Long-Range Plans, Qualitative Materiel Development Objectives and Requirements, the 5-year program document and other guidance from higher authority, together with an estimate of resources that can be made available.

Selection of tasks is to be based on "some definite promise of yielding results beneficial to the Army. Projects of only marginal return will be eliminated."

As outlined in the AR, the principle of "management by exception" will be followed. Reporting systems to higher authority will reflect "only that information related to the accomplishment of the significant events, or information related to the occurrence of problems which require action by higher authority.

"Reporting above the operating level of the organization will be in summary form, providing only that information necessary for management to know the status of the programs compared to previously formulated objectives and standards."

OVERLAPPING PROGRAMS, AR 705-55 recognizes, are to be expected in some respects. Each laboratory or activity, however, is instructed "to try to concentrate, lead and excel in an objective area." Further, it is stated that:

"Where several Army or other Government agencies are involved in the same area of endeavor, a maximum effort will be made to avoid expending valuable talent and other resources where results of competition would not outweigh results if the same talents and resources were directed instead to other stimulating and challenging assignments."

FACILITIES AND EQUIPMENT, as spelled out by the AR, are to be utilized by installation commanders to insure that adequate planning is done "far in advance of actual need" to avoid high cost of crash programs.

Commanders and technical directors of laboratories are held responsible for controlling facilities and equipment excess to RDTE programs. They are to make every effort to take advantage of the savings in funds, space and manpower by "promptly disposing of these facilities and equipments."

TRAINING COURSES are to be provided for management and supervisory career development of scientists and engineers who "demonstrate a potential . . . and who indicate an interest in this field."

These courses, it is explained, "should be designed to promote an awareness on the part of scientists and engineers of their responsibilities not only for assuring that technical quality is accomplished, but that it is accomplished through the most effective and efficient use of available resources."

Watervliet Arsenal Holds Value Analysis Seminar

Value analysis proposals that could save an estimated $660,000 in development costs of certain ordnance items were advanced during a week-long VA seminar in late September at Watervliet Arsenal, New York.

Maj Gen Nelson M. Lynde, CG of the Army Weapons Command, made the keynote address. He pledged to "take all action within my power to assure a successful value analysis team within the Department of the Army . . . that will operate with the hard-hitting effectiveness of the value analysis group at Watervliet Arsenal. . . ."

The basis of the VA system, pioneered within the Army at Watervliet Arsenal (see October 1961 issue, page 1) is an appraisal of elements of design, engineering, manufacturing and procurement to achieve functional effectivenes at minimum cost.

The seminar included displays by specialty suppliers illustrating how items produced through value analysis techniques may be applied to weapons development requirements.

Conducted under the Arsenal's National Industrial Division, the seminar was under the direction of Adam A. Krystofik, Chief of the Mobilization and Procurement Branch, with Raymond J. Spenard as coordinator.

Aberdeen PG Using Gun Probes to Study High Sky

Successful testing of a low-cost, high-altitude gun-probe system for measurement of atmospheric characteristics up to 250,000 feet was announced Sept. 18 by the Army Ballistic Research Laboratories at Aberdeen Proving Ground, Md.

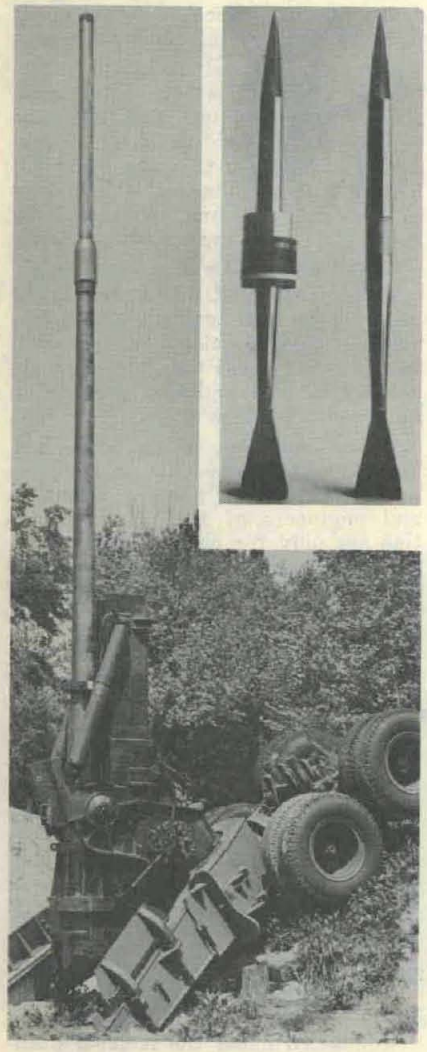
Feasibility studies on the system have been in progress at the Laboratories since early 1960, including close cooperation with McGill University scientists now engaged in Operation HARP at Barbados, West Indies Federation. (See August 1962 issue for description of planned experiments using two 16-inch naval antiaircraft gun tubes.)

Spence T. Marks, project scientist and coordinator of the Army Ballistic Research Laboratories gun-probe experiments, reported the system has several advantages over balloons and rockets now used for high-altitude research.

"Balloons, though inexpensive, are normally limited to altitudes of 10,000 feet, and are subject to extensive drift," he explained. "Rockets have a greater altitude capability than balloons, but are expensive, and subject to large impact dispersion. A large impact dispersion limits their use in congested areas."

The gun-probe system, it was stated, has excellent potential as a tool for making meteorological measurements in relatively congested areas, and for acquiring data applicable to battlefield conditions.

A smooth-bore 120-millimeter T123 tank gun with a barrel extension to provide greater muzzle energy, is being used in current experiments. It is mounted on a 155-millimeter M2 carriage and fired vertically. The projectile is fin stabilized and uses a discarding sabot at firing.



T123 120 mm. tank gun with barrel extension mounted on 155 mm M2 carriage. Insert shows 60 mm. projectiles with and without sabot. The sabot stabilizes probe load in barrel and breaks away following discharge.

Three probe packages (chaff, artificial meteor and sodium flare) have been developed for the test program. A telemeter unit is being prepared. The package is ejected from the probe by an explosive charge. In the case of the chaff package, data on wind velocity and direction will be obtanied by tracking the particles with radar.

The artificial meteor package contains particles designed to simulate actual meteors. Observation of these particles is expected to yield valuable information on the nature of meteors and on re-entry problems.

The telemeter unit will contain instruments for measuring temperatures and pressure.

A 7-inch gun-probe system (mobile) is under construction for altitudes of 250,000 to 350,000 feet, with a larger payload capability.

Associated with Mr. Marks on the project are John A. Brown, Leonard C. MacAllister, Walter K. Rodgers, Eugene D. Boyer, John H. Kineke, Jr., Lynus G. Richards, Bedford T. Bentley, William H. Mermagen and John S. Whiteford.

Army-Wide Conference Slated on Computer Problems

Army computer groups engaged principally in scientific problems have been invited to send representatives to the first meeting of the U.S. Army Research Office Working Group on Computers at Durham, N.C., Oct. 31-Nov. 1.

The session is under the guidance of the Army Mathematics Steering Committee (AMSC). Its purpose is to exchange information that will indicate to the AMSC and the Army Research Office requirements for assistance or research in numerical analysis and other areas of mathematics.

Total attendance is limited to approximately 60 delegates to enhance open discussion. Representatives from all major segments of the Army are expected to attend.

Dr. John Giese of the Ballistics Research Laboratories, Aberdeen Proving Ground, Md, and Chairman of the AMSC Subcommittee on Numerical Analysis and Computers, will chair the meeting.

Invited speakers include Prof. J. W. Carr, III, University of North Carolina, who will deliver the keynote address, and Dr. Charles V. L. Smith, Atomic Energy Commission. Dr. Smith will discuss the AEC's exploratory study of the need for a computer about 100 times faster than STRETCH. Dr. Walter R. Guild, Duke University Medical Center, will give an address on "DNA Coding."

Representatives from approximately 10 Army installations are expected to describe the mission, organization, experience and particular problems of their computer groups.

Part of the program will be devoted to a discussion of Army regulations governing acquisition and use of computers, the recently completed AMSC-sponsored study of information retrieval in the Army, and the Army Research Office-Durham numerical-statistical analysis program.

Aberdeen Scientist Heads NATO Fire Accuracy Unit

Physical scientist O. P. Bruno of the Ballistic Research Laboratories, Aberdeen Proving Ground, Md., has been selected chairman of the NATO sub-group on "Accuracy of Fire."

An Army Reserve colonel, Bruno is the U.S. Army's official representative to NATO to serve with representatives of other nations on problems relating to accuracy of fire of weapons systems, including free flight rockets and tube launched projectiles.

Mr. Bruno holds bachelors and masters degrees from New York University and has presented several papers before the NATO countries during his tenure. Of particular interest has been his paper on "Effects of Ballistic and Meteorological Variables on Accuracy of Artillery Fire."

DARPO Phaseout Tells Of Virtual Completion Of Army Reorganization

Dissolution of the Department of the Army Reorganization Project Office (DARPO), effective Sept. 30, signifies that most of the vast reshuffling of personnel and functions is complete.

In his 12th and final biweekly progress report to the Department of Defense, Army Reorganization Project Director Lt Gen Charles B. Duff said basic planning and implementing actions have been accomplished.

A new phase is beginning, the report stated, "consisting of refinement and modification of the implementing actions." This phase will continue over a considerable period.

Army staff and subordinate commands are instructed to give "priority attention . . . in their respective areas of responsibility to insure optimum results and conformity with the concepts and principles represented in the reorganization plans."

General Duff reported "it is anticipated that a review of all reorganization actions will be undertaken by the Headquarters, Department of the Army after the new system has been in operation for a reasonable period of time, in order to evaluate progress toward attainment of reorganization objectives and identify desirable modifications."

A letter rescinding virtually all DARPO directives and other communications concerning reorganization planning was published Oct. 2 by the Office of the Adjutant General. Original reorganization scheduling called for this stage of progress to be reached early in 1963.

Other indications point to completion of the final modification and adjustment of reorganization several months ahead of the 18-month period envisioned by planners. The Secretary of the Army announcement of the reorganization was made Jan. 16, 1962.

By July 1, the U.S. Continental Army Comand had assumed its assigned operational functions, along with the Army Combat Developments Command. By Aug. 1, five months ahead of the original schedule, the U.S. Materiel Command was able to assume its unprecedented operational responsibilities. The new Office of Personnel Operations also was on an operational basis.

In view of the immensity of the Army reorganization, top Army leaders have expressed their general satisfaction with the minimal disruption of functions and services during the period of implementation.

Vance Takes Firm Stand on Army Aircraft Program

A memorandum on "Aviation Responsibilities in the Three Military Departments" to Secretary of Defense Robert S. McNamara has placed Secretary of the Army Cyrus R. Vance on record as a vigorous proponent of Army air power.

Secretary Vance's position paper, supporting the findings and recommendations of a top-level Army study on air mobility requirements for the next decade, stressed that each of the Military Services should be empowered to meet its own aviation needs.

Headed by Lt Gen Hamilton H. Howze, the Army study group reached conclusions apparently sharply attuned to the convictions of Secretary Vance, who stated in part:

". . . The Army believes that if an aviation system has characteristics such that its aircraft can take off from and return to rough fields in the division and field army area, and if the aircraft is designed to be capable of missions entirely within the combat zone, such an aviation system of definition operates in the environment of the ground soldier.

"We consider that the Department of the Army should develop the aircraft which operate therein and that Army forces should operate these aircraft in the field."

Similarly, Secretary Vance said, the Air Force and the Navy should have the responsibility for development and operation of aviation systems for their respective combat environments. Further, he contended that in developing systems geared to their special requirements, the Army, Air Force and the Navy should work together in the closest harmony under the authority, direction and control of the Secretary of Defense.

Moreover, Secretary Vance called upon Secretary McNamara to vest increased authority in the Joint Chiefs of Staff to develop requirements for new aircraft. He said the U.S. Strike Command under Army General Paul D. Adams should be given strengthened capabilities "for field test, experimentation, and development of joint doctrine."

By inference rather than by direct statement, Secretary Vance let it be known that he believes primary responsibility for special warfare and counterinsurgency operations rests with the Army, and that therefore the task of developing aircraft specially designed for this requirement should be concentrated in the Army.

In furtherance of this belief, he said that Army aviation operations in the environment of the other Services should conform to their doctrines, and that there should be a joint doctrine related to overlapping areas. To strengthen his contention, Secretary Vance quoted Secretary McNamara's instructions to the Howze Board, in part, as follows:

"The Army has now reached a point where entire tactical units place a primary reliance on air vehicles. Herein, air vehicles are employed to integrate Army maneuver elements in the air with Army maneuver elements on the ground; to integrate air firepower with ground firepower; to inetgrate air surveillance with ground surveillance, and to integrate air supply with ground supply. . . . Of special significance is the fact that these air mobile operations are planned, executed and controlled by Army ground commanders."

Army Missiles Paraded At Alabama State Fair

U.S. Army missile might was displayed to Alabama State Fair visitors Oct. 1-7 through joint effort of the Army Missile Command, the Missile Support Command, and Army Ordnance Guided Missile School.

More than 50 exhibits of missiles, rocket weapons and other materiel to strengthen Free World defenses went on display as a result of Army participation in the fair program at Birmingham.

The Guided Missile School, which graduates more than 5,000 students of the Army, Air Force, Navy, Marines and 14 foreign nations annually, periodically demonstrates training techniques at public gatherings to show how U.S. and Free World missile and rocket power is kept ready.

Virginia Lipscomb, one of five pretty Army Missile Command hostesses for the Army Missile show at the Alabama State Fair, poses with Col James O. Green, who served as Redstone Arsenal exhibit project officer.

Mobile Plant Produces Nuclear-Generated Electrical Power

Mobile nuclear generated electrical power, an important U.S. Army objective for military field operations, advanced notably in development on Sept. 21 when the ML-1 generated electricity for the first time on an experimental basis.

The announcement of the successful test was made jointly by the Atomic Energy Commission and the Corps of Engineers. The Corps is responsible for the Army's nuclear power program (See May 1962 issue, pages 35 and 36).

The ML-1, which the Army has pioneered with the support of the Atomic Energy Commission, is termed "the world's first direct, closed-cycle, gas-cooled nuclear power system."

Significance of nuclear-generated electrical power for field armies is that transportation of huge supplies of oil or coal is eliminated. The ML-1 requires no "logistic tail." A single nuclear fuel loading will sustain its logistic independence for more than a year.

Moreover, the ML-1 is an effective answer to high-speed mobility requirements of today's military operations. It can begin production within 12 hours of arrival at an operating site, and is capable of relocation within 24 hours after it is shut down.

A classic example of how important the ML-1 may be in meeting requirements of modern warfare is the 100-year-old Civil War lesson in logistics. During November and December 1862, the first Vicksburg expedition failed because of dependence on an extended, vulnerable route of supply. General Grant sacrificed this "logistic tail" in May of the following year and was able to bring the campaign to speedy victory.

Basically, the ML-1 power plant consists of three major packages: the reactor and power conversion units mounted on the same trailor, and the control cab transported by a 2½-ton truck. Supporting equipment also is transportable by truck. The system weighs 38 tons, is air-transportable.

The ML-1 is designed to produce 300 or more kilowatts of 60-cycle power, and operates at 1200° F., a higher temperature than any other electricity producing reactor system.

Course Prepares Nuclear Power Plant Operators

Forty-seven soldiers, sailors and airmen joined the select ranks of qualified nuclear power plant operators when they were graduated Oct. 1 from a year-long course at the Army's first nuclear power plant.

Since the SM-1 plant was activated at Fort Belvoir, Va., in 1957, six classes have been graduated from the Army Nuclear Power Plant Operators Training Course. Classes run concurrently, two each year, starting six months apart. The first two classes, limited to theory, were conducted at the University of Virginia.

In meeting requirements for the rapidly expanding joint Army-Atomic Energy Commission power program, the school is training about 100 carefully selected students each year.

Students who completed training Oct. 1 will be assigned to the PM-3A plant in Antarctica, the PM-2A plant in Greenland, the PM-1 plant at Sundance, Wyo., the SM-1A plant at Fort Greely, Alaska, the ML-1 plant at Idaho Falls, Idaho, or the SM-1 plant at Fort Belvoir. Three of these plants were placed in operation in a 16-day period early this year. (See May 1962 issue for details.)

Brig Gen Thomas J. Hayes, Assistant to the Chief on Engineers for National Aeronautics and Space Administration Support, addressed graduates at the commencement exercises and presented their diplomas. The top graduate honors went to Sp/4 John P. Hoffman of Woodbridge, Va. CWO Yeve L. Smith, Alexandria, Va., received a certificate as Plant Superintendent General after completing concurrent courses.

The course is broken up into three phases—academic, specialty and operations — and includes mathematics, physics, nuclear engineering, electrical and mechanical engineering, health physics, and nuclear power plant information.

In the final operations phase each student receives some 500 hours of practical on-the-job training on the SM-1 operating procedures, with instruction on differences in other types of nuclear power plants.

Maj Newson Assumes Duty As Chief of Entomology

Maj Harold D. Newson, MSC, is the new Chief of the Entomology Section, Army Medical Research and Development Command, Washington, D.

After World War II service in the Far East Command, he attended the University of Utah, earning a B.A. degree (1948) and an M.A. (1950). He remained there as instructor of biology, parasitology and medical entomology until recalled to active duty during the Korean War.

Assignment to the Medical Service Corps with duty station at Walter Reed Army Institute of Research enabled him to pursue entomological studies in North Borneo, Malaya, Indochina and Thailand. He later was assigned to the 406th Medical General Laboratory in Japan.

In 1959 he was awarded a Ph. D. in entomology from the University of Maryland.

Maj Newson is a member of the American Society of Tropical Medicine, the American Mosquito Control Association, and has been elected to the Phi Kappa Phi, honorary scholastic, and Sigma Xi, research fraternities. He has published a number of articles on disease vectors and their control.

Picatinny Scientist Wins Army Fellowship Award

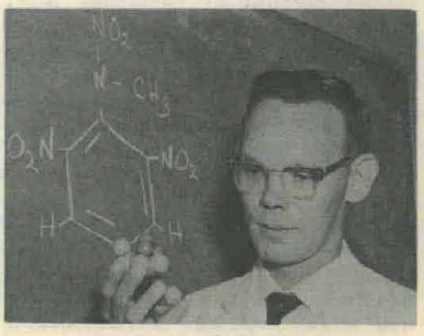
Under a Secretary of the Army Research and Study Fellowship award, a Picatinny Arsenal (Dover, N.J.) scientist will advance his career through a year of study at the Imperial College of Science and Technology in London.

Victor I. Siele, a chemist in the Explosives Research Laboratories, will study with Prof. F C. Tomkins, a world-renowned authority on solid-state chemistry and a Fellow of the Royal Society of England.

Approximately a dozen Secretary of the Army Research and Study Fellowships are awarded each year to persons who demonstrate outstanding proficiency and progress potential.

Employed at Picatinny Arsenal for 7½ years, Mr. Siele recently was presented the Department of the Army Sustained Superior Performance Award.

Mr. Siele earned a B.S. degree in chemistry at Seton Hall University, South Orange, N.J., in 1956 and is a member of the American Ordnance Association. He has published a number of technical papers in professional journals.



Victor I. Siele

Missile Command Names Mauler Project Officer

Col Norman T. Dennis has been named Project Manager for the Mauler air defense system at the Army Missile Command, Redstone Arsenal, Ala. He was Commander, Ordnance Industrial Center, in Europe until August 1962.

