



Paul E. Klopsteg, newly appointed NSF division head.

mathematical, and Engineering Sciences in October and began his new duties with the Foundation on November 1st. He has been granted leave of absence from Northwestern.

A physicist, Dr. Klopsteg is one of the three past-chairmen of the governing board of the American Institute of Physics (1940-47), and was president of the Central Scientific Company before joining Northwestern. During World War II he served with the Office of Scientific Research and Development as chief of Division 17, Physics and Special Devices, of the National Defense Research Committee, which developed important equipment and devices for wartime use. Notable among the Division 17 developments were the three 4,000,000-volt x-ray machines built by the University of Illinois under contract with OSRD, and the high voltage Van de Graaff machine developed under contract with the Massachusetts Institute of Technology for the x-ray inspection of heavy military equipment. Later in the war, Dr. Klopsteg was named assistant chief of the Office of Field Service, which organized and directed the assignment of scientific consultants to the various theaters of war. In 1944 he was made chief of the Research Division, General Headquarters, Southwest Pacific area in Australia and New Guinea. Dr. Klopsteg was awarded the Medal for Merit with Presidential Citation for his wartime work. During World War I, he was a development engineer for the Ordnance Department of the United States Army.

Continuing his association with federal research activities since 1945, he has been a member and chairman of the board of governors of the Argonne National Laboratory, operated by the University of Chicago under contract to the U. S. Atomic Energy Commission. He is also chairman of the Advisory Committee on Artificial Limbs of the National Research Council.

Earlier this year, Dr. Klopsteg spent a number of weeks in Lahore, Pakistan, where he had been invited by the Governor of Punjab to advise on scientific and technical education of Pakistan at all levels, including the universities. Dr. Klopsteg has been director and treasurer of the American Association of Physics Teachers and a member of the executive committee of the American Association for the Advancement of Science. In addition to these and other affiliations with scientific and educational groups, he is an honorary member and former chairman of the board of governors of the National Archery Association. In Washington he is a member of the Cosmos Club.

Scientific Manpower

The Shortage is becoming Critical

Evidence continues to mount that the number of scientifically and technically trained people in the United States falls far short of being adequate to satisfy even the present research needs of the government, industry, and education. While proposals for emergency expansion of the programs of the Atomic Energy Commission and other agencies imply that there will be a vastly increased drain on the nation's resources of trained manpower, there is every indication that the production of scientists and engineers is declining. During the 20th Anniversary Meeting of the American Institute of Physics in Chicago last October, it should be noted, the AIP Placement Register provided facilities for representatives of industry, government agencies, and universities to discuss employment opportunities with those physicists (about 130) who expressed any personal interest in the matter. It is significant that the available jobs listed at that time by the Placement Register outnumbered the physicists who listed themselves as being available for employment by a ratio of almost four to one.

Defense Mobilization Director Charles E. Wilson recently issued a statement in which he suggested certain immediate measures that should be taken to meet the problem. "The supply of scientific and engineering graduates in 1951 is less than half that needed to fully man our economic and defense programs," he said. "Present indications are that the number of scientifically trained graduates will steadily decrease at least until 1954 while the demands of essential civilian and defense programs, in the same period, will continue to increase. We can and we must do something about this shortage.

"First, Government, industry, and educational institutions must make the most effective possible utilization of those persons who have received scientific and technical training. Any failure to utilize such personnel in the most effective possible manner plays into the hands of those who want to see our defense mobilization program fail. All departments and agencies of the Federal Government must set the example in this respect.

"Second, our educational institutions can develop counseling programs which will result in a larger number of men and women being trained in these fields.

Students with aptitudes for such training can and should be shown that by obtaining scientific and technical training they can prepare themselves for satisfying employment and, at the same time, make a major contribution to the preservation of our way of life. If this demonstration is made, they will respond. More women, for example, should be enrolled in scientific courses and in engineering schools than is the case today. Their services are needed and will be utilized.

