

engineering and other university-level institutions. At a time of some shortage of industrial workers, more than 800,000 are each permitted two full months of study with all expenses paid."

"The superior student is regarded as a 'hero,' not as a 'grind.'"

"The government shows its deep commitment to higher education in many ways. Scholarships are large in amount and given to from 80 percent to 90 percent of the students so that virtually all of the superior men and women are able to attend. Salaries and perquisites for teaching and research personnel are among the highest in the nation with the consequence that scholarship attracts a very high percentage of the country's most able people."

Supporting the desire on the part of students for higher education is the government's willingness to pay the very high costs that are involved in money, in plant, and in human effort.

"The Minister of Education claims total plant development in the next five years for a resident student population of constant size will exceed one and one-half billion dollars."

"The state's investment in capital plant and equipment has been large and apparently will continue to be. At the most cautious appraisal of the ruble, at least \$200 million have been invested in during the last nine years and construction is still under way."

"Further evidence of the seriousness of Soviet commitment is found in the size and extensiveness of library collections. While a definitive appraisal ought to be undertaken by specialists, it would nevertheless appear that, judged by the most conservative standards and making ample allowance for variations in terminology, the Moscow University library collection is one of the largest in the world. Its new capacity of 12.5 million volumes may well be the largest."

"The University of Leningrad claims 4.5 million volumes, and the large polytechnical institute in the same city is said to receive over 600 foreign periodicals. A relatively small university in Georgia with 4300 full-time students boasts of more than 1.5 million volumes. The University of Middle Asia in Tashkent, established after the Revolution, has but 4000 full-time and 1000 correspondence students, but already has accumulated better than a million volumes."

The report ends its evaluation of the positive side of Soviet higher education with this statement:

"The Soviet Government and its people have dedicated themselves to higher education to a degree which must inspire their allies and give very serious pause to any nation which finds itself in a competitive position."

Grants, Fellowships, and Awards

Cardiovascular research. Applications by research investigators for support of studies to be developed during the fiscal year beginning 1 July 1959 are now being accepted by the American Heart Association. The deadline for research fellowship applications and established investigatorships is 15 September 1958, for grants-in-aid 1 November 1958. Applications may be made in the following categories:

Awards for established investigatorships are made for periods of up to 5 years, ranging from \$6500 to \$8500 yearly for independent investigators.

Advanced research fellowships are awarded for 1 or 2 years to postdoctoral applicants who are not qualified to conduct independent research. The stipends range from \$4600 to \$6500 annually.

Grants-in-aid are made to experienced investigators to help underwrite the costs of specified projects, such as expenses for equipment, technical assistance, and supplies.

Further information and application forms may be obtained from the Assistant Medical Director for Research, American Heart Association, 44 E. 23 St., New York 10, N.Y.

General. Applications for the regular postdoctoral fellowships of the National Science Foundation will be accepted through 2 September. Fellowships will be awarded in the mathematical, physical, medical, biological, engineering, and other science fields, including anthropology, psychology (other than clinical), geography, certain interdisciplinary fields, and selected social science fields. Candidates must be citizens of the United States with special aptitude for advanced training and must hold the doctoral degree or have the equivalent in training or experience. The stipend is \$3800 per year. A limited travel allowance, as well as tuition and fees will be paid. For further information and applications write to the National Academy of Sciences-National Research Council, 2101 Constitution Ave., N.W., Washington 25, D.C.

News Briefs

The Army has had its third success in recovering the nose cones of Jupiter missiles fired from Cape Canaveral Air Force test center. With the latest recovery of a full-sized cone, 17 July, the Army announced that a "satisfactory solution" had been found to the re-entry problem of such missiles. With the aid of a marker balloon, a small light, dye markers, and a radio transmitter, the cone was quickly found by Navy ships in the area and recovered by frogmen.