A 1934 graduate of Case Institute of Technology, Cleveland, Ohio, with a B.S. degree in electrical engineering, he received B.E.E. and M.E.E. degrees from Rensselaer Polytechnic Institute, Troy, N.Y., in 1950.

A military career started in 1929 in the Citizens Military Training Camp at Fort Benjamin Harrison, Ind., and he served in the Ohio National Guard from 1929 to 1933. From 1935-39 he was in the Engineer and Ordnance Reserve, then entered active military service.

Subsequent service took him into the Office of the Chief of Ordnance until October 1942, followed by assignments with ordnance and battalion units in the U.S. and Europe until October 1945. Next came three years with the Department of the Army Headquarters in Washington, D.C. After serving a 4-year tour at the Ballistic Research Laboratories, Aberdeen Proving Ground, Md., he attended the Command and Geneарl Staff College, graduating in July 1953. Following two years in Korea and Japan, he was reassigned to Washington until July 1959.

He holds the Croix de Guerre with Palm from France, awarded in June 1944, and the Bronze Star Medal presented in Korea in March 1954.

Col Dennis is a member of the American Institute of Electrical Engineers and the Amateur Radio Relay League. He is also a member of Sigma Xi and Eta Kappa Nu.

MAULER System Panel Meets At Aberdeen on Reliability

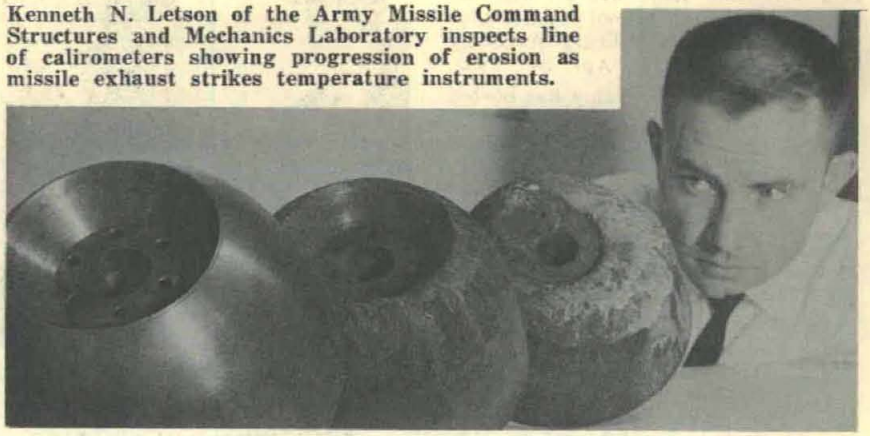
The MAULER Reliability Panel, consisting of five industrial team members of the Army's mobile air defense system, met as guests of the Development and Proof Services, Sept. 25-27, at Aberdeen Proving Ground, Md.

The panel meets quarterly to discuss the reliability problems of the MAULER system. Members convene at locations where they can view pertinent equipment and test facilities.

Comprising the panel are representatives from Raytheon, Burroughs Corp., General Dynamics and the FMC Corp., the major manufacturers of the system.

From a Missile's Fiery Heart . . .

Redstone Scientists Take Material Information



Kenneth N. Letson of the Army Missile Command Structures and Mechanics Laboratory inspects line of calirometers showing progression of erosion as missile exhaust strikes temperature instruments.

Thrust into the mouth of a burning rocket motor, a thermometer produces data on both ends of the missile for the Army Missile Command engineers at Redstone Arsenal, Ala.

Known as a calirometer, the instrument dipped into a missile exhaust flame weighs approximately 50 pounds and resembles a scaled-down missile nose-cone.

The measuring device of the calirometer is a small copper disc mounted in the tip of the steel holder. The disc gives precise temperature readings in the heart of the missile exhaust flame—extremely important in calculating the performance of the rocket motor.

The particles of solid propellant in a missile motor erode the steel holder so fast it can be kept in the path of the flame only a few seconds before suffering major damage. Heating is similar to that of a missile nose-cone plunging into the atmosphere.

Scientists of the Structures and Mechanics Laboratory of the Missile Command are gathering information for both ends of the missile. Meanwhile Test and Evaluation Laboratory engineers are evaluating the motor's performance.

Engineers can use findings to determine the best materials for use in ground support equipment and blast deflectors, two pieces of missile hardware that must withstand the direct blast of missile exhaust.

Although copper has been the metal used in tests, S&M Laboratory personnel plan to test composite and nonmetallic materials in the missile exhaust.

Calirometers have been dipped into the exhaust of liquid fuel motors being fired in static positions, but very little erosion takes place in a liquid motor exhaust since it does not spit out solid particles.

The Missile Command employees who worked on the ablation type nose for the Jupiter missile—first to survive the fiery reentry into the earth's atmosphere — are still researching structures problems for the Army. They are William G. Burleson and Noah J. Hurst of the Stress and Thermodynamics Section. Kenneth N. Letson did design and test evaluation work on the new calirometers for solid-fuel missiles.

Col Cunningham Reassigned To Chief of Staff at WSMR

Col Martin Cunningham, Ordnance Corps, was assigned recently as Chief of Staff at White Sands Missile Range (WSMR), succeeding Col John C. Bane who was named Range Deputy Commander.

Col Cunningham served at WSMR from 1956 to 1959 as Chief of the Flight Simulation Laboratory, Ordnance Mission, and as Deputy Chief of the Integrated Range Mission. For the past three years he has served as CO, U.S. Army General Depot, Nancy, France.

The colonel received the Knight of the Palms Academic from the French Government for promoting professional and cultural educational facilities for French civilian personnel employed by the Department of the Army and the Silver Medal of the City of Nancy for the improvement of Franco-American relations.

A native of Roanoke, Va., he earned a B.S. degree in industrial engineering from Virginia Polytechnic Institute at Blacksburg and has served 21 years in the Army.

Army Schedules First National JSH Symposium at West Point

The first National U.S. Army Junior Science and Humanities Symposium will take some 200 of the Nation's gifted high school science students to the U.S. Military Academy at West Point, N.Y., Apr. 3-5, 1963.

Since 1957 the Academy has hosted the biennial Army Science Conference, conducted on an invitational basis for about 500 of the top-ranking scientists and engineers employed by Army and other Federal agencies.

Assistant Secretary of the Army (R&D) Dr. Finn J. Larsen approved the National JSH Symposium proposal presented by Chief of Research and Development Lt Gen Dwight E. Beach. The plan was drawn by the U.S. Army Research Office, Durham, N.C., which as the Ordnance Research Office initiated the JSHS Program in 1958 and developed the proposal to expand it nationwide under Army sponsorship in 1961.

Given the sanction of the Secretary of the Army following sponsorship approval by the Chief of Research and Development, the expansion program has been carried into 17 States and the District of Columbia. Eighteen symposia are scheduled during school year 1962-1963.

Originally funded and supported entirely by the Chief of Research and Development, Department of the Army, the JSHS Program has had increasing aid from industries, educational institutions and community groups. It is expected that in FY 1964 private support will pay over 40 percent of the cost.

The 200 students chosen to attend the National JSH Symposium will be carefully selected on the basis of presentations at 20 regional symposia in which more than 4,700 high school students from 14 states and possibly San Juan, Puerto Rico, will participate. Between 25 and 50 teachers selected by the U.S. Army Research Office also will attend.

Maj Gen William K. Ghormley, Commanding General of Army Munitions Command, presents award to student scientist at Middle Atlantic JSHS.

The typical format of these symposia includes presentation of scientific papers by students, lectures by adults and a keynote address by a scientist of recognized renown. Question and answer sessions and visits to observe research conducted by university or industrial laboratories are included in the program.

Each symposium aims at a balance between presentations concerning the importance of the humanities and the social sciences to the physical scientist, with discussion of their relationships as they affect an individual in the modern world.

A new feature has been added to the Los Angeles JSH Symposium scheduled at the California Museum of Science and Industry, Nov. 1-3, at which five specially selected students will make presentations. They will be chosen from seven young scientists who were given summer research grants of $200 each and the opportunity of working at their projects under the supervision of professional scientists at university or industrial laboratories in the Los Angeles area. Grants were provided by International Business Machine Corp. Among other supporters of the JSHS Program have been Olin Mathieson Chemical Corp., E. I. duPont de Nemours, Atlas Technical Laboratories. Universities on the supporting list include Wisconsin, Utah, Iowa, North Carolina, Massachusetts Institute of Technology, Duke, Northwestern, Columbia and University of California, Berkeley.

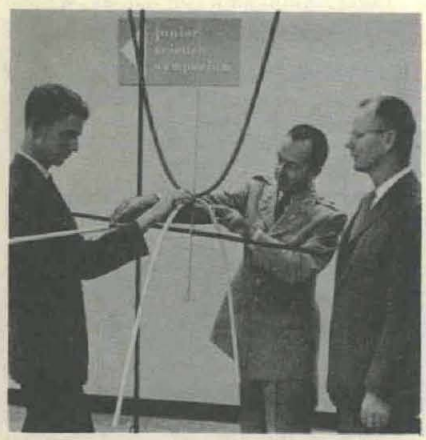
In voicing his approval of the National JSH Symposium at the U.S. Military Academy, Assistant Secretary of the Army (R&D) Dr. Larsen stated:

"The Department of the Army, like the rest of American society, is heavily indebted to the able research scientists whose lifelong dedication to the advancement of knowledge in all branches of science is a bulwark for social progress and the preservation of our way of life.

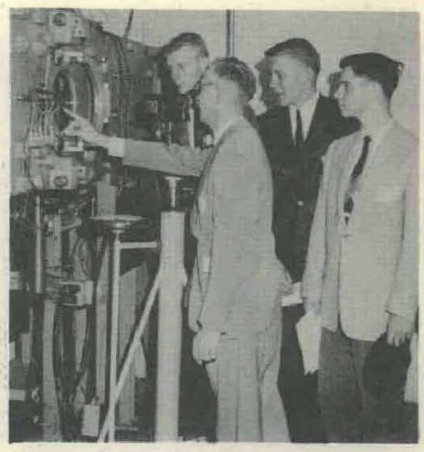
"Through Army's cordial and productive relationships with thousands of America's finest scientists in the laboratories of industry, Government, and universities, we are in a position to support with considerable success a modest but solidly conceived program in honor of the young American scientists who are on the threshold of great careers in research.

"We have staged the Junior Science and Humanities Symposia not only as an honor to the participants, but as a means of encouraging them in their efforts, and of spotlighting for the total community of high school students the richness of successful hard study in challenging and difficult areas.

"The forthcoming symposium at West Point is aimed at providing a small group of America's finest young people with an experience in learning that will remain a stimulus to them all their lives."



Maj Gen C. W. Clark, Director of Army Research, examines mathematical exhibit at Los Angeles Junior Science & Humanities Symposium.



Students participating in Middle Atlantic Junior Science and Humanities Symposium examine wind tunnel at Army Picatinny Arsenal, Dover, N.J.

LWL Commander Briefs CRD on Gains

Brig Gen William F. Ryan, Commanding General, U.S. Army Test and Evaluation Command, Aberdeen Proving Ground, Md., oriented Lt Gen Dwight E. Beach on progress of setting up operations at Limited War Laboratory.

Problems of recruiting an "elite professional staff" at the U.S. Army's recently established Limited War Laboratory at Aberdeen Proving Ground, Md., are well on the way to solution. As of early October more than half of the civilian staff authorization of 70 had been filled.

Following up on his late August meeting with LWL Commander Col S. C. Holmes in Washington, D.C., to discuss measures to speed up the process of putting the LWL on a fully operational basis, Chief of Research and Development Lt Gen Dwight E. Beach conferred with him again in mid-September at Aberdeen Proving Ground.

General Beach was briefed by Col J. T. Brown, Chief of the LWL Operations and Analysis Division, on work now in progress on several urgently needed materiel items. Speedy response to a number of requests from the field already has been achieved through the cooperation of industry.

Lt Gen Frank S. Besson, Jr., Commanding General of the U.S. Army Materiel Command, gave the LWL a major assist by loaning from activities under his jurisdiction six well-known highly skilled technicians for a period of 60 days.

One task on which these technicians are working is that of compiling a list of all known user requirements Army-wide for limited war and counter-insurgency operations. The group is determining what has been done or is projected in the near future by industry and Government. Comparison of these indexes will guide the LWL in preparing a program to compensate for overall weaknesses found in existing programs.

Every effort is being made, Col Holmes advised General Beach, to provide the LWL with streamlined administrative procedures. Special authority exempts Col Holmes from normal establishment of a Qualitative Military Requirement (QMR) or Small Development Requirement (SDR) before work can be undertaken. Development or exploratory research can begin promptly upon the basis of a telegram from the field, a phone call, a letter, or as the result of an idea generated within the LWL.

Selection of the civilian staff has been "rushed with deliberate care," to insure a staff representative of the best talent obtainable, Col Holmes has reported. Together with Technical Director Edward Kaprelian, he thoroughly reviewed more than 200 applications and searched over 300 personnel files to find qualified personnel.

"Professional excellence in one field is not sufficient," Mr. Kaprelian explained. "Breadth in adjoining disciplines is an absolute necessity because . . . of the speed required to get a product that does the job."

Similarly high standards have been set for the six Army officers who round out the professional staff. Among the requirements: combat experience, training in special warfare techniques, and a degree in science or technology. As of early October only one officer slot was unfilled.

Recruitment of the full civilian staff is not expected to be completed much before the LWL moves into its permanent home at Aberdeen Proving Ground in September 1963. Two large brick air-conditioned buildings, centrally located within the APG complex, will accommodate administrative, professional and technical staffs, laboratories and shops.

Commenting on the Army plan to call on industry and other research activities to facilitate the work of the Limited War Laboratory, General Beach said:

"We'll use any idea that anyone has to give our soldiers better weapons. In the past the Army has cooperated with industry in many projects, and we will continue to do so."

Secretary Vance Reviews Programs at White Sands

Secretary of the Army Cyrus R. Vance, accompanied by three Congressmen, visited White Sands Missile Range, N. Mex., Sept. 21 and was briefed on current programs, including the Nike Zeus antimissile missile.

With the Secretary were Rep. J. T. Rutherford of Odessa, Tex.; Rep. Thomas G. Morris of Tucumcari, N. Mex., and Rep. Joseph M. Montoya of Sante Fe, N. Mex. Others in the party included Brig Gen William F. Ryan, CG of the Army Test and Evaluation Command, and Brig Gen Frederick C. Weyand, Army coordinating legislative liaison officer.

Besides seeing Zeus facilities at the largest missile test facility under his command, Mr. Vance was briefed on other White Sands missions by the WSMR Commanding General, Maj Gen J. Frederick Thorlin.

Secretary of the Army Cyrus R. Vance (right) is welcomed to White Sands Missile Range, N.Mex., by Commanding General (Maj Gen) Frederick Thorlin. Observers are Col C. L. Beaudry and U.S. Rep. J. T. Rutherford, Odessa, Tex.

AMEDS 'Operation Challenge' Bids for Aid Of Industry on New Field Hospital Equipment

400-bed field hospital set up at Fort Meade for "Operation Challenge" demonstration for industrial firms.

"Operation Challenge," a demonstration of an Army evacuation hospital in action, was staged Sept. 26 for manufacturers and equipment designers by the U.S. Army Medical Service at Fort Meade, Md. Purpose: To stimulate cooperation in developing new items needed for medical support of combat forces.

Sponsored by The Surgeon General, the 2-day exhibit solicited help to reduce substantially the size and weight of field hospital equipment, in the interest of greater mobility and lessened assembly and dissembly effort.

Surgeon General Lt Gen Leonard D. Heaton told manufacturers that the "responsibility to support our combat forces is a challenge that faces all of us." Medical field units, he said, must be equipped with the techniques, equipment and medicinal products to support combat operations under every environment.

An Army evacuation hospital is normally assigned to a Field Army and is in direct support of a combat division. This hospital is designed to provide definitive medical care to the sick and wounded. It is the first treatment facility in the patient evacuation chain capable of providing complete hospital services.

Participating units in the Fort Meade demonstration were the 68th Medical Group and the 36th Evacuation Hospital, of Fort Meade; the Medical Field Service School, Brooke Army Medical Center, Fort Sam Houston, Tex., and the Armed Forces Institute of Pathology of Washington, D.C.

Newly designed traction device is adjusted by 2d Lt Pauline Ferland on a dummy patient during "Operation Challenge," a 2-day demonstration of field hospital equipment for industrial firms. 2d Lt C. E. Bowe is the observer.

'Alert Reward' Announces AFIP Centennial Program

"Alert Reward" handbills reminiscent of the early western frontier "Wanted Dead or Alive" placards are announcing the 100-Year Anniversary of the Armed Forces Institute of Pathology in Washington, D.C., Nov. 9-10-13. Secretary of the Army Cyrus R. Vance is scheduled for the opening address.

"Liberal rewards," the handbill proclaims, "will be gained by joining us in our Centennial program. Outstanding scientists will discuss the important global problems that will face the world for the next 100 years.

"All persons harbouring or secreting ideas that they understand the new environments and their problems are invited to hear eminent specialists in the field of medicine discourse on the underseas environment, the space environment, overpopulation, high speed transportation, geriatrics, and other areas too numerous to mention, dealing with medicine and the direction it will take·probing into the future. The scientific program will be November 9 and 10 at the Armed Forces Institute of Pathology.

"Let the past live again for fond Washingtonians. The old Army Medical Museum will be home once more at 701 Independence Avenue, S.W. Dedication of the Centennial Exhibit will be Tuesday, Nov. 13 at 8 p.m."

A cacheted cover commemorating the Centennial will feature the picture of the Armed Forces Institute of Pathology, with an appropriate inscription. Collectors are requested to order before Nov. 6. Orders received after that date must include a large self-addressed envelope with each order. Covers are 25 cents each, cash or money order, and may be ordered from the American Registry of Pathology, Armed Forces Institute of Pathology, Washington, D.C.

Brig Gen Persons Assigned to Missile Command

Brig Gen Howard P. Persons, Jr., reassigned from duty as CG of the 32nd Artillery Brigade in Germany, is the new Deputy CG for Guided Missiles at the Army Missile Command, Redstone Arsenal, Ala. He succeeds Brig Gen John G. Zierdt who became Deputy Director of R&D, U.S. Army Materiel Command, in July.

The assignment to the Missile Command, which manages 20 major weapons programs involving about $1.5 billion annually, is General Person's first experience with the research and development phase of missiles. However, the 32nd Brigade included Hawk and Nike missile battalions.

A native of Monticello, Ga., and a 1936 graduate of the U.S. Military Academy at West Point, General Persons has spent most of his career with combat-ready Artillery units.

Prior to assignment as CG the 32nd Artillery Brigade, he served as Assistant Chief of Staff for Intelligence and as Deputy Chief of Staff, Seventh Army Headquarters at Stuttgart, Germany. He then became CG of the 3rd Infantry Division Artillery at Kitzingen.

During World War II, he participated in six campaigns with the 34th Artillery Brigade in England, North Africa, Sicily, Italy and France under II Corps, Seventh Army, Fifth Army and the First French Army.

A qualified parachutist and glider-man, he served with the 82nd Airborne Division as Commander of the 80th Artillery Battalion. Assigned to the Eighth Army in Korea in 1954, he served as Executive Officer of IX Corps (Group) Artillery and later as Adviser to the Chief of Artillery for the Republic of Korea Army.