"Third, industry and Government should develop both on the job training programs and cooperative training programs with institutions of higher learning and other educational institutions which will result in employed persons receiving scientific and technical training. Where persons now employed possess the aptitudes for such training, methods must be developed which will result in utilizing what will otherwise remain a hidden source of potential scientific and technical manpower. I appeal to our educational institutions and to administrators in Government and industry to take every available measure to help alleviate the shortage of scientific and technical personnel. This must be done if our defense program is to succeed."

Fulbright Program Expands

Three New Agreements Signed

Three additional nations have agreed to participate in the Fulbright program for the international exchange of scholars, according to the Committee on International Exchange of Persons of the Conference Board of Associated Research Councils. Fulbright agreements have been signed within recent months by Iraq, Denmark, and Japan, although no indication has yet been given that programs will be initiated in these countries for the academic year 1952-53.

New RDB Groups Formed

Transistors and Electronics Reliability

The Research and Development Board of the Department of Defense has announced the establishment of two new advisory groups. One of these, a group on transistors, will assist the RDB Committee on Electronics to establish sound policies for the development and functional application of transistors by the Armed Services. Included in the group are the following six representatives from university and industrial laboratories: J. W. McRae, Bell Telephone Laboratories, Chairman; E. Finley Carter, Sylvania Electric Products; E. W. Engstrom, RCA Laboratories; I. A. Getting, Raytheon Manufacturing Company; A. G. Hill, Massachusetts Institute of Technology; and G. F. Metcalf, General Electric Company. The military service members are: Colonel Cary J. King, Office, Chief Signal Office; Colonel George F. Moynahan, Office of the Assistant Chief of Staff, Department of the Army; James M. Bridges, Bureau of Ordnance; Charles L. Stec, Bureau of Ships; H. V. Noble, Wright Air Development Center, Dayton; and E. W. Samson, the Air Force Cambridge Research Center.

A second group, to act as a clearing house within the RDB for collecting and disseminating information on the reliability of electronic equipment, is under the joint leadership of M. Barry Carlton of the RDB secretariat and Albert F. Murray, radio and television consultant to the RDB. Members of the new group include representatives of the Munitions Board, the Office of the Joint Chiefs of Staff, the Army, Navy, and Air Force, and the Research and Development Board. Laboratories engaged in government work will be furnished with information which is expected to result in more reliable performance of electronic equipment with a minimum of maintenance.

Bingham Memorial Award

Rheologists Honor P. W. Bridgman

P. W. Bridgman, Hollis Professor of Mathematics and Natural Philosophy at Harvard University since 1926 and a member of the Harvard faculty since 1904, has been awarded the Society of Rheology's Bingham Medal for 1951 for his outstanding contributions to rheological science, particularly for his studies of the deformation of solids under extremely high stresses while surrounded by an environment of extremely high pressures, and for his work on the viscosity of liquids under very high pressure. Professor Bridgman, who received the Nobel Prize in Physics in 1946, has been honored with numerous other awards. A member of many professional scientific organizations, both foreign and domestic, he served as president of the American Physical Society in 1942 and is an honorary member of the British Physical Society.

The Bingham Memorial Award was established several years ago in memory of the late E. C. Bingham, who had been largely responsible for the founding of the Society of Rheology. Professor Bingham died in 1945. This year's award was made in Chicago during the 20th Anniversary Meeting of the American Institute of Physics and its Member Societies. The presentation ceremony took place on October 24th.

Theoretical Mathematics

Research Contracts for 1952-53

The Office of Naval Research and the Flight Research Laboratory expect to make funds available again this year in the form of a few small contracts for support of individual research in theoretical mathematics. These funds are intended primarily for post-doctoral research by promising young mathematicians, although they may also be used for partial support of research by relatively senior mathematicians on sabbatical leave. Evaluation of proposals will be made in consultation with an advisory committee appointed by the National Research Council. Applications for contracts must be submitted before January 2, 1952, on forms which can be obtained from Dr. Chas. R. DePrima, Head, Mathematics Branch, Office of Naval Research, Washington 25, D. C.