taking of the ARDC, the Strategic Air Command (SAC), and the University of Chicago. The global flight was proposed by John A. Simpson and Peter Meyer of the Enrico Fermi Institute for Nuclear Studies.

With scientists of ARDC's Air Force Cambridge Research Center accompanying a selected crew from SAC's Second Air Force, the KC-97 flew a 1500-pound cosmic-ray meter on the 90,000-mile trip in order to measure the intensity of cosmic rays at the equator. From these measurements the shape of the magnetic field, far out from the earth's surface, will be determined.

Assumptions regarding the pattern of the magnetic field above the ionosphere have been based on measurements made on the surface of the earth. Heretofore it has been assumed that this pattern projected outward into space substantially as it existed on earth. Studies of cosmic rays, however, which are influenced by the earth's magnetic field as far out in space as 4000 miles, have given definite indication that the magnetic field is "twisted" and has a pattern that varies from the previous assumption. The measurements obtained during the special flight are expected to permit fairly accurate mapping of the outer magnetic equator. The information gained is expected to be of great help to many agencies who will be using geophysical data during the forthcoming International Geophysical Year.

Effort to Determine the Amount of Matter in Space

A group of investigators from Stanford University are setting up a radio listening post at the southern tip of South America in a new attempt to learn more about conditions in outer space. Ernst Gehrels, a graduate student in Stanford's Radio Propagation Laboratory, has gone to Punta Arenas, Chile, where he will install and operate the receiving equipment. Robert A. Helliwell, a member of the technical panel on ionospheric physics for the International Geophysical Year, is directing the project with support from the Office of Naval Research.

Gehrels will attempt to detect specific signals from the Navy's radio transmitter at Annapolis, Md. These will be commonly used low-frequency signals of around 20 kilocycles, ordinarily reflected back to earth by the ionosphere some 60 miles aloft. Gehrels will be located as near as possible to the point of a signal's return to earth from its take-off point at Annapolis.

The Stanford group's theory is that some of this signal energy penetrates the ionosphere and escapes into outer space. But when there is sufficient ionized matter in space, the escaping signal energy is believed to come under control of the earth's magnetic field, which focuses it and gradually bends it back toward earth. The signal's looping path through space is estimated to be 40,000 miles long and to rise 15,000 miles above the earth. The Stanford experiment may lead to a better estimate of the amount of matter in space.

Varying Incidence of Heart Disease

The Public Health Service has reported wide variations in mortality rates from coronary heart disease in different parts of the United States, with rates twice as high in some states as in others. A survey has been made that is an initial step in a nationwide study of variations in the incidence of heart disease. The survey is described by Philip E. Enterline and William H. Stewart in the 20 Sept. issue of *Public Health Reports,* Public Health Service journal.

Improved methods of reporting causes of death, which became effective in 1949, and population data from the national census of 1950 have provided information for a more accurate study of coronary heart disease rates than has been previously possible. The recent study showed that coronary heart disease causes about a third of all deaths among white males in the age group 45 to 74, and about a fifth among men 35 to 44. The rates among white females were somewhat lower. The lowest death rate for coronary heart disease among white males of all ages in 1950 was in New Mexico, 191.1 per 100,000 population. Arkansas had a rate of 201.2 and Kentucky 211.2.

Rates for white males were highest in New York, Rhode Island, and the District of Columbia (Washington, D.C.): 393.8, 364.3, and 344.3 per 100,000, respectively. For white females the differences in death rates from coronary heart disease in different areas were even greater—83.4, 87.8, and 89.0 in New Mexico, Arizona, and Nebraska, as compared with 217.4, 176.6, and 175.6 in New York, New Jersey, and Rhode Island.

News Briefs

■ The Radiological Institute of Freiburg University, Freiburg, Germany, has reported that the level of radioactivity detected in some grain fields and pastures increased during July and August and reached a level that, if maintained, would be dangerous to human beings. The radioactivity was particularly serious on high ground, and at about 4000 feet it was 10 times as strong as in the valleys. The radioactivity of milk from cows grazing on the heights in the Black Forest was about 5 times as strong as that from cows in the plains.

■ A long-distance call to London by Cleo F. Craig, president of American Telephone and Telegraph Company, inaugurated the world's first transoceanic telephone cable system on 25 Sept. Ceremonies were held in New York, London, and Ottawa. Construction of the phone link, which can carry up to 36 conversations simultaneously, was undertaken 2 years ago by A. T. and T., the British Post Office, and the Canadian Overseas Telecommunication Corporation. The principal underwater section of the system crosses the Atlantic between Clarenville, Newfoundland, and Oban, Scotland.

■ The U.S. Atomic Energy Commission has announced that it proposes to waive its statutory rights to inventions or discoveries resulting from the use of certain materials made generally available by the commission. Notice of the proposed policy and of the materials involved appeared in the *Federal Register* for 18 Sept. The published notice gives opportunity to the public to comment within 30 days after the date of publication.

■ Ground was broken last month for Canada's first nuclear power plant, which will be the plant at Des Joachims on the Ottawa River about 20 miles north of the present atomic research plant at Chalk River. The $15-million installation will have a capacity of about 20,000 kilowatts by 1958. It is not expected to produce power at an economically competitive cost, but it is designed to give scientists an opportunity to learn how to do so.