From Korea he went to the Air War College at Maxwell Field, Ala., and was graduated in June 1956. He was then assigned to the Army General Staff in Washington, D.C., as Chief of Technical Intelligence.

General Persons is also a graduate of the Command and General Staff College, Fort Leavenworth, Kans., and the Armed Forces Staff College, Norfolk, Va. Following graduation from the latter school in 1951, he served in the Office of the Assistant Chief of Staff for Operations in Washington, D.C.

Among decorations earned by General Persons are the U.S. Army Legion of Merit and the Commendation Medal, the French Croix de Guerre and the Ulchi Distinguished Military Service Medal of the Republic of Korea.

Brig Gen H. P. Persons, Jr.

WSMR Expert Discusses Space Law in Bulgaria

Lt Col Morton S. Jaffe, Staff Judge Advocate at White Sands Missile Range, N. Mex., addressed a special working group of the 13th International Astronautical Congress at Varna, Bulgaria, Sept. 25.

The subject of his presentation was "Reliance Upon International Custom and General Principles in the Growth of Space Law." A veteran of 20 years of military service, he lectured on space law and international law at Parks College and the Law School, St. Louis University, St. Louis, Mo., from 1958 to 1960.

The International Astronautical Federation, composed of units in nearly 40 nations, was founded to encourage international cooperation and exchange of information in the astronautics field.

Air Defense School Gives Guided Missile Course

A 39-week Guided Missile Systems Officer Course, an advanced and comprehensive study of missile systems and the related physical sciences, is being offered at the U.S. Army Air Defense School, Fort Bliss, Tex.

The stated purpose of the course is to provide well qualified missile systems officers for assignment to higher level staffs, liaison positions, U.S. Continental Army Command boards, technical intelligence agencies, service schools and similar positions. Graduates receive MOS 1181.

The instructional staff includes personnel with graduate degrees in mathematics, electronics and mechanical and aerospace engineering. Instruction deals with these and related subjects such as U.S. space programs, foreign missile system developments and advanced tactics.

About one-third of the course involves practical work in an electronics laboratory and on missile systems such as the Hercules and Hawk. Students are required to prepare and present a staff study on a current missile problem.

Field trips to White Sands Missile Range and other installations as well as visits to selected West Coast research, development and production agencies are also included.

The course is open to all arms or branches requiring missile systems officers. Past graduates include members of all the services and Canadian and United Kingdom officers.

Prerequisites include minimal rank of first lieutenant, a college course in integral and differential calculus, a semester of college physics and security clearance of SECRET (interim).

Courses commence either in August or February. Interested officers should write the Commandant, U.S. Army Air Defense School, Attn: Director, Command and Staff Department, Fort Bliss, Tex.

ZEUS Development Spurred By $146 Million Contract

Continued development and testing of the Army's Nike Zeus antimissile missile system is the basis of a $145,976,431 contract awarded Sept. 28 by the Department of the Army to the Western Electric Co., Burlington and Winston-Salem, N.C.

The contract extends R&D work on the system for an additional year. A major portion of the funding will be used for testing the system in approximately 40 "shoots" like that held in July at Kwajalein Island, when the system scored its first intercept of a special ICBM-type target.

Among subcontractors who will share in the FY 63 funding are the Bell Telephone Laboratories, Whippany, N.J., responsible for system design and development, and Douglas Aircraft Co., Santa Monica, Calif., builder of the missile.

Other subcontractors are Goodyear Aircraft Co., Akron, Ohio; Continental Electronics, Dallas, Tex.; Avco Research Laboratories, Everett, Mass.; and Cornell Aeronautical Laboratories, Buffalo, N.Y.

ORTAG Meets to Consider Operations Research

A PLEASANT INTERLUDE at first meeting of the Operations Research Technical Assistance Group (ORTAG) is enjoyed by (left to right) Dr. M. R. Bryson, Duke University; Col Walter E. Sewell (USA, ret.), ORTAG Executive Secretary; Col George E. Leist, Executive to the Director of Research and Development, U.S. Army Materiel Command; and Dr. Herbert P. Galliher, Assoc. Director, Operations Research Center, Massachusetts Inst. Technology.

The Operations Research Technical Assistance Group (ORTAG), established in June by direction of the Chief of Research and Development, held its first meeting this past month in Durham, N.C.

Members gathered at the U.S. Army Research Office-Durham (AROD) to discuss operations research programming. ORTAG was organized as a result of a recommendation made at the first Army-wide Operations Research Symposium held at AROD in March 1962. Its mission is to assist Army commands and agencies in identifying problems and planning operations research.

Participants were welcomed by Col Nils M. Bengtson, AROD Commanding Officer. Assistant Director of Army Research Col C. B. Hazeltine, Jr., outlined ORTAG's staff responsibilities for Army operations research, and ORTAG Chairman, Col George W. Taylor, discussed the concept of its activities and progress.

Dr. John J. Gergen, Chairman, Department of Mathematics at Duke University and a member of ORTAG, discussed projected plans in training operations research personnel, and the processing of information on results of the Army's in-house laboratory operations research.

Other speakers and their topics: Col A. R. Hoffman, Army Logistics Management Center, "Information Processing for Logistics Studies by the ALMC"; Oscar Wells, U.S. Army Weapons Command, "Training for Operations Research in the Army."

Representatives of six top Army echelons reported on their operations research activities, including identification of technical difficulties.

Col George W. Taylor (USA, Ret.) is Chairman and Dr. Walter E. Sewell of AROD is Executive Secretary of ORTAG. Other members are Capt Richard W. Anson, Army Combat Developments Command; Lawrence B. Babcock, Headquarters, U.S. Continental Army Command; Col Bengtson, AROD; Col L. D. Brummitt, Office of the Chief of Research and Development Army Liaison Group, Research Analysis Corp.;

Dr. Herbert P. Galliher, Operations Research Center, Massachusetts Institute of Technology; Dr. John J. Gergen, Duke University; Joseph Kaufman, Department of the Army; Col George F. Leist, U.S. Army Materiel Command; Lt Col Raymond O. Miller, Office of the Deputy Chief of Staff for Personnel, Department of the Army;

Dr. George E. Nicholson, Jr., University of North Carolina; Col William E. Rigel, Army Combat Developments Command; Oscar M. Wells, Headquarters, Army Weapons Command; and L. H. Todd, Office of the Deputy Chief of Staff for Logistics, Department of the Army.

WRAIR to Host Parley On Experiments Design

Internationally known scientists will address the Eighth Conference on the Design of Experiments in Army Research, Development and Testing, Oct. 24-26, at the Walter Reed Army Institute of Research, Washington, D.C.

Centered on statistical and experimental design problems of interest to Army scientists, the symposium is sponsored by the U.S. Army Mathematics Steering Committee, headed by Dr. Ivan R. Hershner, Jr., Chief, Physical Sciences Division, U.S. Army Research Office. About 200 invited participants are expected.

Featured speaker Prof. Egon S. Pearson, University of London, will discuss "The Roll of the Statistician in Experimentation."

Other key speakers and their topics include: Dr. Herbert C. Batson, College of Medicine, University of Illinois, "Bio-Assay"; Prof. Herman Chernoff, Stanford University, "Applied Decision Theory"; and Dr. Marvin A. Schneiderman, National Cancer Institute, "A General Survey of Screening Theory."

As in the past, the list of invitees includes representatives from the Armed Services, other Government agencies and industries engaged in R&D contract activities.

Anyone desiring further information should write to Dr. F. G. Dressel, Mathematics Division, U.S. Army Research Office, Durham, N.C.

WEST POINT BOUND is Pfc Robert J. Armstrong, U.S. Army Reserve, who won appointment to the U.S. Military Academy Preparatory School at Fort Belvoir, Va., while assigned to the Engineering and Evaluation Section of Sergeant Missile project, Ordnance Mission, at White Sands Missile Range, N.Mex. Maj Gen J. Frederick Thorlin congratulates him.

Army Research Office Veteran Goes to New Agency

The new National Referral Center for Science and Technology has selected Charles E. McCabe, one of the stalwarts of the U.S. Army Research Office original staff, to head its Referral Services Section. For 52 months, he has been Chief of ARO's Scientific Information Branch.

Under the control of the Library of Congress, the National Science and Technology Referral Center—still in the early throes of organization and staffing—is to serve as a clearing house "to provide comprehensive, coordinated access to the Nation's resources of scientific and technical information. . . ." Primary responsibiilties include:

- Identify all significant information systems and services in the fields of science and technology.
- Acquire and correlate substantive and procedural data defining the nature, scope and capabilities of these systems and services.
- Provide specific advice and guidance about these systems and services to any activity or individual who may require access to them, in terms that will permit the most effective and expeditious satisfaction of the requirement.
- Determine, through investigation and analysis, the relationships existing among the systems and services and any consequent need for alteration or adjustment either in the relationships or in the systems and services themselves.

Charles E. McCabe

Known throughout the Department of Defense scientific and technological information staff agencies as a member of various planning, coordinating and working groups, Mr. McCabe joined the ARO staff in July 1958. ARO was established at Arlington Hall Station, Va., Mar. 24, 1958.

For the past four years he has served as Chairman of the Army ASTIA (Armed Services Technical Information Agency) Liaison Committee and as the Army member of the Operational Liaison Committee which later became the Military Department Staff of ASTIA.

Among other groups with which he has worked are: Army Senior Scientists Advisory Council, Executive Secretary for four years; Ad Hoc Planning Group for Government Research Information, Army member during 1960; Federal Advisory Committee on Scientific Information, alternate member from 1959 to 1961; Army Publications Board, representative of the Office of the Chief of Research and Development, three years.

Born in Brooklyn, N.Y., he was graduated from Erasmus High School and obtained a B.S. degree in social sciences at Fordham University. He studied at New York University in 1937-38, taking courses in economics and transportation, and earned an M.A. degree at Columbia University in 1939. During the next three years he did graduate work in economics at Brooklyn College and New York U.

Prior to entering the Navy in World War II, he worked two years at the Federal Reserve Bank in New York as an analyst in the Foreign Property Control Department. From 1946-1950 he was a cost analyst in the Office of the Director of Research, Philadelphia Transportation Co., and for the next six years was Chief of the Technical Intelligence Branch, U.S. Army Transportation Research and Engineering Command.

Director of Army Research Maj Gen C. W. Clark officially commended Mr. McCabe this year for his work as project officer of the biennial Army Science Conference at the United States Military Academy—a responsibility he also had for the 1959 Army Science Conference. He also has been recognized for his work in promoting Army participation in the National Science Fair Program for high school students, and for assistance in expanding the Army's Junior Science and Humanities Symposium Program on a nationwide basis.

Radar Surveillance System Tested at Yuma Station

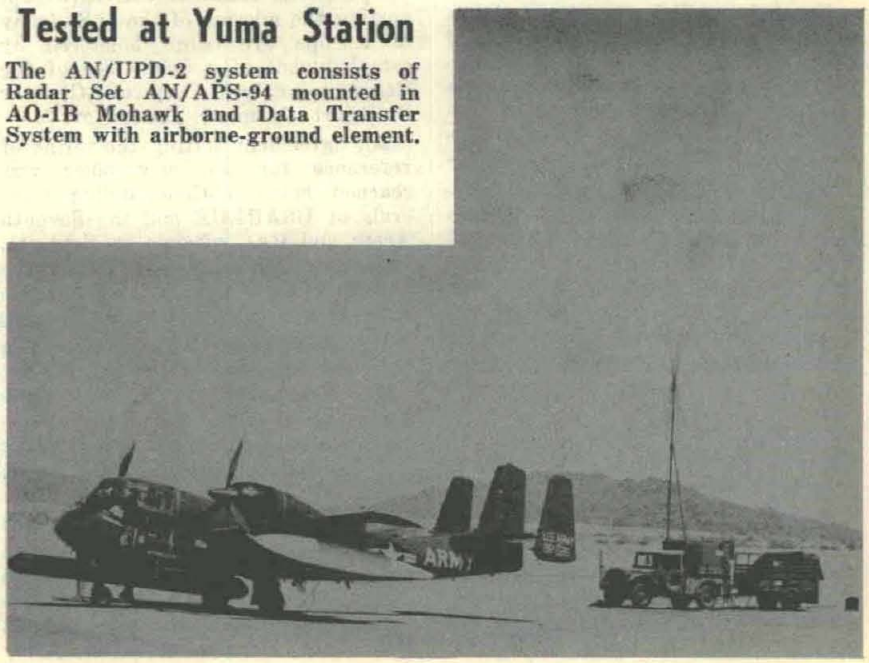
The Army Airborne, Electronics and Special Warfare Board of Fort Bragg, N.C., assisted by the Aviation Board, recently completed testing of Radar Surveillance System AN/UPD–2 under desert conditions at the Yuma, Ariz., Test Station.

Consisting of radar set AN/APS–94 mounted in the AO–1B Mohawk, and a data transfer system containing both airborne and ground components, the AN/UPD–2 system was tested to determine operational characteristics under extreme summer environmental conditions.

Temperatures of 120° F. in free air and 132° in the aircraft cockpit prior to takeoff were reported. The highest soil temperature recorded was 145 degrees.

Board personnel conducting the desert test were Capt Chester C. Philips, S/Sgt W. Rogers and Sp/5 R. Hunt.

The AN/UPD-2 system consists of Radar Set AN/APS-94 mounted in AO-1B Mohawk and Data Transfer System with airborne-ground element.



HumRRO Effects Key Personnel Changes

Dr. R. Smith

Dr. R. Baldwin

Arnold Heyl

Dr. W. Williams

Appointments to fill key staff positions effective Nov. 1 have been announced by Dr. Meredith P. Crawford, Director, Human Resources Research Office (HumRRO) of George Washington Univ., Washington, D.C.

Dr. Robert G. Smith, Jr., will become the Director's representative at the United States Continental Army Command (USCONARC), Fort Monroe, Va. Presently he is Director of Research at the Air Defense Human Research Unit, Fort Bliss, Tex. He will be succeeded by Dr. Robert D. Baldwin, currently a HumRRO Senior Staff Scientist and research task leader at Fort Bliss.

Dr. W. Loren Williams will succeed Arnold Heyl as Executive Officer of HumRRO. Mr. Heyl has accepted the position of Director, Standards and Processing Branch, Division of Educational Statistics, U.S. Office of Education, Washington, D.C.

Dr. Williams has been HumRRO's adviser on Technical Advisory Services at Headquarters, USCONARC, Office of the Deputy Chief of Staff.

HumRRO, which operates under a contract between the Department of the Army and the George Washington University, conducts research on training, motivation, leadership and man-weapons system analysis. It has a Central Office and Training Methods Division in Washington.

Five HumRRO research groups are located on Army posts across the Nation. These are the U.S. Army Armor Human Research Unit, Fort Knox, Ky.; the Leadership Human Research Unit, Presidio of Monterey, Calif.; the Infantry Human Research Unit at Fort Benning, Ga.; the Air Defense Human Research Unit at Fort Bliss, Tex.; and the Aviation Human Research Unit at Fort Rucker, Ala.

DR. SMITH was born in 1920 in Bainbridge, Ga. He received B.A. and M.A. degrees from the University of Florida, specializing in personnel psychology, and a Ph. D. degree from the University of Illinois. Before joining HumRRO in 1958, he was an associate professor at Texas Technological College, and a research psychologist with the U.S. Air Force. He is a Fellow of the American Psychological Association and is affiliated with numerous regional psychological associations and Phi Eta Sigma, Phi Kappa Phi and Sigma Xi. He was on active duty in the military service from 1942-1946.

DR. BALDWIN was born in 1927 in Detroit, Mich. He received a B.A. degree from Wayne University in 1950, and M.S. (1952) and Ph. D. (1954) degrees at the State University of Iowa. Dr. Baldwin joined HumRRO in 1954, serving both in the Training Methods Division, Washington, D.C., and at the U.S. Army Air Defense Human Research Unit at Fort Bliss, Tex.

Employed also as a Senior Operations Analyst for General Dynamics Corp. at Fort Worth in 1956, he is a member of the American Psychological Association, the Midwestern Psychological Association the Wayne University Scholarship Society and Sigma Xi.

DR. WILLIAMS was born in Columbia, S.C. in 1927. He received B.S. (1950) and M.A. (1951) degrees from the University of South Carolina. After receiving a Ph. D. degree in industrial psychology from the University of Tennessee in 1955, he joined the HumRRO staff and directed research on the proficiency of NIKE fire control system mechanics and on anticipating training requirements for future weapons systems at the U.S. Army Air Defense Human Research Unit. He also served for four years as Executive Officer.

In 1961, he was appointed Adviser for Technical Advisory Services at USCONARC, Fort Monroe, Va. From 1945 to 1949 and from 1951 to 1952 he served with the U.S. Navy and from 1953 to 1955 was a personnel staff officer with the Tennessee Valley Authority. He is a member of the American Psychological Association.

ARNOLD HEYL was born in 1918 in Detroit, Mich. He was graduated from Mission House College, Plymouth, Wis., in 1940 with a B.A. degree, and received an M.A. degree from the University of Texas in 1947. He served in the U.S. Army from 1940 to 1946 and attained the rank of captain. Mr. Heyl is a member of the American Statistical Assn.

RAC Sets Up European Operations Research Office

Operations research activities supporting the mission of the U.S. Army in Europe are being bolstered by establishment of a field office of the Research Analysis Corp. (RAC) near Stuttgart, Germany, about Nov. 1.

An agreement setting the terms of reference for the new office was reached between Commanding Generals of USAREUR and the Seventh Army and RAC officials on Sept. 11. It will be located at Patch Barracks and attached to the G-3 Section, Seventh Army Headquarters, Vaihingen.

Dr. Joseph Bruner will direct a team of analysts comprised of Dr. Ross Heverly, Carl Blozen, Gene Visco and Martin Brossman in operations research "to provide a realistic and immediate response to Seventh Army needs."

A precedent for the new office was established from 1951 to 1958 when the Operations Research Office (ORO) of the Johns Hopkins University maintained a field staff at Heidelberg, Headquarters U.S. Army Europe. RAC succeeded ORO as the Army's major contract agency in the field of operations research in September 1961.

The ORO studies were concentrated on Army problems in logistics, air defense, weapons systems and tactical nuclear weapons. The RAC team has a general mission of studies of military problems of direct interest to the Commanding General, Seventh Army, "to provide a scientific basis for decisions on actions to improve military operations."

Within its area of competence, the RAC team will make studies on assigned problems related to weapons systems, training, combat intelligence, air operations, logistics and antitank warfare. The office also will serve as a coordinating agency for operations research matters within the USAREUR Headquarters and field commands.

Maj Edward P. Crockett will serve as liaison officer between the Seventh Army and the RAC field office.

Research Analysis Corporation Announces Professional Staff Additions

Allen R. Clark, Albert D. Tholen, Richard T. Borden, Dr. Heinz C. Krause and Erik R. Haldane recently joined the professional staff of the Research Analysis Corporation, Bethesda, Md. Frank A. Parker, president of RAC, announced the action.

Clark and Tholen have been assigned as operations analysts to the Methodological Research Division and Operational Logistics Division, respectively. Borden has been appointed to the Economics and Costing Division as a research assistant, Dr. Krause to the Economics and Costing Division, and Mr. Haldane to the Special Studies Group.

The Research Analysis Corporation is an independent, nonprofit organization which applies operations research and systems analysis to the study and solution of global military problems and related political, social and economic questions.