Nose cones, which shield a warhead

from the heat built up by impact with the earth's atmosphere, have been designed along two general lines, the "heat sink" and "ablation" approaches. The sink type concentrates and contains the heat in a thick copper shield while at the same time slowing the speed of descent by the utilization of shock waves. The ablation system, which is believed to be the one employed in the most recently recovered cone, depends on the gradual peeling or burning off of a number of layers of thin, nonmetallic substances on the outside of the cone.

* * *

A trust fund to honor the late Gordon F. Ferris is being established at Stanford University. The purpose of the fund will be to promote interest and research in entomology by extending financial support to promising young students. Contributions may be made payable to the Gordon F. Ferris Memorial Fund and sent to: The General Secretary's Office, c/o Richard F. O'Brien, Stanford University, Stanford, Calif.

* * *

The population of the world may rise to 4000 million or more by 1980 and to 6000 or 7000 million by the end of the century, according to a new United Nations study on future population trends. The mid-century world population is estimated at 2500 million. The report, entitled *The Future Growth of World Population*, was prepared by the Population Branch of the United Nations Bureau of Social Affairs.

Scientists in the News

SELMAN A. WAKSMAN will retire next month as director of the Rutgers University Institute of Microbiology, the organization at which he did his Nobel Prize winning work with antibiotics. He will be succeeded in that post by J. OLIVER LAMPEN, who is currently director of the division of biochemical research at the Squibb Institute for Medical Research.

Waksman, who was born in Russia, came to the United States in 1910 and entered Rutgers as an undergraduate a year later. He took his B.S. and M.S. there and his Ph.D. at the University of California. In 1918 he joined the faculty of Rutgers and has been a member of it in various capacities ever since.

The work which resulted in the discovery of streptomycin in 1943, the basis for the Nobel award, had its roots in the soil microbiology studies which Waksman began while he was a Rutgers undergraduate some 30 years before.

JAMES L. KASSNER, professor of chemistry at the University of Alabama School of Chemistry since 1929, has been appointed to the new Robert Ramsay

chair of chemistry. The new chair was made possible by a gift to the University of Alabama from the late Erskine Ramsay, industrialist and philanthropist of Birmingham.

H. F. ROBINSON has been appointed head of the newly organized department of genetics at North Carolina State College.

This year's honorary degree recipients include the following:

LYLE T. ALEXANDER, chief, Soil Survey Laboratories, U.S. Department of Agriculture, from the University of Arkansas.

RICHMOND K. ANDERSON, associate director for biological sciences at the Rockefeller Foundation, from Harvard University.

EDGAR H. DIX, JR., assistant director of research, Aluminum Company of America, from Carnegie Institute of Technology, Pittsburgh.

PAUL B. SEARS, chairman of the Conservation Program at Yale University, from Oberlin College.

HARRY C. TRIMBLE, special consultant to the dean of Harvard Medical School, from Harvard University.

JOHN H. VAN VLECK, professor of mathematics at Harvard University, from Oxford University.

THORNTON PAGE, formerly on the staff of the Operations Research Office, Johns Hopkins University, has been appointed professor of astronomy at Wesleyan University, Middletown, Connecticut.

GEORGE D. BEAL will retire as a director of research at Mellon Institute on 31 August, after 32 years of service.

Beal has had a career in chemical research, pharmaceutical investigation and education, and research management in a number of industrial fields, including textiles, paper, leather, waxes, varnishes, and food chemistry. His nearly 100 publications deal with basic chemistry, agriculture, food preservatives, industrial hygiene, glass containers, scientific standards, and the philosophy of research.

RICHARD COURANT, director, Institute of Mathematical Sciences, New York University, has been presented the Navy Distinguished Public Service Award. The award, highest the Navy confers on civilians, was given to Courant for his contribution to the Department of the Navy in the field of mathematical sciences.

RICHARD J. DELONG has been appointed virologist at the Toledo Hospital Institute of Medical Research. He will investigate the relationship of virus to neoplasia.

EDWARD M. PURCELL, Nobel laureate in physics, will be the first Donner Professor of Science at Harvard University.