Clark, most recently a research scientist at the U.S. Navy Logistics Research Project of the George Washington University, received his A.B. and M.A. degrees in history from Harvard. He has taught extensively at Harvard, MIT, Suffolk University, Columbia and St. Johns College.

Tholen came to RAC from a position as civil engineer and military planner with the Strategic Planning Group, U.S. Army Corps of Engineers. Earlier he acted as senior field engineer with responsibilities in military communications systems with the Philco Corp. An engineering graduate of Drexel Institute of Technology, he has been doing graduate work in engineering administration at George Washington Universit

Borden, formerly a processing programer with the National Security Agency, received his A.B. degree in economics from the University of Massachusetts.

During his 35-year international career, Dr. Krause has held major posts or performed research in economics in Germany, Australia, New Zealand, Japan, China, The Philippines, Romania and Brazil, as well as the United States. He is widely known for his contributions to the literature of agricultural economics, general economics and social science.

His two doctorates, in natural science and in economics, were awarded by the University of Jena, Germany, where he earlier received his master's degree (equivalent). He holds memberships in the American Economic Association and the American Association for the Advancement of Science.

Mr. Haldane was formerly a staff member at the Laboratories for Applied Sciences, University of Chicago. There he was concerned with projections of the economic potential of major industrial nations.

Recipient of three major fellowships (Fulbright, 1953-54), Committee on Social Thought (1957-59), Ford Foundation (1959-60), he is an economics graduate of the University of Chicago. He later received his master's degree in economic planning and performed special studies in the school's Ph. D. program. He is a member of the American Economic Association, Operations Research Society of America, and Council on Foreign Relations.

ARPA Designates Leader of Project AGILE

Project AGILE, a program of research, development, testing and evaluation to meet remote area conflict requirements of the Department of Defense, is now under the leadership of Robert C. Phelps.

Appointment of Mr. Phelps as Assistant Director of the Advanced Research Project Agency (ARPA), with primary responsibility for Project AGILE, was announced Sept. 17 by the Department of Defense. Previously he was Special Consultant to the Office of the Secretary of Defense and was Assistant Vice President for Operations of the General Dynamics Corp.

Within the Office of the Chief of Research and Development, Department of the Army, Project AGILE is the responsibility of the newly established Special Warfare Office headed by Col Donald D. Blackburn.

The AGILE program is conducted through joint effort of the Army, Navy and Air Force in cooperation with ARPA and U.S. Military Assistance Advisory Groups and theater commanders. Activities are coordinated with necessary elements of the Joint Chiefs of Staff and other Defense and State Department officials.

The program of research, development, test and evaluation involved in AGILE is conducted at U.S. Government, industrial and other private laboratories. Field units engaged in R&D are staffed by military and civilian personnel of the U.S. Armed Forces and their host country counterparts to test and evaluate equipment in the environment in which it is used.

The U.S. R&D community is provided guidance for new developments based upon requirements provided by user command agencies. Recent studies have been concerned with armor protection, radio propagation and mobility.

INDICATIVE OF STRENGTHENING TIES in research and development between U.S. Army and Australia was recent visit of Maj Gen A. J. Clyne, Director General, Australian Army Medical Services, to Walter Reed Army Institute of Research in Washington, D.C. He is shown about to sign WRAIR guest book as WRAIR Acting Director and Commandant Col Edwin J. Pulaski (right) and Lt Col Frank W. Cook, Australian Military Mission, observe. The visitors also toured the Armed Forces Institute of Pathology. A U.S. Army R&D Office, Australia in Melbourne is expected to be operational this month.

New Pay Act Super-Imposed Scale Aids Scientists, Engineers

Scientists and engineers, with few exceptions, benefit substantially more than other Federal employees under provisions of the pay raise legislation signed Oct. 11 by President Kennedy. The increase is effective Oct. 14 or 21, varying on when the next pay period begins.

Approximately 60,000 scientists and engineers in grades 5 through 11 are in job-shortage categories for the super-imposed pay scale approved by the Civil Service Commission soon after the new pay Act was passed.

The range of this "bonus" differential will vary, eventually reaching in some cases nearly $1,000 above the pay scale set by Congress. Included in the special category are medical officers and pharmacologists.

Eligible for this super-imposed pay scale are all professional engineers in grades 5 through 11. Scientists are included except for operations research personnel in grades 5 through 8 and those in health physics, meteorology, geodesy, actuary, and patent advisers or examiners in grades 6 to 8, and geophysic (exploration) and geology in grades 9, 10 and 11.

Under the super-imposed salary system, the present minimum entrance rate will be converted to the salary step of the grade that is nearest in pay to that set by the new regular pay scale. In grades 5 through 11 this is the minimum step of the new special scale for scientists and engineers.

The range (steps 1 through 10) of the first phase (effective Oct. 14-21) regular pay scale in grade 7, for example, is $5,540 to $7,205; the super-imposed scale is from $6,465 to $8,130. New employees will benefit as well as those presently on the rolls.

When the second phase of the pay raise becomes effective Jan. 1, 1964, the Civil Service Commission is expected to adjust the super-imposed scale higher in line with the regular scale increases.

IN-STEP PAY RAISES. Aside from the actual pay scale changes in the Postal Service and Federal Employees Salary Act of 1962, the modifications to the in-step promotion system are the most important. Revisions benefit certain employees and work to the disadvantage of others with respect to the decreases and increases in waiting periods between in-step pay raises.

Employees in the first three steps in grade 11 and above benefit most in that the waiting period for in-step promotion is reduced from 18 to 12 months. For the next three steps, however, the in-between span is raised to two years and for each in-step thereafter to three years.

The effect of this is that employees in the upper grades will have a greater incentive to aspire to grade promotions after advancing through the first three steps of a grade, rather than to "let nature takes its course" under the old automatic in-step promotion system, now eliminated.

In the future, employees will have to meet higher standards to merit in-step promotions. Supervisors will have to request that such increases be given, even though the employee receives a satisfactory efficiency rating, and a supervisor may be called upon to justify an in-step promotion.

Although employees denied in-step promotions will not have right of appeal to the Civil Service Commission, they can resort to their agency's grievances and appeals procedures to seek redress against a supervisor. The CSC also emphasized that in-step promotions are to be denied only when it is clearly established that an employee's work is sub-standard.

The new Act provides for special employees the cash equivalent of two merit within-grade raises and assures within-step raises of their old grade when they advance to a higher grade.

RANGE OF PAY INCREASE. The first phase of the salary increase, effective this month, provides for first-step raises ranging from $60 in grades 1, 2 and 3 to a high of $1,500 in grade 18, other increases being: grade 4, $70; G-5, $220; G-6, $205; G-7, $185; G-8, $205; G-9, $240; G-10, $295; G-11, $485; G-12, $520; G-13, $515; G-14, $635; G-15, $835; G-16, $745; G-17, $1,470. Employees in the first three steps with satisfactory efficiency ratings automatically received one-step promotions with passage of the law.

Within-grade raises in the first phase of the new pay Act are uniform except in grade 3, where the range is $105 to $125. In grades 1 and 2, each step raise is $105. Increases by step in other grades are: G-4, $140; G-5, $160; G-6, $170; G-7, $185; G-8, $205; G-9, $225; G-10, $245; G-11, $265; G-12, $315; G-13, $365; G-14, $425; G-15, $480; G-16, $500(only through step 5); G-17, $500 (through step 5); G-18, top of $20,000 in step 1.

Reduction of the waiting period between the first three steps from 18 to 12 months will make the total increases of many employees $2,000 or more when the final phase of the pay Act takes effect Jan. 1, 1964. For example:

In the case of a GS-14 with a year or more of service in step 1, he immediately goes into step 2, making his total first phase increase $1,060. A year from the effective date of his entry into step 2, which could date back almost six months prior to enactment of the pay Act, he will go into step 3, an additional $425 hike.

Comparison of Annual Salary in Step 1 Under New Pay Bill

	Old Pay Scale	New, Phase 1	Increase	New, Phase 2	Total Raise
GS-1	$3,185	$ 3,245	$ 60	$ 3,305	$ 120
GS-2	3,500	3,560	60	3,620	120
GS-3	3,760	3,820	60	3,880	120
GS-4	4,040	4,110	70	4,215	175
GS-5	4,345	4,565	220	4,690	345
GS-6	4,830	5,035	205	5,410	580
GS-7	5,355	5,540	185	5,795	440
GS-8	5,885	6,090	205	6,390	505
GS-9	6,435	6,675	240	7,030	595
GS-10	6,995	7,290	295	7,690	695
GS-11	7,560	8,045	485	8,410	850
GS-12	8,955	9,475	520	9,980	925
GS-13	10,635	11,150	515	11,725	1,090
GS-14	12,210	12,845	635	13,615	1,405
GS-15	13,730	14,565	835	15,665	1,935
GS-16	15,255	16,000	745	16,000	745
GS-17	16,530	18,000	1,470	18,000	1,470
GS-18	18,500	20,000	1,500	20,000	1,500

Super-Imposed Scale for Government Scientists, Engineers

As approved by Civil Service Commission under authority of the new pay Act to grant added pay in job-shortage categories.

Grade	1	2	3	4	5	6	7	8	9	10
GS-5	$5,365	$5,525	$5,685	$5,845	$6,005	$6,165	$ 6,325	$ 6,485	$ 6,645	$ 6,805
GS-6	5,545	5,715	5,885	6,055	6,225	6,395	6,565	6,735	6,905	7,075
GS-7	6,465	6,650	6,835	7,020	7,205	7,390	7,575	7,760	7,945	8,130
GS-8	6,500	6,705	6,910	7,115	7,320	7,525	7,730	7,935	8,140	8,345
GS-9	7,125	7,350	7,575	7,800	8,025	8,250	8,475	8,700	8,925	9,150
GS-10	7,780	8,025	8,270	8,515	8,760	9,005	9,250	9,495	9,740	9,985
GS-11	8,575	8,840	9,105	9,370	9,635	9,900	10,165	10,430	10,695	

The phase 2 increase Jan. 1, 1964 of $795 then would boost the overall gain under the pay Act to $2,305.

SUPER-GRADE JOBS. An important provision of the new Act is that is authorizes the Civil Service Commission virtually unlimited authority in establishing super-grade jobs for scientists and engineers. The law establishes an additional 411 managerial, executive and professional super-type jobs, but the scientific-engineering jobs are not under this ceiling. The CSC currently is asking Federal agencies to submit requests for approval of additional scientific-engineering super-grade positions.

Dugway Unit Links USC&GS Seismometry Chain

The Dugway Proving Ground Seismograph, one link in a chain of world-wide seismometry stations, was put in operation recently at the remote U.S. Army Chemical Corps Center in Utah.

The unit is linked to the U.S. Coast and Geodetic Survey project to install seismograph stations in 60 countries of the Free World. Located in one of the quietest spots on earth, it is in the opinion of H. M. Butler, Coast and Geodetic Survey Installing Technician, ideally situated to function as one of the better work stations.

The station is encased in a concrete vault three feet below the earth's surface on the east slope of Dugway's Five Mile Hill. In the vault are six individual rooms, each housing a component of the seismograph.

Within the vault is a Time and Power Console, capable of correcting the time of the machine within 50,000ths of a second per week. The console picks up a high frequency signal from Washington, D.C., at regulated time intervals and automatically sets the machine at the correct Greenwich Standard Time.

Without this ultra-accurate time system, allowing the graph to determine the exact time of a disturbance, the seismograph would be practically useless. The Dugway seismograph contains a short- and long-period seismometer. The long period, transmitting an impulse of 400,000 magnification, is capable of detecting and pinpointing a disturbance anywhere throughout the earth.

The interior of the earth is constantly emitting noises which are instantaneously recorded on photographic graph paper. Every 24 hours the graphs are taken from the recorder and developed in the vault's self-contained dark room. An average of 12 quakes a day are detected and recorded by Dugway's station.

The unit was built with funds provided the University of Utah by the Government and will be operated by personnel from the University's Geophysics Department in cooperation with Dugway Proving Ground.

Dr. Kenneth L. Cook, University of Utah Geophysics Department, and H. M. Butler, U.S. Coast and Geodetic Survey, inspect time and power console of Dugway PG seismograph.

Portable Telemeter Ordered To Collect Data on Soldiers

A portable telemetering system to record physiological data from soldiers during field maneuvers will be developed under a U.S. Army Medical Service contract.

Carried into action on the foot-soldier's back, the system will measure his temperature, pulse rate and respiration. A built-in transmitter will relay information over at least a half-mile of terrain to a portable data receiving station.

The system will be designed to operate over an air-to-ground distance of approximately 21,000 feet and may be used to record data on the ground from a parachutist making a jump.

Capable of transmitting on 10 channels, the system will be used by scientists at the Army Research Institute of Environmental Medicine.

A $97,991 contract for development of the system has been awarded to Radiation, Inc., Melbourne, Fla.

Seminar Considers Impact Of Computers in Medicine

"A Prediction on the Role of Computers in the Practice of Army Medicine and Army Research" was discussed at the Walter Reed Army Institute of Research Staff Seminar, Sept. 20, with Army Chief Signal Officer Earle F. Cook presiding.

Dr. David P. Jacobus, Chief of the Institute's Department of Radiobiology, Division of Nuclear Medicine, was the principal speaker. Computers, he predicted, are destined to play an increasingly important role in medicine and the biological sciences by opening up areas to sophisticated handling, particularly with respect to information storage and retrieval and problems of diagnosis and teaching.

The meeting marked the opening of the second year of monthly seminars conducted by Walter Reed Army Institute of Research to keep scientific and professional personnel informed on progress in medical research.

Army Announces Contracts Totaling More Than $200 Million

Contract awards totaling more than $200 million for development and procurement of military materiel were announced recently by the Department of the Army.

The largest contract was $21,143,000 to the Chrysler Motors Corp., Detroit, Mich., for 10,000 ¾-ton trucks, Army-modified versions of a commercial 4-wheel drive vehicle.

The Bendix Corp., Teterboro, N.J., received two contracts totaling $25,550,387 for guidance and control systems and engineering services for the Pershing missile.

An $11,792,255 contract let to Martin Co., Orlando, Fla., is for R&D engineering services on the Pershing missile weapons system. Production of erector launchers for the same system is called for in a $1,400,478 contact let to Universal Match Corp., St. Louis, Mo.

Production of M-14 rifles is the basis of a $17,465,000 contract awarded to Thompson-Ramo-Woolridge, Inc., Cleveland, Ohio, a $15,675,000 contract let to Olin Mathieson Chemical Corp., New Haven, Conn., and an approximately $8,000,000 supplement to an existing contract with Harrington and Richardson, Inc., Worcester, Mass.

Aerojet General Corp., Downey, Calif., is to receive $16,054,063 in two contracts for ammunition. Another ammunition contract for $1,295,710 went to KISKO Co., St. Louis, Mo.

Four contracts aggregating $13,690,056 were awarded to Raytheon, Co., Lexington, Mass., for engineering services, depot maintenance equipment and technical manuals for the Hawk guided missile system. A detailed field test plan also is to be provided for the Advanced Projects Agency's Project Defender on advanced antimissile research.

Western Electric Co., New York, N.Y., received a $12,107,326 contract for engineering services for the Nike Hercules missile system for which guidance sections are to be produced under a $7,221,119 contract let to Western Electric Co., New York, N.Y.

A $5,127,360 contract for steel fence posts went to Allison Steel Manufacturing Co., Phoenix, Ariz,. and Pollack Steel Co., Glendale, Ohio, will supply the same item under a $1,554,000 contract.

Technical Materiel Corp., Mamaroneck, N.Y., received a $4,542,750 contract for radio receiving and transmitting equipment.

Two contracts totaling $4,043,969 let to Mason & Hanger-Silas Mason & Co., Inc., New York, N.Y., and a $3,286,866 contract to AVCO Corp., Richmond, Ind., are for classified items.

A $3,847,387 contract let to U.S. Steel Corp., Chicago, Ill., is for 520,000 spools of barbed wire.

Hughes Tool Co., Culver City, Calif., received a $3,200,000 contract to conduct a research program to demonstrate the feasibility of the hot cycle rotor propulsion system through the design and fabrication of a research helicopter.

A $2,700,000 contract let to Aeronutronics Division of Ford Motor Co., Newport Beach, Calif., is for continuation of research and development work on the Shillelagh missile.

Design, development and testing of the AN/USD-5 long-endurance multipurpose drone system is the basis of $2,500,000 contract awarded to Fairchild-Stratos Corp., Hagerstown, Md.

A $2,000,000 letter contract let to Sperry Rand Corp., Bristol, Tenn., is for fabrication, assembly and testing of XM 1130E2 inertial fuzes.

Aircraft Armaments, Inc., Cockeysville, Md., received a $1,969,298 contract for mechanized flame throwers.

Municipal Supply Co., South Bend, Ind., received a $1,899,824 contract for 2,317 cargo trailers.

Production of 79 transportable manually-operated telephone exchanges is called for in a $1,729,362 contract let to Electrospace Corp., Glen Cove, N.Y.

Additional contracts included: Model Engineering and Manufacturing Corp., Huntington, Ind., $1,472,456 for production of 467 radio sets; Admiral Corp., Chicago, Ill., $1,452,522 for 1,558 portable gasoline engine generator sets; La Point Industries, Inc., Rockville, Conn., $1,411,824 for 1,053 radio sets; Aeronca Manufacturing Corp., Baltimore, Md., $1,372,873 for production of 454 lightweight transistorized combat surveillance radar sets; Ryan Aeronautical Co., San Diego, Calif., $1,366,382 for 71 navigation sets for use in aircraft; Consolidated Western Steel Division of U.S. Steel Corp., Los Angeles, Calif., $1,285,182 for 538 nozzle assemblies for the Little John rocket; and Hughes Aircraft Co., Fullerton, Calif., $1,222,300 for missile monitor equipment.

New 24-Volt Battery Weight Cut to 38 Pounds

Development of a compact, lightweight 24-volt battery for the U.S. Army's family of military design engines through the 20-horsepower size has been announced by the U.S. Army Engineer Research and Development Laboratories, Fort Belvoir, Va.

Produced under contract by the Electric Autolite Co., the battery (designated 4-HN) weighs 38 pounds, compared to the 74 pounds for the battery it was designed to replace. It is 10 3/16 inches long, 5 5/16 inches wide and 9 1/16 inches high—half the size of its counterpart.

Engineers report that the 4-HN outperforms its larger counterpart when starting at —65° F., and that along with a different type container, heater, etc., makes possible a total weight saving of 135 pounds.

A lead acid, 21-ampere hour, 12-cell type battery, it can be used to crank any engine up to 40 horsepower. A Military Standard, MS75047 (Ord), and Specification Mil-B-55166 (Ord) have been approved.

The Laboratories are an agency of the U.S. Army Mobility Command, Detroit, Mich., a major subcommand of the U.S. Army Materiel Command.

New compact lightweight 24-volt battery rests atop batteries it is designed to replace. Miss Varina Jordan of the U. S. Army Engineer Research and Development Laboratories displays the products—and herself.

Davenport Takes Policy Post

Roy K. Davenport, Special Assistant for Personnel, Office, Deputy Under Secretary of the Army (Manpower), was designated Employment Policy Officer of the Department of the Army effective Sept. 1.

Military Prime Contracts of $25 Billion for FY 1962 Show 22.7% Gain

Military prime contract awards to Department of Defense contractors totaled $25 billion in FY 1962, an increase of 22.7 percent over the dollar value of such contracts in FY 1960. Comparable figures for FY 1960 and 1961 are $20.4 billion and $22.1 billion.

Present indications, as reported by the Department of Defense, are that this rising trend in total value of awards will continue and will extend to every major category of military hard goods. The largest anticipated percentage increases in planned procurement for FY 1963 are expected in Army weapons and ammunition, and in electronics items unrelated to aircraft, missiles and ships.

From FY 1960 to FY 1962, military prime contract awards to 34 states increased (some by 100 percent or more), while total awards decreased in 16 states. The Mountain Region received the largest percentage increase in dollar value of awards (47 percent) and the East North Central Region (Ohio, Indiana, Illinois, Michigan and Wisconsin) the next largest (34 percent).

The information is contained in a report made available by the Department of Defense. The report is based on an analysis of military prime contract awards of $10,000 or more in FY 1962. Awards of less than $10,000, which totaled about $2 billion in FY 1962, were not considered in the report.

Geographic and regional analyses did not take into account subcontracts, which are a major element, but on which date on a geographic basis are not currently available. Awards for research, development, test and evaluation are included.

Detrick Scientists Report Isolation of Potent Poison

A potent poison produced by a one-cell sea plant responsible for the "red tides" on the West Coast and in the Bay of Fundy has been isolated in pure form from cultures grown by Army scientists.

Dr. Edward J. Shantz of the U.S. Army Biological Laboratories, Fort Detrick, Md., reported the discovery at the annual meeting of the American Chemical Society on Sept. 12 at Atlantic City, N.J. Coauthors of the paper are Joseph M. Lynch and George Vayvada, also of the Laboratories.

The poison from the dinoflagellate, Gonyaulax catenella, produces a paralysis in man and animals, followed by quick death if the dose is sufficient. Dr. Shantz said it is similar, if not identical, to the poison collected from ocean mussels along the California coast. No antidote for the poison is known.

No one to date has succeeded, Dr. Shantz said, in finding what makes a mussel tolerate such large amounts of poison without damage.

"In support of our claim that mussel poison and G. catenella poison are identical substances, we have found that the specific toxicity, infrared and ultraviolet spectra, optical rotation, elemental analysis, and many other chemical and physical properties are identical," Dr. Shantz said.

Electronics R&D Labs Honor 11 for Achievements

Outstanding technical achievement and leadership award presentations highlighted a recent ceremony at which 11 U.S. Army Electronics Research and Development Laboratories personnel were honored.

John A. Erhart won the technical achievement award for his role in development of facsimile equipment at the Fort Monmouth, N.J., installation. An electrical engineer, he is Chief of the Graphical Data Section in the Data Processing Facilities Division, Communications Department.

Irving Reingold, Deputy Chief of the Microwave Tubes Branch in the Electron Tube Division, Electronic Components Department, received the outstanding leadership award for his direction in the development of special components used in radar and other electronic equipment.

Bronze plaques citing their achievements were presented to Erhart and Reingold at a banquet at Gibbs Hall presided over by Col James M. Kimbrough, Jr., Commander, and Dr. Hans K. Ziegler, Chief Scientist.

In the case of Mr. Erhart, a veteran of 21 years at the Signal R&D Laboratory until it was recently redesignated, it was his second notable achievement recognition. Several years ago the Army cited him for developing a Polaroid facsimile set that, among other uses, is being employed to relay weather pictures from the Tiros satellites to hurricane warning centers on the eastern coast.

ADDITIONAL EMPLOYEES cited for their technical achievements are Dr. A. A. Shrewsbury, for research in electronic materials; Dr. Heinz W. Kasemir, for studies in atmospheric electricity; Israel Lerner, for development of a signal generator; and Herbert L. Mette, for discovery and exploration of new phenomena found in semiconductors.

FIVE OTHER EMPLOYEES recognized for work which put them among top contenders for the leadership achievement award are: Theodore E. Catelli, Chief of the Reproduction Branch; Basil DeNardi, commended for organizing the first formal radio interference evaluation unit in the Laboratory; Dr. Horst Kedesky, for "effective and productive management of materials research of Division E in the Institute for Exploratory Research"; Howard Kitts, for heading studies of communications in nuclear environments and related situations; and Werner F. Zaayenga, for conducting tests of combat surveillance equipment in a flying laboratory.

OUTSTANDING TECHNICAL ACHIEVEMENT and Leadership Awards were presented by Col James M. Kimbrough to John A. Erhart (left center) and Irving Reingold as Chief Scientist Dr. Hans K. Ziegler stood by at the annual awards banquet, Army Electronics Research and Development Laboratory.

MATS, Army, Air Force Officials Discuss C-141A Aircraft Tests

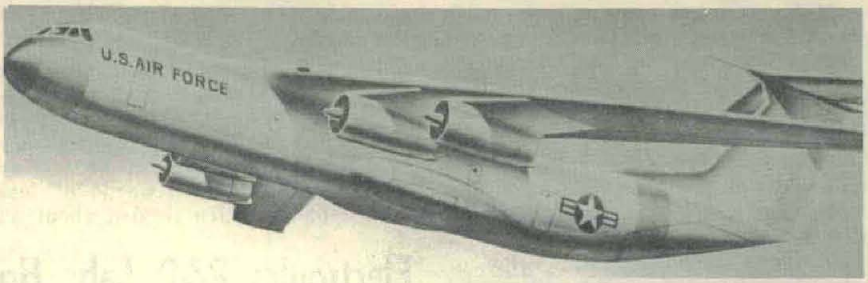
Under the auspices of the U.S. Army Airborne, Electronics and Special Warfare Board, representatives of Department of Defense agencies concerned with development of the C-141A aircraft met recently at Fort Bragg, N.C.

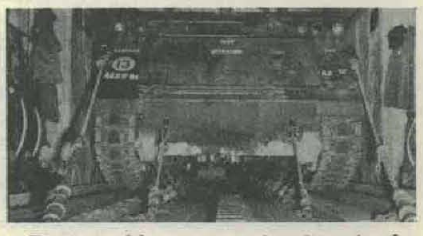
Scheduled to join the Military Air Transport Service (MATS) fleet in 1964, the C-141A is a 4-jet engine cargo-personnel transport plane designed to carry a 70,000-pound payload. It is to be capable of dropping individual items of equipment up to 35,000 pounds as well as personnel.

The C-141A will be an all-weather aircraft intended to provide a major advance in military air transport air-drop delivery capability at low level or conventional altitudes. It is being developed by the Lockheed-Georgia Co., which also developed the C-130 "Hercules" transport aircraft.

A prime purpose of the Fort Bragg meeting was to work out details for the joint Army and Air Force service tests of the C-141A. Col Oscar Davis of the Air Mobility Division represented the Office of the Chief of Research and Development, Department of the Army, and the U.S. Army Materiel Command was represented by Lt Col H. B. Hart. Other Army representatives included R. G. Liveris and Lt Col Dan Cleary of the Combat Developments Agency.

Overall guidance responsibility for the C-141A development is vested in the A-141A/463L Systems Program Office at Wright-Patterson Air Force Base, Dayton, Ohio.





Top, artist's concept of MATS C141A in flight. Scheduled to become an inventory item in 1964, the cargo-personnel transport will have a payload of 70,000 pounds. Right, M113 Armored Personnel Carrier rigged for aerial transport aboard a C-130 aircraft. C141A can carry three of these.

Past problem areas in the air delivery-air transport field were discussed at the Fort Bragg meeting following a welcome address by Col A. R. Brownfield, President of the U.S. Army Airborne, Electronics and Special Warfare Board. Air drops of both equipment and personnel from C-130, C-124 and C-119 aircraft were included in the demonstration.

Corps of Engineers Organizes Channel Stabilization Committee

A new Committee on Channel Stabilization, organized recently by the Office, Chief of Engineers, Department of the Army, held its first meeting at the Waterways Experiment Station, Vicksburg, Miss.

The Committee will disseminate model and field information and serve in an advisory capacity to all divisions of the Corps of Engineers in the specialized field of channel stabilization.

Key personnel of the Corps of Engineers who have participated extensively in the full-scale plans and model studies for the control and improvement of all of the major rivers in the United States form the committee.

Activities of the Committee on Channel Stabilization are expected to result in savings of hundreds of thousands of dollars each year to the taxpayers. The 1962 Federal budget included about $152,000,000 for channel improvement and jetty construction, with an additional $6,000,000 for rehabilitation of existing improvement works. About $103,000,000 of the budget is for channel maintenance—$40,000,000 for tidal waterways and $60,000,000 for inland waterways.

Some 23,000 miles of improved channels for navigation are under Corps of Engineers jurisdiction, having navigable depths ranging from 6 to 50 feet. As the same principles govern all alluvial rivers, it was evident that many channel stabilization methods merit engineering study and research in order to develop improved design criteria and more economical methods.

The Committee will deal with inland waterways problems such as bank stabilization, channel alignment, suspended and bedload movement, maintenance of project navigation, channels, shoaling of channels, and dredging.

An established procedure for enabling engineers concerned with one river to learn of the experience gained on other rivers will be invaluable, a Committee member said. Larger alluvial rivers directly concerned with channel stabilization are the Missouri, Rio Grande, Arkansas, Columbia and Mississippi.

Col Alex G. Sutton, Jr., Director of the Waterways Experiment Station, served as host to the initial meeting of the group to permit inspection of current model work being conducted at the Army's focal point for research and development in channel stabilization. Station personnel summarized research already performed.

Representatives from various Corps of Engineers divisions throughout the United States presented discussions of problems in different localities. This gave the Committee a starting point to develop research programs to supply the missing knowledge.

Charter members of the Committee on Channel Stabilization, drawn from the foremost authorities within the Corps of Engineers, are J. H. Douma, Office, Chief of Engineers; R. W. Sauer, Lower Mississippi Valley Division; C. P. Lindner, South Atlantic Division; M. C. Bubenik, North Pacific Division; Don Bondurant, Missouri River Division; E. B. Madden, Southwestern Division; and J. B. Tiffany and G. B. Fenwick, Waterways Experiment Station.

Maj Gen Winn Reassigned

Secretary of the Army Cyrus R. Vance has announced assignment of Maj Gen James R. Winn, Senior Member of the United Nations Command Military Armistice Commission, to the 2nd Army Air Defense Command Region at Oklahoma City, Okla., effective in December.

Army Skyhook Anglers . . .

Develop New Soft Recovery of Air-Drop Packages

No limit or closed-season applies to "mid-air anglers" participating in a new concept of missile recovery at White Sands Missile Range, N. Mex.

With the deftness of expert fishermen, Army aviators and skilled crewmen, acting with split-second teamwork, snag parachute-borne packages in a Mid-Air Recovery System (MARS) under development.

Conducted by the Range Services Division, Range Operations Directorate, Project MARS seeks to broaden recovery capabilities in support of Army, Navy and Air Force programs.

Mid-air recovery of weighty packages is a relatively new venture for Army aviators. The Aviation Branch at WSMR is developing the technique step-by-step, with ground recovery backup by the Recovery Branch.

The program provides for a "soft recovery" of sensitive instruments and equipment, expedites the return of timely test items to the testing agency, and facilitates the recovery of items from otherwise inaccessible impact areas.

In the first series of helicopter-manned missions recently completed, recovered packages ranged in weight from 200 to 1,200 pounds. The second phase of the program, scheduled to begin in early November, will involve mid-air recovery of increasingly heavier packages ranging up to 3,000 pounds.

Flying a prescribed pattern, the aircraft releases the package from an altitude of approximately 12,000 feet. The package is slowed by a drop-chute until the main parachute opens. The helicopter tapers in at a lower altitude to make the "catch." Talon-like hooks on the trailing end of the H-37's pickup poles engage the parachute. Within two seconds, the maximum cable-payout is reached and recovery is accomplished.

Seconds later the flight engineer and two crewmen have the parachutes reeled in and the "load transfer" operations completed for delivery to a specified location.

In early tests, a minimum 28-foot diameter parachute was used. As tests progressed, larger parachutes were used and weights were graduated from the minimum 200 pounds to a maximum of 1,200 pounds. In the second phase of the project parachutes ranging in diameter up to 96 feet will be used.

Recovery equipment in the helicopter is simple and can be quickly removed for conventional use of the aircraft. Through the increased utilization of the helicopter, man-hours saved in recovery operations, and the time element in returning specific test items, the MARS technique is expected to save the Government thousands of dollars a year.

With talon-hooks dangling on trailing end of pick-up poles, H-37 moves in to snag a parachute-borne package in WSMR mid-air recovery project test.

The New Mexico climate is considered ideal for development of the MARS program. For safety reasons, missions are flown only when visibility is in excess of five miles, surface winds are no greater than 20 knots, and cloud coverage no greater than 12,000 feet broken. During the first part of the program, no time was lost due to weather.

The Air Force Missile Development Center at Holloman Air Force Base provides auxiliary air support for the project. Parachutes are fabricated, modified, and monitored by Air Force personnel.

Related support in such areas as trajectory and associated data, meteorology, photography and communications are provided by other Army elements at WSMR.

"AIRBORNE ANGLING." Flight engineer lowers catch-poles mounted aboard H-37 helicopter in preparation for mid-air catch in Project MARS.

Prime contractor for special equipment used in the program is the All American Engineering Co., Wilmington, Del. Personnel from Sikorsky Aircraft Corp. aid as advisers.

WSMR Contracts for $4 Million Radar System

Two dual-frequency pencil-beam radar systems are to be installed at White Sands Missile Range, N. Mex., under a $4 million joint contract.

Stallion Site in the northwest corner of the 4,000 square-mile range, oldest of America's three national missile ranges and the only all-land missile test center of the three, will have a 30-foot parabolic (big-dish) reflector antenna, to be operational by March of next year. Ram Site at the south end of the range will have an 84-foot parabolic reflector antenna, operational by June.

Except for the antennas, both of which are center-fed and utilize a feed system which permits dual frequency and dual polarization operations, the 30-megawatt transmitter radar systems are identical.

Pulse-forming lines will be triggered by ignitrons, a comparatively new technique used successfully in previous super-power radar transmitters.

The radars will be manufactured and installed by two subsidiaries of Ling-Tecmo-Vaught Inc.—Continental Electronic Systems Inc. and Continental Electronic Manufacturing Co. Selection of the L-T-V team was announced by Rome Air Development Center at Griffith Air Force Base, New York.

Missile Command Involved in TRADEX Project For ARPA Near Zeus Missile Site in Pacific

The U.S. Army Missile Command is involved in a major research program at Roi Namur Island, some 45 miles northwest of Kwajalein, Pacific home for the Army's Nike Zeus anti-missile system.

TRADEX (Target Resolution and Discrimination Experiments) is under the technical supervision of the Missile Command for the Advanced Research Projects Agency (ARPA). The Missile Command has directed design, development, fabrication and installation of its TRADEX radar.

TRADEX has been designated as the primary radar for Project PRESS (Pacific Range Electromagnetic Signature Study). Observations will be made of missiles fired over the Pacific Missile Range from Vandenburg Air Force Base, Calif., almost 5,000 miles away, as targets for the Zeus test installation on Kwajalein, as well as other targets of opportunity.

ARPA has assigned overall responsibility for scientific direction of Project PRESS to the Lincoln Laboratory of the Massachusetts Institute of Technology.

The Missile Command provides logistic support to Project PRESS and technical liaison between Nike Zeus activities and PRESS. The Navy and Air Force also support the project logistically.

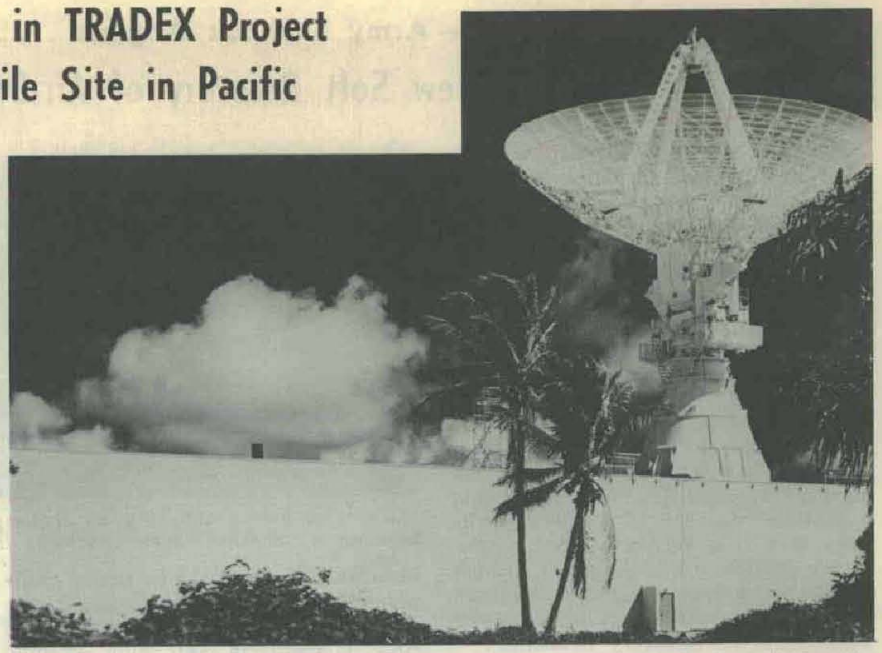
TRADEX is located on Roi Namur, a brief airplane flight from Kwajalein. Roi Namur actually is two islands connected by a causeway built by the Japanese prior to World War II.

On Roi Namur, surrounded by remnants of bitter fighting here during World War II, is a 35-foot high, windowless building 180 feet long, 160 feet wide. This is the home of TRADEX, a maze of electronic equipment, interlaced with miles of pipe, wire and cables.

Atop the building is the parabolic antenna for TRADEX, a giant honeycombed dish 84 feet in diameter. From this dish signals are transmitted into the sky to seek out missiles and relay information back to Roi Namur for study.

Roi Namur also has facilities from which target rockets are launched as part of the Zeus testing.

About 300 persons are working on Project PRESS amid the reminders of World War II, making studies which give scientists of today a glimpse of tomorrow.



TRADEX antenna shown at Roi Namur Island near Zeus site in mid-Pacific.

Col Van Wert Heads Missile Command Directorate

Col Robert W. Van Wert became Director of the Directorate of Supply and Maintenance, Army Missile Command, Redstone, Ala., upon retirement of Col Sylvester A. Hall Sept. 30. He had served as Deputy Director since December 1961.

A veteran of 21 years of Army service, Col Van Wert began his career as an enlisted man and was selected for Officer Candidate School after rising to the rank of sergeant. He served in World War II in the South Pacific with the 1st Cavalry Division, winning the Bronze Star with Oak Leaf Cluster.

Prior to assignment to the Army Rocket and Guided Missile Agency at Redstone as Director of Field Service Operations, Col Van Wert was Director of Supply Operations at Erie Ordnance Depot. From 1954 to 1957 he held a key assignment in the Office of the Chief of Ordnance, Washington, D.C. Assignments in recent years have included Office of the USAREUR Ordnance Chief in Germany and the Military Advisory Assistance Group in Turkey.

Col Van Wert was graduated from the Command and General Staff College, Fort Leavenworth, Kans., 1958.

Col Robert W. Van Wert

WSMR Gives Jet Engines To Aid Missile Students

Future missile scientists and engineers enrolled at New Mexico State University have received a helping hand from the Army's nearby White Sands Missile Range, in the form of three jet engines for their studies.