President Nathan M. Pusey announced appointment of the 45-year-old investigator in nuclear magnetism as the first scientist to hold the new professorship, one of five established this spring at major centers of learning by the Donner Foundation of Philadelphia. An endowment of \$500,000 will be established for each professorship.

In making the grant, the Donner Foundation called scientific education "of utmost importance" in the present age. The new chairs are provided for the field of the physical sciences.

RANDAL M. ROBERTSON, director of the Physical Sciences Division, Office of Naval Research, has joined the staff of the National Science Foundation as assistant director for mathematical, physical, and engineering sciences.

DAVID S. GRICE, assistant clinical professor of orthopedic surgery at Harvard University, has been appointed chairman of the department of orthopedic surgery at the University of Pennsylvania School of Medicine, effective 1 September. He will succeed PAUL C. COLONNA, who will retire 1 September following 16 years as chairman of the department. Colonna will continue his practice in Philadelphia.

EARL A. ALLUISI, former staff member at the U.S. Army Medical Research Laboratory, has joined the staff of the Missile Systems Division, Lockheed Aircraft Corporation, Sunnyvale, California.

DONALD C. GREAVES, associate professor of psychiatry at the University of Oklahoma School of Medicine, has been named chairman of the department of psychiatry of Kansas University Medical Center, Kansas City.

BRIAN MacMAHON, currently of the College of Medicine of the State University of New York in Brooklyn, has been named professor and head of the department of epidemiology at the Harvard School of Public Health. He succeeds JOHN E. GORDON, who retired on 1 July to become professor emeritus of preventive medicine and epidemiology.

The Psychological Corporation has announced that ALBERT K. KURTZ, professor of psychology at the University of Florida, has taken a one-year leave of absence to direct a project on the training of radio code operators under a contract with the Office of Naval Research.

JOHN B. YOUMANS, dean of the Vanderbilt University School of Medicine, has resigned, effective 30 August, to become head of army medical research.

SAM L. CLARK, professor of anatomy and head of the department at Vanderbilt, has been named acting dean.

GEORGE ST. J. PERROTT, chief of the Division of Public Health Methods, U.S. Public Health Service, retired on 30 June. He has been succeeded by WILLIAM H. STEWART of the staff of the surgeon general.

VYTAUTAS J. BIELIAUSKAS, formerly with the Richmond Professional Institute of the College of William and Mary, has joined the faculty of Xavier University, Cincinnati, Ohio, as associate professor of psychology.

WILLIAM R. TAYLOR, professor of botany at the University of Michigan, has been elected a foreign corresponding member of the Institut de France, Academie des Sciences.

Recent Deaths

EDWIN G. BURROWS, Storrs, Conn.; 66; professor of anthropology at the University of Connecticut until his retirement in 1957; specialist on South Pacific peoples and their customs; 13 July.

CHARLES E. FRILEY, Ames, Iowa; 70; president of Iowa State College from 1936 until his retirement in 1953 and dean of the college's Science Division from 1932 to 1935; member of the staff of the Agricultural and Mechanical College of Texas for 20 years before he came to Iowa; 11 July.

CATHERINE R. KELLEY, Nashua, N.H.; 82; founder and staff member of Doctors Hospital in New York; was in charge of the newly established heart laboratory of Bellevue Hospital in 1912; operated one of the first electro-cardiographs in existence; 14 July.

ISIDOR C. RUBIN, London, England; 75; former clinical professor of gynecology at the College of Physicians and Surgeons, Columbia University; the College of Medicine, New York University; and New York Medical College, Flower and Fifth Avenue Hospitals; chief gynecologist of Mount Sinai Hospital from 1937 to 1945; specialist on the problems of childbirth and childless marriages; known for his test for sterility in women; 10 July.

Erratum: In the report by H. Vasken Aposhian on "Protection by D-penicillamine against the lethal effects of mercuric chloride" [*Science* 128, 93 (11 July 1958)], the heading of the last column of Table 1 should have been "Percent," and not "Survival (%)." Mortality, and not survival, is given in this column.