The surplus engines were donated to the university last month to facilitate the teaching of theory to engineering students, for scientific research in jet engines, and for graduate studies in the field of missilry.

Technically known as "power plants," the engines with a remote control box cost about $2,000 each, and are of the type used by the WSMR Ordnance Mission for target missiles.

William R. Killian, Chief of the Target Missiles Project at WSMR, presented the engines to Dr. Quentin Ford, head of the university's Mechanical Engineering Department, and Dr. Milan H. Cobble, a professor in the department.

Students Operate 'Web' For Weather Studies of Fort Monmouth Region

Weather research activities of the U.S. Army Electronics Research and Development Laboratory, Fort Monmouth, N.J., have enlisted the support of pupils in 11 schools in Monmouth and Ocean counties.

A "weather web" to gather information on minute changes in an area of a few hundred square miles is being tended by the pupils as a part of their normal science studies. Microbarographs to record the changes in weather conditions have been put in the classrooms by the Army.

Scientists at the Electronics Laboratory have long been studying minute weather changes in a comparatively small area as an aid to local forecasts essential in military operations. Investigations are concerned with the effect that rain in one area and clear weather a few miles away may have on ground troops, their support, and artillery, both rocket and gun types.

Until the arrangement was made to place the microbarographs in classrooms, through the cooperation of Superintendents Earl Garrison and Charles Wilder of the Monmouth and Ocean county schools, the Army had difficulty finding suitable locations and observers for the "weather web."

Under the supervision of science teachers, the students keep microbarographs under observation, thereby learning about the art of weather observation and prediction as part of their science programs. Recordings of the weather changes are taken to the Electronics Laboratory for study by Army meteorologists.

Kim Ryan and Stephen Fischer record weather data from microbarograph installed by the U.S. Army Electronics Research and Development Laboratory, Fort Monmouth, N.J., at Frank Antonides School, West Long Branch, N. J.

Army Research Office-Durham Commander Cited by CRD on Retirement

Newly appointed Director of Program Planning for the Research Triangle Institute of Durham, N.C., is Col George W. Taylor, Commanding Officer of the U.S. Army Research Office-Durham until his retirement from active duty Oct. 1.

RTI President George Herbert announced the appointment and said:

"The new position will include responsibility for planning multi-discipline research activities which may draw upon the staff and facilities of more than one of the Institute's six divisions and laboratories."

Army Chief of Research and Development Lt Gen Dwight E. Beach paid tribute to Col Taylor in a letter of commendation read at a farewell testimonial dinner Sept. 27. It said in part:

". . . Your unique capabilities, based on a vast degree of scientific knowledge and the application of that knowledge to military requirements, have contributed an outstanding service to the United States Army and to our Nation's overall defense efforts."

Col Taylor served as CO of the Ordnance Research Office at Durham since May 1960 until it became the U.S. Army Research Office-Durham in January 1961. A native of Richmond, Va., he was graduated from Richmond Universtiy with a B.A. degree and obtained his M.A. and Ph. D. degrees from Princeton University, where he was the holder of a National Research Fellowship. From 1932 until 1943, when he entered the Army, he was on the faculty of Washington University, St. Louis, Mo.

Col and Mrs. George W. Taylor (center) with Lt Col Leslie G. Callahan, Executive Officer of Army Research Office-Durham (left) and Dr. John W. Dawson, Chief Scientist, at farewell dinner marking Taylor's retirement October 1.

AROD Sponsors Materials Meet

The U.S. Army Materials Advisory Committee assembled for its autumn meeting at the U.S. Army Research Office in Durham, N.C., Oct 2-4.

One of the main presentations was made by Superintendent W. S. Pellini of the Metallurgy Division, U.S. Naval Research Laboratory, Washington, D.C. His subject was "The Management Problems of Organizational Interfaces in Materials Research and Development Laboratories."

Dr. Sauberlich, Food Expert, Gains PL-313 Grade

Dr. Sauberlich

Dr. Howerde Sauberlich, Chief of the Chemistry Division, U.S. Army Medical Research and Nutrition Laboratory, Fitzsimmons General Hospital, Denver, Colo., has been promoted to a Public Law 313 position.

Currently he is in Malaya as Deputy Director of a 40-man team making a 2½-month study for the Interdepartmental Committee on Nutrition for National Defense (ICNND). Eighteen staff members are from the United States.

During the period 1957-1959 he was visiting professor at the University of Indonesia and in 1961 served as Laboratory Director for the ICNND on a nutrition survey in Burma.

Before joining the staff of the U.S. Army Medical Research and Nutrition Laboratory, he was a professor of animal husbandry, food technology and microbiology at Iowa State University. Earlier he served in a similar capacity at the University of Kentucky and at Auburn University.

Dr. Sauberlich's academic degrees include a B.A. in physical chemistry from Lawrence College, Appleton, Wis., and an M.S. and a Ph. D. in biochemistry, nutrition and medical sciences from the University of Wisconsin.

Known internationally as the author or coauthor of more than 60 published articles and as a visitor to scientific and educational institutions in more than 50 countries, he has received numerous research grants. His studies have been conducted under grants from the Atomic Energy Commission, National Science Foundation, Williams Waterman Foundation, and the National Institutes of Health. He is a member of eight professional societies.

Sherry Shanks Rivals WSMR's Scientific Sylvia

Scientific Sylvia, the "beautiful brain" whose picture attracted more than a quick look on the part of our readers a few months ago, has a rival who really knows her figures at White Sands Missile Range.

In case you have forgotten Sylvia Welker, her picture was on page 9 of the May 1962 issue. The newest scientific sweetie to rival her charms is Sherry Shanks, fresh out of New Mexico State University with a B.A. degree as a mathematician. Sherry can really swing with the statistics.

From the viewpoint of the Civilian Personnel Office, Sherry is in a special category as well as pretty. She's the first woman to graduate from college under the work-study program at WSMR. The program began in 1952, has produced 121 graduates, and at present 236 future missile scientists are enrolled in it.

Under the program, a student is employed full time as a Government employee for six months and goes to school the other six months. It is a vital part of the WSMR effort to attract and retain outstanding young scientists—women as well as men.

"I don't see why everyone is so excited about my being the first woman to graduate as a co-op," Sherry said. "I doubt if I would have been able to go through college without the program."

Attracted to WSMR in February 1960 from Hendrix College at Conway, Ark., where she was a sophomore, Sherry started in the work-study program in the computer section of the Flight Simulation Laboratory of the Ordnance Mission. She is still with the lab but is taking on added responsibilities.

Sherry Shanks is not as lost in figures as might appear here. In fact, she can swing with the statistics. She is the first woman to graduate from White Sands Missile Range work-study plan—a mathematician.

Despite a heavy scholastic schedule at New Mexico State University, Sherry participated in numerous college activities and was elected to Phi Mu Tau, the honor society for the College of Arts and Sciences.

Announcement Outlines Functions of New CBR Directorate in DCSOPS

Functions of a new Directorate for Chemical-Biological-Radiological Operations under the Deputy Chief of Staff for Military Operations were outlined in a Sept. 18 Department of Defense news release.

The May issue of this publication reported on establishment of the Directorate as a part of Army reorganization and the assignment of Maj Gen Marshall Stubbs, former Chief Chemical Officer, as Director.

The Directorate's charter makes it the focal point at General Staff level for CBR matters for the Department of the Army. As may be assigned, it also performs this function for the Department of Defense and the Joint Chiefs of Staff.

Comprised of three divisions—Doctrine and Policy, Operations and Training, Systems and Requirements — the Directorate is staffed largely with specialists in various phases of CBR activities. Among functions are:

- Serves as principal adviser to the Secretary of the Army, the Chief of Staff, and other agencies of the Department of the Army on CBR matters.
- Participates in development and approval of CBR portions of plans, policies, doctrine, programs, budgets and operations.
- Coordinates and monitors the CBR program at Army staff level, including the effectiveness of support and resources committed to the program.

Temporary headquarters of the Directorate are in Building T-7, Gravelly Point, Washington 25, D. C., pending relocation to the Pentagon.

Dr. Steverding Gives Talks At European Conferences

Army research in interfacial bonding was discussed at the Sept. 12 Tri-Partite Conference on Ceramic Design in London, England, by Dr. Bernard Steverding, U.S. Army Missile Command, Redstone, Ala.

Speaking at the request of the U.S. Army Materiel Command, he outlined progress on a Free University of Berlin study of hot gases in hypersonic flight. Dr. Steverding is technical supervisor of the study under a U.S. Army contract.

During the trip he attended the International Council of Aeronautical Sciences meeting in Stockholm, Sweden, and a conference on the transfer of matter in Munich, Germany.

What a Man Wills . . .

Picatinny Arsenal Uses Physically Handicapped

Stories of courage, devotion to duty and painful perseverance to overcome obstacles that might dismay persons of less purposeful determination are being recorded by a group of Picatinny Arsenal employees.

Joseph F. Yesavage, for example, builds electronic test equipment for Army missiles at the Dover, N.J., installation. Dutifully he joins each day with 7,000 other employees to help make Picatinny Arsenal important in strengthening the Nation.

You might call Mr. Yesavage a special kind of man. He rides to work in a special car. He sits in a special chair on the job. What really makes him special, however, is his pride in his work and in himself—in his capability to do his job.

One of almost 400 physically handicapped workers employed at Picatinny Arsenal, Mr. Yesavage lost both of his legs in a railroad accident. Although he has worked at the Arsenal only since July, he is highly impressed with the program to aid the physically handicapped.

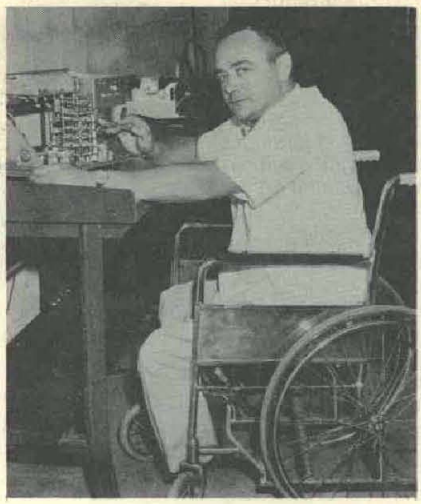
"I couldn't ask for any better treatment," he said during the "National Employ the Physically Handicapped Week," Oct. 7-13. "My job application was considered on the basis of my qualifications and experience, and not on my physical limitations. And that's the way it should be. Just because I'm in a wheelchair is no reason I should get the job and a more qualified man be turned down. I'm here for work and not for pity."

After Mr. Yesavage was injured while working as a railroad trainman, he had what he called "a little trouble getting a job because I had never done office work. . . . After a while, I did get a job with an electronics company and I've been in the field ever since."

A World War II veteran, he took part in the Normandy, Southern France and Central European campaigns, all without serious injury. The accident that almost cost him his life he accepted courageously—much in the spirit of "you can't win all the time."

In a specially equipped car, Mr. Yesavage is able to drive to work from his home in Whippany where he lives with his wife Mary and their children, Gary, 10, and Mary Jo, six months.

"Naturally, I have trouble getting up and down steps, but everyone is always willing to give me a hand. Fortunately, I am able to leave the building by a ramp. I like to be as independent as possible. It's not a pleasant feeling to have to ask for help all the time."



Joseph F. Yesavage

Ralph T. Fancher of the Picatinny Arsenal Civilian Personnel Office supervises hiring of the physically handicapped workers. He commented:

"As far back as I can remember, it has been our policy to hire these people if they could do the work. I might add that we're very pleased with the work records of these men and women. They are above average in most respects."

Statistics back up Mr. Fancher, showing that handicapped persons perform their jobs as well or better than most able-bodied workers. They have a lower rate of turnover and fewer lost-time accidents. Their absentee records compare favorably with those of the nonhandicapped.

Picatinny Arsenal has twice received Certificates of Commendation from the Civil Service Commission for "significant contributions to the progress for the employment of the physically handicapped."

Last year, the Arsenal attracted the attention of the President's Committee on Employment of the Handicapped because of its unusually high percentage of handicapped employees.

* * *

White Sands Missile Range, N. Mex., announced during National Employ the Physically Handicapped Week that a year ago 274 of its 5,000 civilian employees were handicapped. During this past year, the range hired an additional 100.

"Handicapped veterans are put on top of the list when it comes to job consideration," said James M. Patton, personnel management assistant.

* * *

Another example of outstanding performance by a handicapped employee is Ray Turner, Army Signal Corps clerk-typist on loan to the White House. Despite rheumatic heart disease which renders him 60 percent disabled, Turner reports daily to the Executive Offices building.

Some of the letters he prepares for the signature of the President's immediate staff are occasioned by current happenings in the world. Many are inquiries from children requesting the President's views on various subjects. Applying broad background knowledge, he must read and analyze each case.

When needed, Mr. Turner helps type in meticulous final form messages to Congress, proclamations, executive orders and stencils for executive speeches and press releases. He also prepares cards and letters for the President to send to people who are celebrating their birthdays (90th and over) or wedding anniversaries (numbering 50 or above).

By Dr. Ralph G. H. Siu

THE PRO. An article in *Time Magazine* may have a moral for some of our frustrated confreres, who when the going gets rough, yearn for good old days of the academic life.

The Time story concerned the experience of the extraordinary amateur golfer, Jack Nicklaus. Everyone had expected instant stardom for him when he turned professional last January. However, his polished game as an amateur fell apart on the professional circuit for the first 13 games At that time he replied to a reporter as follows:

"As an amateur I played nothing but good courses, with good greens and dependable grasses. But as a pro, you have to play all kinds of courses—many of them awful. I had to find different clubs, learn of lot of new shots. I had to learn to putt off the green. I had to change my putter. I've always used one with a very light blade; it was fine for the fast greens I played on as an amateur. But as a pro, I had to be ready for any kind of green. At San Diego I had to learn how to play frozen greens. At the Bing Crosby National, I had to play with the rain coming at me sideways."

Nicklaus went on to win the 1962 National Open tournament not long thereafter.

THE WILLING. To paraphrase the poet Robert Frost, there are many willing people in Washington—Many who are willing to do the work and many more willing to let them.

Watervliet Cuts Production Time Using Plastic Tooling Technique

Good results of plastic tooling in shortening production schedules for ordnance materiel are leading to increasingly broad and diversified uses at the U.S. Army's Watervliet (N.Y.) Arsenal laboratories.

Certain supporting equipment such as dies, jigs, drilling fixtures, etc., which require costly preparation are being processed partially or completely in plastics. Watervliet engineers are constantly considering machining applications where this type of tooling will facilitate more economical fabrication of materiel components.

Cited as a noteworthy application of epoxy casting resin to fixturing is a holding fixture for M122 Adapter Kit Platforms. The workpiece, as shown in Figure 1, was a precision steel casting, cast so that the contour of the bottom was uniform in all the castings.

A conventional holding fixture fabricated for holding the work while milling the large flat surface revealed two difficulties:

- The clamping pressure of the holding fixture was distorting the pieces.
- The strength of the section being milled was not sufficient to withstand cutting tool forces.

A plastic holding fixture was processed to see if these conditions could be remedied. The design and fabrication of this tooling turned out to be rather simple.

The bottom or inside contour of the steel platform casting, which was used as the pattern, was given several coats of spray lacquer. The surface was sanded lightly between coats to remove small surface irregularities. A steel base plate was made with screws and straps, as shown in Figure 2. With the casting in position, the open areas around the bottom of the casting were filled with modeling clay.

The epoxy resin was then poured through the three holes at the top. Knurled pins had been provided in the base plate to hold the resin anchored in place and after curing and removing the pattern, a securely anchored fixture which perfectly fitted the contour of the platform was complete. See Figure 3.

After 12,000 pieces were machined, the plastic fixture was slightly impaired on the top surface. This was quickly repaired by filing this surface flat and adding more resin to obtain the original contour. The fixture was operational after only several hours of delay.

In any tooling program, the necessity of design changes must be considered. These changes can often result in costly production delays. Conventional tooling is in many instances difficult to revise and therefore it becomes more economical to make new tools.

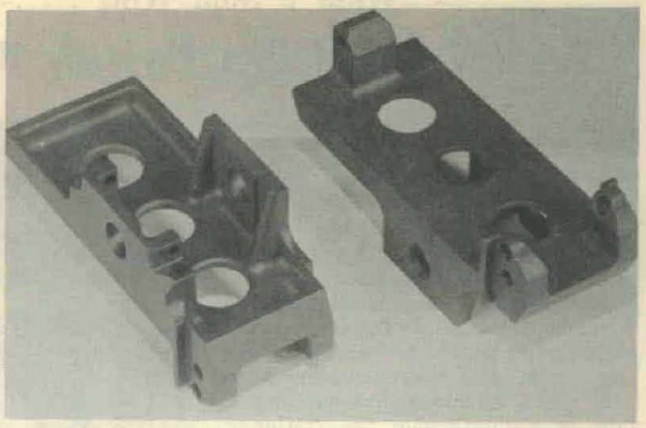


Figure 1—Platform M122

The use of plastic tooling facilitates changes. Surfaces can be built up or altered with ease because of the adhesive property of the resin. Entire sections of a fixture can be cut away and a new section added without affecting strength or accuracy, as has been conclusively illustrated time and again at Watertown Arsenal.

Engineers report it has been established that plastic tooling, if properly engineered, can be employed for many machining applications. In all instances, the fixtures have been durable even though they were subjected to the same usage as the metal tooling. Epoxy tools are still in constant use.

Plastic tooling also can be strengthened by addition of many foreign substances. The epoxy resin usually lacks sufficient structural strength for ordinary tooling and therefore must be reinforced. With metallic reinforcement or glass-cloth lamination, usefulness of this material can be increased manifold. Additional knowledge is needed as to how reinforcing substances can best be employed.

Watertown Arsenal researchers say the practicability of resins in tool construction has been amply illustrated, and that this cost-saving development is being exploited on an accelerated basis.

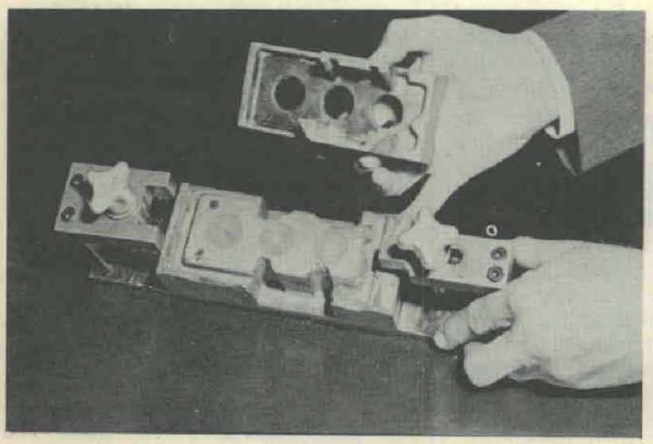


Figure 2
Epoxy resin construction of platform milling fixture.

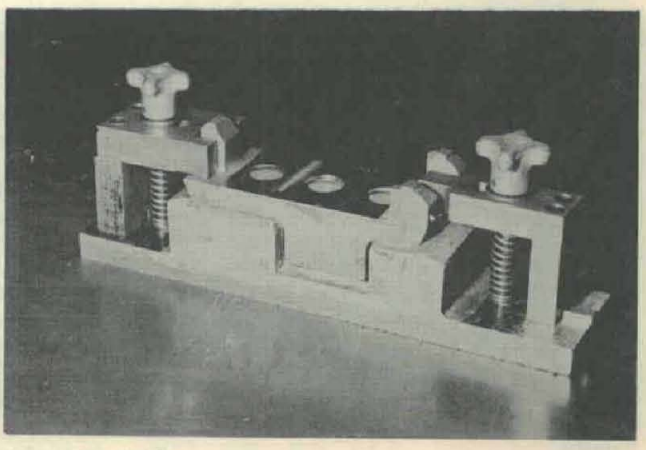


Figure 3
Holding fixture for milling M122 adapter kit platform.

Eight Biological Laboratories Employees Win Meritorious Service Awards

Meritorious Civilian Service Awards, the Army's second highest civilian honor, were presented recently to eight civilians employed at U.S. Army's Biological Laboratories, Fort Detrick, Md.

Col Carl S. Casto, Commanding Officer, Fort Detrick, made the presentations for Brig Gen Fred J. Delmore, Commanding General, U.S. Army Chemical - Biological - Radiological Agency, who was out of the country.

Albert E. Hayward, Chief of Program Coordination, was cited for his ". . . keen understanding of the technical and financial program requirements and his administrative efforts which contributed immeasurably to the success of the scientific missions of the U.S. Army Biological Laboratories."

Alex Smallberg, Director of Materiel, was honored for ". . . meritorious performance of duty as Contracting Officer, Director of Procurement and Property and Director of Materiel for the period October 1952-June 1962."

Dr. James L. Roberts, Director of Development, was recognized for ". . . thoughtful and effective leadership of a major segment of this country's biological warfare research and development program resulting in major contributions to this Nation's defense."

Dr. Paul J. Kadull, Chief, Medical Investigation Division, was cited for ". . . his guidance in a program of medical research and of prophylactic medical care for employees resulting in significant advances in medicine and hygiene, to the immediate benefit of the installation and to the ultimate benefit of mankind."

Dr. Riley D. Housewright, Scientific Director, received the honor for

Dr. James L. Roberts, Director of Development, U.S. Army Biological Laboratories, Fort Detrick, Md, receives U.S. Army Meritorious Civilian Service Medal from Col Carl S. Casto, Commanding Officer, during ceremonies in which eight professional staff members received this award.

". . . his perceptive leadership in one of the country's largest and most complex biological research and development programs resulting in major contributions to this Nation's defense as well as to the general public welfare."

Dr. Robert J. Goodlow, Director, Biological Research, was credited with ". . . perspective leadership in biological research resulting in major contributions to the defense of the United States as well as to the public welfare."

Dr. William W. Dorrell received the award for his ". . . effective management, technical competence and professional integrity which contributed immeasurably to technical progress in the biological sciences generally and particularly to our Nation's favorable posture in the new concept of Biological Warfare," in his capacity as Director of Technical Services.

Dr. James W. Brown, Deputy Chief, Crops Division, earned the award for ". . . meritorious performance of duties in the field of vegetation control for military purposes. His demonstrations of the potential of some compounds for military use and other closely allied situations constitute a significant contribution to the ability of our Armed Forces and those of our Allies. The unfavorable circumstances under which some of these demonstrations were accomplished are a tribute to Dr. Brown's technical ability, perseverance and courage."

Signal Employee Honored For Meritorious Service

Robert K. Fox, an employee of the U.S. Army Signal Corps Research and Development Division, was recently presented the Meritorious Civilian Service award by Acting Chief Signal Officer Maj Gen Herbert L. Scofield. The ceremony was held at the Pentagon, Washington, D.C.

Assigned to the Office of the Chief Signal Officer since 1949, Mr. Fox was cited for service as Chief of the Sensory Equipment Branch, Avionics and Surveillance Branch. Previously he had received a Sustained Superior Performance award.

Mr. Fox's citation reads, in part: ". . . for contributions in the management of research and development programs devoted to providing the Army with a combat surveillance and target acquisition capability."

A native of Lewistown, Pa., he was graduated from the Bliss Electrical School, Takoma Park, Md., and served in the Navy in World War II.

Robert K. Fox is presented Meritorious Civilian Service Award by Maj Gen Herbert L. Scofield, Acting Chief Signal Officer, at Washington, D.C.

Users Put High Value on Worth of OTS Reports

Users of the U.S. Department of Commerce publications distributed through the Office of Technical Services have revealed that the average worth per publication to their organizations, in cases where a value could be set, is $3,230.80. Sale prices of these publications range from 50 cents to several dollars a volume.

The information came in response to an OTS survey to determine and improve any operating, dissemination and announcement deficiencies, as well as to determine the value of its services to science and industry.

The OTS is the center in the Federal Government for the collection, cataloging, publicizing and sale of reports of U.S. Government technical research and translations of foreign technical literature.

Other highlights of the study indicated that 28 percent of the customers learned of the availability of specific reports or translations from the technical, trade and professional press (using OTS news releases) and 32.1 percent from OTS announcement journals. Other users were informed through a large variety of sources.

OTS also discovered, as anticipated, that industry was the largest buyer with universities second (industry, 56.2 and universities, 16.6 percent).

Psychology of Accidents

4-Year Army Study Identifies Accident-Prone Types

Accident-prone persons may be identified prior to hiring through psychological testing procedures, results of a 4-year Army study hint.

Findings and recommendations of the study made at the U.S. Army Red River Depot at Texarkana, Tex., have been submitted to the Civil Service Commission for further analysis.

The project started at the request of Depot Commander Col Donald M. Simpson in a memorandum to Safety Director Austin Wall, and enlisted support of Dr. Jack E. Frost, Depot Medical Officer, and Thomas Coleman, Chief of Civilian Personnel. Dr. T. V. Jenkins, a research psychologist of Texarkana College, administered tests, evaluated data, and documented the study.

Although the study began in August 1960, accident statistics were reviewed back to July 1958. During a 2½-year period to December 1960, it was found that 1,463 accidents had been recorded and classified at the Depot. Seventy-three hundredths of one percent of those involved had three or more accidents, while 73.79 percent of the Depot personnel had been accident-free.

Twenty-one disabling injuries were reported during the 2½-year period, and all but one of these fell among the remaining 25.48 percent of the employees who had only one or two accidents. This led to the belief that certain types of individuals were more likely to have serious accidents.

The next step in the study was to separate the accident producers into two groups for sampling purposes. They were assigned to jobs under the same environmental conditions as the 73.79-percent group which had no accidents.

Data then were collected on biographical, physical and psychological factors of the accident-producing and the accident-free groups. Data were thoroughly analyzed in 51 areas, assuming null hypotheses to distinguish between the groups.

Most of the null hypotheses, as expected, failed to stand the test for significant differences. But those that did stand the test clearly pointed out that psychological differences do exist between "blue collar" workers who have accidents and those who do not.

A validation study of the psychological variables found significant then was applied to the original study (July 1958 to December 1960) and was completed recently. Using the same criteria, the researchers again found through quantitative and qualitative analysis that psychological factors do account for accidents.

'Call Me Lieutenant' Says General Bartlett

Aberdeen Proving Ground, Md., may well be the only military installation in the country where a captain can give orders to a general.

General T. Bartlett, III, is a second lieutenant (General is his first name) and he works as a physicist in the Nuclear Applications Section of the Physical Test Laboratory of Development and Proof Services.

"I've been able to trace the family back to Josiah Bartlett, one of the signers of the Declaration of Independence," he said. "Either his nephew or his grandson was my great-great-grandfather. He was the first General T. Bartlett. His father apparently had the honorary title of 'General.'

"There was a break in the line between the first General T. Bartlett and my grandfather, General T. Bartlett, Sr. My great-grandfather's name was Joseph."

Lt Bartlett attended Potomac State College, Keyser, W. Va., for two years and then went to West Virginia University, Morgantown, W. Va., where he graduated in 1960 with a B.S. degree in chemical engineering. He worked a year in the Research Laboratory of the Agricultural-Biochemistry Department, West Virginia University and in June 1961 entered the U.S. Army.

2d Lt General T. Bartlett calibrates computer for engine wear test at Aberdeen Proving Ground, Md.

SCIENTIFIC CALENDAR

8th Conference of Design of Experiments in Army Research, Development & Testing, sponsored by ARO-D, Washington, D.C., Oct. 24-26.

Dynamics of Manned Lifting Planetary Entry, sponsored by AFOSR and the GE Co., Philadelphia, Oct. 29-31.

15th International Conference on Electrical Techniques in Medicine & Biology, Chicago, Oct. 29-31.

Colloquium on Fundamental Radiobiology, Rio de Janeiro, Brazil, Oct 29-31.

International Meeting of Systems & Procedures Association of America, Boston, Mass., Oct. 28-31.

15th Annual International Systems Meeting, Boston, Mass., sponsored by the Systems & Procedures Association of America, Oct. 29-31.

Conference on Spaceborne Computer Engineering, sponsored by IRE, Anaheim, Calif., Oct. 30-31.

8th Tri-Service Conference on Electromagnetic Compatibility, Chicago, Oct 30-Nov. 1.

2nd Interscience Conference on Antimicrobial Agents & Chemotherapy, sponsored by the American Society for Microbiology, Chicago, Oct. 31-Nov. 2.

Annual Meeting of the Human Factors Society, N.Y.C., Nov. 28-30.

14th Meeting of the Antimissile Research Advisory Council, Philadelphia, Pa., Nov. 1-2.

15th Annual Conference on Engineering in Medicine & Biology, sponsored by IRE, ISA and AIEE, Chicago, Nov. 5-7.

Seminar on the Practical Applications of Short-Lived Radioisotopes Produced in Small Research Reactors, Vienna, Austria, Nov. 5-9.

Symposium on Corrosion of Metals, Danpur, India, Nov. 7-10.

2nd ISA Marine Sciences Instrumentation Symposium, San Diego, Nov. 8-9.

8th Conference on Magnetism & Magnetic Materials, Pittsburgh, Pa., Nov. 12-15.

17th Annual Meeting & Space Flight Exposition of ARS, sponsored by American Rocket Society, Los Angeles, Nov. 12-18.

International Soil Conference, Wellington, N.Z., Nov. 13-22.

17th Annual Meeting of the Armed Forces Chemical Association, Washington, D.C., Nov. 15-16.

Brain Mechanisms for External Inhibition, sponsored by AFOSR, Brain Research Institute and UCLA, Los Angeles, Nov. 18-21.

Conference on Atomic Industrial Forum, Washington, D.C., Nov. 26-28.

11th Annual Wire & Cable Symposium, Asbury Park, N.J., Nov. 28-30.

Symposium on Biomedical Aspects of the Space Sciences, sponsored by UCLA and AFOSR, Los Angeles, Nov. (date undetermined).

International Conference on Satellite Communication, London, England, Dec. (date undetermined).

OCRD Publishes Regulations On Procurement, R&D Materiel

Two new regulations published by the Office of the Chief of Research and Development in September provide guidance in the areas of procurement and the research and development of materiel.

OCRD Regulation 715–2 establishes procedures for the processing of requests for determination and findings for R&D work under OCRD control and for work not under OCRD control. No. 705–3 spells out responsibilities and establishes internal procedures for initiating and terminating development projects.

Maj Gen James P. Quill

Lt Gen W. P. Ennis, Jr.

Maj Gen W. D. Hamlin

Maj Gen N. H. Vissering

4 Generals with 135 Years of Service Retire

Four Army general officers with a total of 135 years of military service are involved in recent retirement announcements.

LT GEN WILLIAM P. ENNIS, JR., since July 1960 Director, Weapons Systems Evaluation Group, Office, Secretary of Defense, retired 36 years after his graduation from the U.S. Military Academy. His career preserved an unbroken family line of U.S. military service begun by his great-great-grandfather, a lieutenant in the Revolutionary War.

Prior to his final assignment, General Ennis served as Commandant of the U.S. Army War College, Carlisle Barracks, Pa. From 1955 to 1958, he served as Deputy Chief of Staff for Logistics and Administration and as Deputy Chief of Staff for Operations and Intelligence with Allied Forces Central Europe, Fontainebleau, France.

MAJ GEN JAMES P. QUILL, Deputy Commandant, Industrial College of the Armed Forces, Fort Lesley J. McNair, Washington, D.C., retired after 33 years in the Army.

Recent major assignments have included Commanding General, 4th Armored Division, Germany (1959-1960); Assistant Comptroller, Office of the Comptroller of the Army (1956-1959); Deputy Chief of Staff for Administration and Chief of Staff, Eighth Army.

During WW II, with the Sixth Armored Division, the II Armored Corps and the XVIII Airborne Corps, he saw action in the Rhineland, Ardennes and Central European campaigns.

MAJ GEN WILLIAM D. HAMLIN, Commanding General, Army Signal Training Command, Fort Monmouth, N.J., since July 1960, retired Sept. 30 after 33 years of active service. He served as Chief Signal Officer, Hq, USAREUR, Heidelberg, Germany, from 1957 to 1960 and prior to that assignment was CG, U.S. Army Signal Supply Agency, Philadelphia, Pa., and Commandant of the Signal School, Fort Monmouth, N.J.

In WW II he served as Executive Officer to the Chief Signal Officer in Washington and later served with the Signal Division of Supreme Headquarters, Allied Expeditionary Forces, London, England.

In 1952 he was put in charge of the planning and supervision of the worldwide Army communications system. Two years later his plan for the multichannel coaxial submarine cable linking Alaska to the U.S. became a reality.

MAJ GEN NORMAN H. VISSERING, Commanding General, Army Transportation Command, Fort Eustis, Va., will retire Oct 31.

A graduate of Northwestern University, Evanston, Ill. (1925), he had become a successful businessman in Florida before being called to active duty in 1940. He is one of the few men to attain major general rank after entering the Army from the Organized Reserves.

During WW II he served two years as Chief of the Ocean Traffic Branch of the Transportation Service, and later joined General Eisenhower's staff to participate in drafting plans for Operation OVERLORD. At war's end he became Deputy Assistant Chief of Staff, G-4 (Logistics), European Theater.

GIMRADA Scientist Wins Kent Award

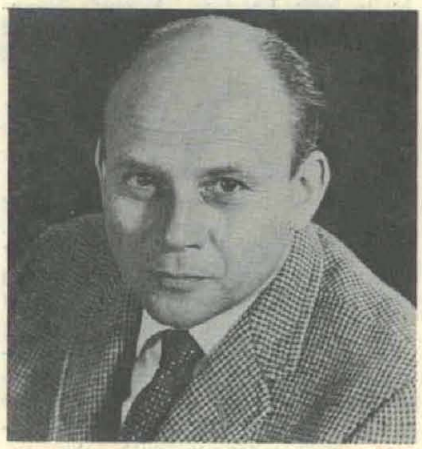
Dr. Hellmut H. Schmid recently received the Robert H. Kent Award from the Ballistic Research Laboratories, Aberdeen Proving Ground, Md.

For the past dozen years a member of the staff of BRL's Optical Measurement Branch, Dr. Schmid in September was appointed Scientific Adviser to the Director of the U.S. Army Engineer Geodesy, Intelligence and Mapping Research and Development Agency, Fort Belvoir, Va. (See Sept. 1962 issue, p. 25.)

Brig Gen John G. Zierdt, Deputy Director, Research and Development, U.S. Army Materiel Command, presented the award to the German-born scientist for his outstanding work in photogrammetry and geodesy.

The citation read: "Dr. Schmid attacked the problem of developing a measuring method of highest possible precision, which would serve as a standard for all other methods of measurement. . . . He also recognized the need for the corresponding development of observing and measuring instruments of optimum precision. As a result of his initiative this development was undertaken and successfuly completed."

Named in honor of one of the foremost modern ballisticians, the Robert H. Kent Award is given annually to the BRL scientist whose achievement merits special honors.



Dr. Hellmut H. Schmid

Col Wishart Takes Over as Picatinny Commander

Col Henry H. Wishart, formerly with the U.S. Army Ordnance Missile Command at Redstone Arsenal, Ala., took over as Commanding Officer of Picatinny Arsenal, effective Oct. 1. Col Russell R. Klanderman, Commander since 1960, retired Sept. 30.

Col Wishart was Deputy Commander of the Army Rocket and Guided Missile Agency at Redstone from May 1961 until reorganization of the Missile Command in December. Prior to that, he was Director of Industrial Operations.

Before his assignment to Redstone Arsenal, the Colonel served with the Joint Military Assistance Advisory Group in Korea. He was graduated from the Industrial College of the Armed Forces in Washington in 1957 and from the Command and General Staff College, Fort Leavenworth, Kans., in 1950.

Graduated with a B.S. degree in administration from the University of Southern California, he completed graduate studies at the Harvard Military Academy of Los Angeles.

In World War II he served 33 months in the Pacific and Japan. From 1947 to 1949, he served as Ordnance Officer, Headquarters European Command and from 1953 to 1956 in the Office of the Chief of Ordnance.

Among his awards are the Army Commendation Ribbon with two clusters, the Asiatic-Pacific Ribbon with campaign star, the Philippine Liberation Ribbon with star, and the Medal for Humane Action.

Col H. W. Wishart

WES Honors Services Of Long-Term Employees

Continuity of service at the U.S. Army Engineer Waterways Experiment Station was recognized recently in special ceremonies to honor 83 employees at Vicksburg, Miss.

Lapel pins and certificates were presented to eight employees for 30 years of Federal Government service. Fifty-two received 20-year awards and 23 were honored for 10 years of service.

In making the presentations WES Director Col Alex G. Sutton, Jr., commented that the ceremony, in effect, symbolized the loyal and efficient service of all the 891 civilian employees of the Station.

With approximately the same number of employees as in 1950, Col Sutton said, the Station is doing about 2½ times more work. Growth of the Station is reflected in the increase in value of buildings and equipment from about $4 million in 1950 to $12 million now, with more than $2 million added by construction last year.

Deputies Redesignated By Missile Command CG

Maj Gen Francis J. McMorrow of the Army Missile Command at Redstone Arsenal, Ala., has announced redesignation of titles of his two deputies, along with elimination of "Guided Missiles" and "Ballistic Missiles" from organizational charts.

Col O. M. Hirsch is Acting Deputy Commander of Land Combat Systems, an element formerly designated Ballistic Missiles. He assumed this responsibility in addition to continuing as Project Manager for the Lacrosse weapons system.

Brig Gen H. P. Persons, Jr., is the Deputy Commanding General of the newly designated Air Defense Systems, formerly "Guided Missiles."

Under the new organizational chart alignment, the Deputy CG for Land Combat Systems will be responsible for three project-managed systems — Missile B, Pershing and Sergeant—and five product managed groups involving 12 different systems —Redstone/ Corporal, Honest John/ Little John, Lacrosse, Aircraft Weapons (SS11 2.75 rocket/LAW), and Antitank Weapons (TOW, ENTAC, SS10, Shillelagh).

As Deputy CG of Air Defense Systems, General Persons is responsible for five project managed systems: Zeus, FABMDS (both of which are assigned to the Missile Command for administrative purposes), Hawk, Hercules and the Mauler. Product managed systems under his command are Ajax, Redeye, Target Missiles/ MTE and Research.

All functions, personnel, personnel spaces, records, files and equipment associated with a particular system are transferred with that system in accordance with the announced realignment.

DOD Supply Agency Goes To Permanent Facilities

Defense Supply Agency personnel have started the move into permanent headquarters facilities at Cameron Station, Alexandria, Va., approximately seven miles south of Washington, D.C.

To accommodate the DSA Headquarters staff, the huge Warehouse No. 3 has been completely remodeled and conversion of a similar warehouse is to be finished in 1963.

Established under a decision announced Aug. 31, 1961, the Defense Supply Agency is responsible for centralized management of Armed Forces supplies and services expected to involve an inventory of about $20 billion.

Warehouse No. 3 houses the Office of the DSA Director, Lt Gen Andrew T. McNamara, formerly the Army Quartermaster General; the Plans, Programs and Systems Office under Maj Gen Roy T. Evans, Jr., U.S. Army; and offices of the Inspector General, Comptroller, Counsel, and Personnel and Training.

The Directorate for Logistics Services headed by Maj Gen Francis Gideon, U.S. Air Force, now located in the Munitions Building in Washington, is to be moved to Cameron Station as soon as space is available.

The Directorate of Supply Operations and the Directorate of Procurement and Production will continue to occupy temporary offices adjacent to Fort McNair, Washington until 1963.

Director of Army Research Maj Gen C. W. Clark (left) presented $300 check to Charles Ravitsky during visit to U.S. Army Research Office-Europe in Frankfurt, Germany. Ravitsky was cited for his prize-winning paper presented at 1962 biennial Army Science Conference at U.S. Military Academy, West Point, N.Y. Army research leaders wear civilian clothes on temporary duty in Europe.

Theme of the Month: The Army — Today and Tomorrow

(Continued from page 2)

solution to the strategic problem of the United States and that we cannot have an exclusively "maritime" or "aerospace" or "land-mass" approach to strategy. He stated that although land, sea and air forces are complementary, land forces possess the distinctive capability to defeat enemy forces in land combat and gain control of the land and its people. He said that Army forces play a vital part in any form of war—from the outset of a general thermonuclear war to its conclusion—in the wide range of war short of this ultimate all-out form—and in the lower levels of violence such as the counterinsurgency and guerrilla actions which are becoming increasingly important.

And finally he said, and I quote:

"We soldiers share a conviction as to the future—a deeply rooted faith in the indispensability and in the permanency of the land combat function. We realize that the means to perform this function will change in the future as they have in the past. But we have an unshakeable faith that as long as there is land, and people on the land, the land combat function itself will remain a decisive element in any future conflict."

Those are the convictions of General George Decker, who retired as Chief of Staff last month after 38 years of dedicated service, and whose wisdom, integrity and steadfastness I came increasingly to admire and respect. General Decker's words express my own convictions as well.

In his talk, General Decker referred to the soldierly values to which the Army has always adhered—values expressed in words such as honesty—integrity—fidelity—devotion to duty—and obedience.

These words mark, and must always mark, our Army. But to these qualities I would add some more.

First, I believe that the Army must be tough, since toughness will be needed to endure in the tasks we will be called upon to face.

I believe that anyone who deals with the Army—anywhere—must sense immediately that he is in contact with a tough outfit, an outfit quick to defend its interests and those of the Nation in any arena. Humane, compassionate, friendly, when the occasion so calls. But with an adversary—tough.

Second, I believe that the Army must be alert—fast on its feet—quick not only to react, but to anticipate so that it does not have to react.

Next, I believe we must be an improving Army—always on the search for new ideas, and imaginative in this search.

We in the Army must have the capacity for critical self-analysis, the willingness to examine our programs constructively and to recommend basic changes. This is hard. Each time we travel a road the rut gets deeper, and other and better ways that may exist are harder to see. In the face of habit it is sometimes uncomfortably difficult to cast off an old idea or program, and strike off in a new direction. It takes character, intelligence, an innovating spirit—and toughness.

Finally, the Army must be lean—fit to fight but without an ounce of fat. The condition we search for is that of an athlete before a race—ready to go, not surfeited with a big meal, even just a little hungry.

To put it in a few words, I am looking for an Army that is young, tough, lean, hungry and alert.

This brings me to the people of the Army.

We depend on people. We place great responsibliities on the sergeant at Checkpoint Charlie, on the lieutenant at the point of a convoy, on the Special Forces soldier in an isolated post, on a lieutenant colonel who is chief of a mission to a developing nation, and who thereby represents to that nation the U.S. Army and the United States as well.

And if our Army is to be soldierly, young, tough, lean, confident and alert, then these must be the qualities of the people of the Army and of its leadership at all levels. People of this kind are in Southeast Asia today—representing the finest qualities of both American manhood and the professional soldier. Some of these men have been killed in action and our land is forever in their debt. All these men earn our gratitude by their simple, steadfast service on the front lines of freedom.

We will never have enough of these dedicated, self-sacrificing soldiers. The future of our Army depends on how well we find the best of these men, advance them, and place them in positions of responsibility where they can further develop these qualities and use them to the good of the Nation.

Let me close by talking about the future of the Army.

I am convinced that never in the Army's 187 years has our future looked brighter. As we move forward as part of the Defense team, as we reach out

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Army Ex-Private Heads Electro-Optical Branch At Missile Command Hq

From Army private to branch chief in nine years at the Army Missile Command—progress paying off in 13 times as much salary—that is the success story of Nicholas J. Mangus.

Promoted recently to Chief of the Electro-Optical Branch, Electro-Magnetic Laboratory of the R&D Directorate at Redstone Arsenal, Ala., Mr. Mangus began his Army career there about a year after he graduated from Gannon College, Erie, Pa., with a bachelor's degree in mathematics.

After completing his basic training in the Army, he was assigned to duty under the Scientific and Professional Program, which seeks to exploit to maximum advantage previous training and experience. His first assignment was in the Test and Evaluation Laboratory, where he designed tests for free-flight rockets.

Separated from the Army in 1955 as a corporal, he was retained in the same job as a civilian employee, and two years later was assigned to the Electromagnetic Laboratory as a physicist.

In recent years his work has included directing tests of rocket systems to lay explosives to clear mine fields, gun-boosted artillery rockets, antiaircraft rockets, helicopter and fighter-armament rockets, and research to determine fundamental rocket properties. His major effort has been on electro-optical guidance and control devices for missiles.

Among advantages of electro-optical devices are their compactness, light weight, and the ability to measure angles better than radar. The Redeye missile system demonstrates their compactness. A complete infrared guidance and control system is in the missile and its launcher.

Nicholas J. Mangus

Theme of the Month: The Army — Today and Tomorrow

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to advancing technology for new ways to perform the Army's traditional function, and as we recall the old ways to take on new tasks, we are on the threshold of a new era.

Where does the threshold lead?

First, it leads to an ever increasing reliance by our country on our Army for the achievement of its national objectives. This places a grave responsibility on each of us—the responsibility each day to give courageously and without stint the best that is in us so that when the days of trial come we can answer to ourselves that nothing was left undone.

Second, our future leads to increased mobility—and to the growth in tactical and strategic effectiveness that comes from this quality sought by every army in every age. To gain mobility, the Army in the coming decade will move strongly into the air—with its men, its doctrine, its weapons and its equipment. I wish to make this clear. We do not intend to take over anyone else's job, but simply to do our own better.

Our future also leads to ever increasing support of our allies and friends around the world against subversion, covert aggression and insurgency. We are experienced in nation-building and in support-constituted civil power, and by this experience are ideally suited to helping others in these fields. We are also by the nature of things ideally suited to support those of our friends who are faced with insurgency. It is easy to forget at a distance that counter-insurgency operations are not "war"—not even civil war usually—but rather the civil-military action of a legal government confirming its own sovereignty.

Because it is not a "war," there are no "lines." There is no clear "enemy territory" where everything is hostile, and no clear "friendly territory" where everything is secure. The "enemy" are irregular forces, usually scattered, and forest, swamp or mountain-based, and relying on persuasion, blackmail, and terror to achieve their aims. The loyalty and confidence of the Nation's people is the objective.

The role of the Nation's military force is necessary but not sufficient. A combined military-civil action is necessary to secure the national boundaries, to protect the people, to work among the people to gain their confidence, to search out and destroy the guerrillas, and to maintain public confidence in the justice and stability of the Government.

In this type of action, we claim to be fairly well trained by experience and by our basic orientation toward the land and its people.

Our future also lies in the military shield we and our sister services can provide our friends in places like the peripheral rimland of the Eurasian continent. These friends largely face land powers across land routes. We in the Army wish these friends, as they attempt to adjust old societies to new conditions, to have full confidence that power exists to insure their future are secure.

The future of the Army as part of the defense team also lies in Europe. Working with our friends in the armies of our allies, we intend to continue the process of improving the land forces of NATO—of forging a mighty instrument capable of handling every threat to NATO territory.

And of course our future also lies in the closest cooperation with the other Services. We accept this fact instinctively, as a matter of course, because unlike other Services, the Army cannot fight independently. We have therefore a strong and abiding interest in the development of workable joint doctrine and the effectiveness of joint operations in the field.

And finally, our future lies in the leadership and counsel that Army officers provide—in unified, joint and combined headquarters, in allied counsels, in the Joint Chiefs of Staff Organization, in the Office of the Secretary of Defense, and in other agencies of the Government.

As we move further into this decade, I foresee an even greater need for the professional qualifications toward which Army officers are trained and equipped.

Those are my convictions on the Army—today and tomorrow. I am pleased to be able to tell them to you and prouder that I can say to be associated with this magnificent institution.

To each of you—in the Army and outside—I say—

With pride in our past, with confidence in our future, with faith in our cause, and with unshakeable conviction that the qualities we have are qualities which the country and the world needs, your Army is moving with vigor, determination, and imagination to meet the great responsibilities which are placed upon us.

Let us, united, go ahead with our task.

Tynes Takes Command At Walter Reed Center

When Maj Gen A. L. Tynes assumed command of Walter Reed Army Medical Center, Washington, D.C., Sept. 17, he began a second tour of duty where he served as Chief of the Operating Section in 1939.

Immediately prior to reassignment, he was Commanding General at Tripler U.S. Army Hospital in Honolulu, Hawaii. In 1943 he served as senior member of an Army board that selected the site for this installation and assisted in planning construction.

The General's career of more than three decades has been replete with assignments contributing to growth of the Army hospital program.

Commissioned in the Army Medical Corps in 1930, following graduation from the University of Virginia Medical School, he served eight years as a general service medical officer. In 1939, as part of his residence training in general surgery, he completed the post-graduate studies in anesthesiology at the Mayo Clinic, Rochester, Minn.

During WW II he was in charge of all hospital construction planning for the U.S. Army, including construction and renovation of the entire fleet of 29 hospital ships. For this he received the Legion of Merit.

Other assignments have included: Chief, Medical Facilities and Planning Board, Office of The Surgeon General, CG of several U.S. Army hospitals, and a tour with the Far East Command. He was instrumental in establishing the U.S. Army Medical Center which supervises all Army medical and dental installations in Japan.

The General has attended the Medical Field Service School, Fort Sam Houston, Tex., and the Command and General Staff College, Fort Leavenworth, Kans.

Maj Gen A. L. Tynes

Waite Lectures in Europe on Arctic Radar Soundings

The Army-developed method of probing the depth of polar ice by means of airborne radar was the subject of a recent series of lectures in Europe delivered by Amory H. Waite, veteran U.S. Army polar explorer.

Currently with the Institute of Exploratory Research, U.S. Army Electronics Research and Development Labortory, Fort Monmouth, N.J., he was invited to address the International Commission of Snow and Ice at Obergurgl, Austria. He also visited glaciologists and polar experts and addressed scientific groups in Zurich, Paris, Strasbourg and London.

The technique discussed was tested in the far-north region of Canada in the summer and autumn of 1961. (See March 1962 issue, pp. 14-15.) Mr. White's team made radio soundings from a helicopter flying 200 feet above the glacial surface. They found the method equally useful on relatively stable icecaps and on glaciers.

Faster and less expensive than the widely-used, laborious seismic soundings, the new technique may enable scientists to obtain an accurate picture of geographic features hidden below the Antarctic ice.

Mr. Waite received the Army Research and Development Achievement Award for his role in developing the radio-sounding method. He has participated in 10 Antarctic and eight Arctic region expeditions or assignments.

Amory H. Waite

Cold Regions Parley Set At Army Research Office

Invitations to the U.S. Army 1962 Conference on Cold Regions Research and Development, Nov, 6-7, at Headquarters of the U.S. Army Research Office, Arlington, Va., have been extended to high-ranking military leaders.

Dr. Harold Brown, Director of Defense Research and Engineering, Commander of the U.S. Army Materiel Command Lt Gen Frank S. Besson, Jr., and Army Chief of Research and Development Lt Gen Dwight E. Beach are among the top invited speakers.

About 100 Army, Air Force and Navy polar research leaders are expected to attend the annual symposium-type conference, the objective of which is to exchange information dealing with past, present and future cold regions R&D work, with its attendant support problems of the three armed services.

Presentations by the Deputy Chief of Staff for Intelligence and the Deputy Chief of Staff for Operations, Department of the Army, and by representatives of the Air Force and the Navy have been proposed.

Discussions will include transportation, medical, quartermaster, chemical, signal and ordnance items under development or programed for intensified effort.

2 Army Bacteriologists Cited for Achievements

The U.S. Army Biological Laboratories, Fort Detrick, Md., hosted the recent annual meeting of the Maryland Branch-American Society for Microbiology.

Highlight of the meeting was the presentation of annual awards in honor of two renowned bacteriologists. The J. Howard Brown award, given to an outstanding student in recognition of his interest and promise in the field of microbiology, was presented to Rodney F. Smith, a graduate student, University of Maryland.

The Barnett L. Cohen award is presented to an outstanding microbiologist whose contributions to the field are highly respected by the profession. The 1962 recipient was Dr. Ronald M. Wood, Associate Professor of Ophthamology in the School of Medicine, Johns Hopkins University.

Dr. Wood received worldwide acclaim in March of this year for his development of the Tonofilm. The Tonofilm is a device perfected to facilitate early detection of glaucoma, the disease responsible for 13 percent of all blindness in the world today.

Dr. Robert J. Huebner, Chief, Laboratory of Infectious Diseases, National Institutes of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Md., was speaker at the evening session. His subject was, "Cancer as a Virus Disease."

Dr. Harold N. Glassman, Assistant Scientific Director at Fort Detrick, and president-elect of the Maryland association, was program chairman.

Lt Col Michael P. Dacquisto holds Certificate of Achievement presented for meritorious service in performance of duties at Walter Reed Army Institute of Research in Washington, D.C., from July 4, 1956 to July 1, 1962. Col Conn L. Milburn, Jr. (right), WRAIR Director, made presentation as Brig Gen Robert E. Blount, Commanding General, U.S. Army Medical R&D Command, observed. Dacquisto was cited for initiating a broad program in radiobiology and establishing top-priority anti-radiation drug development program as Director of the Division of Nuclear Medicine at WRAIR. He has been assigned as Chief, Medical Department, Tropical Research Laboratory in Puerto Rico.

R&D Personnel Garner Most of Secretary of the Army Awards

(Continued from page 1)

• Dr. Elvio H. Sadun, Walter Reed Army Institute of Research, Washington, D.C., for oustanding contributions of worldwide importance to eradication of parasitic diseases and the modernization of the Army's program in parasitology.

• Kennth E. Woodward, Diamond Fuze Laboratory, Washington, D.C., for application of the pure fluid amplification principle in the initial design and concept of an artificial heart pump.

A cash award of $2,390 for developing a lightweight antenna kit was presented to John C. White, Fort Bragg, N.C. Savings in cost and installation time of the kit are expected to total $1,760,866 the first year.

A highlight of the ceremony was the presentation of a group cash award of $1,365 to three German employees of the Northern Area Command, U.S. Army, Europe, Frankfort, Germany.

Julius Moennich, Fritz Reidel and Siegfried Schmidt were the first foreign nationals to be honored at the yearly ceremony. Their suggestion, resulting in a modification of existing carbine racks to accommodate simultaneously the new M-14 rifle and the carbine, saved the Army $314,000.

Biographical sketches of Army winners of Exceptional Civilian Service Awards follow:

MRS. KATHERINE MATHER, a native of Virginia, received her bachelor's degree in geology in 1937 from Bryn Mawr College, Bryn Mawr, Pa., and did graduate work at Johns Hopkins University.

In 1942 she joined the staff at the Central Concrete Laboratory, North Atlantic Division, Corps of Engineers, Mount Vernon, N.Y., and worked on research concerned with their WW II construction program.

In 1946 she transferred to the Concrete Division, U.S. Army Engineer Waterways Experiment Station, where she is now Chief of the Petrography Section. This section uses the techniques of light microscopy, X-ray diffraction and X-ray emission to study materials for mobility needs.

Author of numerous studies in her field, she won the 1953 Sanford E. Thompson Award of Committee C-9 of the American Society for Testing and Materials. In 1955 she was the cowinner of the Mason Medal for Research, American Concrete Institute.

Mrs. Mather is a member of the American Society for Testing and Materials and serves as Chairman of Committee C-9's Subcommittee on Petrography of Concrete and Concrete Aggregates.

Presently the editor of the *Journal of the Mississippi Academy of Sciences*, she is a Fellow of the Mineralogical Society of America and a member of many technical societies.

Secretary of the Army Cyrus R. Vance poses with German Embassy officials and three German employees of U.S. Army in Europe who were first to receive Secretary of the Army awards. (Left to right) Brig Gen Heinz Huekelheim, Julius Moennich (rear), Brig Gen Robert C. Fergusson, Secretary Vance, Lt Col H. Winterhager, Fritz Reidel and Siegfried Schmidt in Washington.

DR. ELVIO H. SADUN was born in Livorno, Italy. He earned B.S. and BiMed. degrees in his native land, then emigrated to the U.S., and received an M.A. degree from Harvard University (1942) and an ScD. degree from the Johns Hopkins University (1948).

From 1947 to 1951 he taught bacteriology and parasitology at the University of Arkansas School of Medicine and Tulane University School of Medicine. He spent the next two years in Thailand, serving as Adviser in medical parasitology to the Thai Ministry of Public Health and teaching in Thai medical schools.

Upon return to the U.S. he served concurrently in Atlanta, Ga., as assistant professor at Emory University's Medical School and as senior scientist, Regular Corps, U.S. Public Health Service, Helminthology Unit, Parasitology and Mycology Section, Communicable Disease Center.

After a tour with the Department of the Army in Japan as a professional adviser, Department of Medical Zoology, Dr. Sadun joined the Walter Reed Army Institute of Research as Chief of Medical Zoology.

A recipient of the Henry Baldwin Ward Medal of the American Society of Parasitologists, he has conducted research in the areas of immunity in parasitic diseases, epidemiology, and chemotherapy of human parasites.

Dr. Sadun is a Fellow of the A.A.A.S., a consultant to the World Health Organization and an active member of numerous study groups and boards and societies in his field. He is an assistant editor of the **Journal of Parasitology** and has published studies in professional journals of three continents.

KENNETH E. WOODWARD, a native of Washington, D.C., earned a bachelor of mechanical engineering degree in 1949 and a master of engineering administration degree in 1960 from George Washington University, Washington, D.C. He also helds a master of science degree from the University of Maryland.

He began his career in Government in 1950 at the Naval Research Laboratory. In 1955 he joined the Army Diamond Fuze Laboratories as a Supervisory Research Mechanical Engineer.

His invention of an artificial heart pump based on principles of fluid dynamics received public attention in 1961 and he was selected for an achievement award at the 1962 Army Science Conference for a paper he coauthored, entitled "A Fluid Amplifier Heart Pump."

Mr. Woodward has published several papers in professional journals and is a member of Phi Kappa Phi and Sigma Tau honorary fraternities and the American Society of Artificial Internal Organs.