Scientists in the News

THOMAS F. GALLAGHER of the Sloan–Kettering Institute for Cancer Research delivered the first of the New York Academy of Medicine's Harvey Society lectures. He discussed "Steroid hormone production and metabolism in man." Other lectures have been scheduled as follows: 11 Oct., DAVID BODIAN of Johns Hopkins University, "Physiologic aspects of infectious processes in poliomyelitis"; 15 Nov., ERWIN CHARGAFF, professor of biochemistry at Columbia University, "Of nucleic acids and nucleoproteins"; 20 Dec., FRANCIS D. MOORE, Mosely professor of surgery at Harvard University and surgeon-in-chief for Peter Bent Brigham Hospital, "Metabolism in trauma; the meaning of definitive surgery"; 17 Jan., A. M. PAPPENHEIMER, JR., professor of microbiology at New York University College of Medicine, "Hypersensitivity of the de-

layed type"; 21 Feb., STANFORD MOORE and WILLIAM H. STEIN of the Rockefeller Institute for Medical Research, "Determination of the structure of proteins; studies on ribonuclease"; 21 Mar., P. B. MEDAWAR, professor of zoology at University College, University of London, "The immunology of transplantation"; 11 Apr., DAVID E. GREEN, professor of enzyme chemistry at the Institute for Enzyme Research, University of Wisconsin, "Studies on organized enzyme systems"; 16 May, THOMAS H. WELLER and RICHARD P. STRONG, professor of tropical public health at Harvard School of Public Health, "Observations on the behavior of certain viruses that produce intranuclear inclusion bodies in man"; 6 June, CARL J. WIGGERS of the Bunts Educational Institute, Cleveland Clinic, "Harvey tercentenary."

The American Heart Association has named the winners of the annual Howard W. Blakeslee awards for outstanding reporting in the field of heart disease. The winners will receive their awards, which include a $500 honorarium, at the AHA annual dinner that is to be held in Cincinnati, Ohio, on 28 Oct., during the association's annual meeting and scientific sessions, 26 Oct.–2 Nov.

The Science Department, *Life* magazine, is to receive an award for a ten-page pictorial article explaining coronary thrombosis, illustrating the various stages of recovery, and presenting advances in research, diagnosis, and treatment. The individual winners are as follows:

FRANK CAREY, science reporter, Associated Press, Washington, D.C., for his year-round news coverage of developments in cardiovascular research, treatment, and prevention.

NATE HASELTINE, science writer, Washington Post and Times Herald, for his series of six newspaper articles entitled, "Within a Child's Heart," covering heart disease in childhood, including advances in heart surgery and in the prevention and treatment of rheumatic fever.

ROBERT P. GOLDMAN, science editor and assistant managing editor, *Parade* magazine, for his series of articles presenting new developments in research and treatment of rheumatic and congenital heart disease, coronary artery disease, and hypertension.

HOWARD WHITMAN, medical commentator on the NBC television network's "Home Show," for a series of four programs entitled "Your Heart," covering the young cardiac, high blood pressure, heart surgery, and the function of the heart, filmed at centers in Philadelphia, Boston, and New York.

GEORGE VOUTSAS, producer-director, and EARL HAMNER, writer, for the radio program, "Courage to Live," broadcast by the NBC radio network as one of the "Biographies in Sound" series. This hour-long program presents the documentary story of a patient who faces the decision to undergo heart surgery.

PAUL D. WHITE, a special Blakeslee citation for what was described as "the outstanding service which he performed in creating better public understanding of problems of heart disease through his press conferences, published articles and radio and television appearances during the illness and recovery of President Eisenhower."

THORNTON C. FRY, assistant to the president of Bell Telephone Laboratories, retired on 1 Oct. after completing more than 40 years of service. A mathematician well known in both academic and industrial circles, Fry has held many distinguished posts at Bell Laboratories, including director of mathematical research, director of switching research, and director of switching research and engineering. He has served as assistant to the president since 1949.

Fry was graduated from Findlay College in 1912 and later received a Ph.D. degree in mathematics from the University of Wisconsin. He joined the Bell System in 1916 and since then has been continuously associated with its research and development activities.

There were few professional mathematicians in industry in 1916, and Fry was a pioneer in defining their role in industrial research. He organized the Bell Laboratories mathematical research department. He is best known as an expert on the mathematical theory of probability, and especially its application to various communication problems. He is the author of a book on this subject, *Probability and Its Engineering Uses*. In the future, Fry plans to engage in consulting work.

H. W. NIEDHARDT, formerly pathologist for the Baptist Hospital, Beaumont, Tex., has been appointed associate pathologist at the M. D. Anderson Hospital and Tumor Institute, Houston, Tex. This appointment also carries with it the title of associate professor in the University of Texas postgraduate division.

MASSOUD SIMNAD, who has been a staff member in the Metals Research Laboratory at Carnegie Institute of Technology since 1949, has joined the General Atomic Division of the General Dynamics Corporation, San Diego, Calif. A naturalized American citizen who was born in Iran, Simnad received his Ph.D. in physical chemistry (metallurgy) from Cambridge University (England) in 1945.

HARVEY W. LANCE has rejoined the staff of the National Bureau of Standards as chief of the Calibration Center that is now under construction at the NBS Boulder Laboratories. Formerly head of microwave systems research at the Naval Ordnance Laboratory in Corona, Calif., Lance's immediate duties will concern securing equipment and personnel for the center as well as preparing general plans for operation. The center has the status of a section in the organizational structure of the Boulder Laboratories.

EDGAR C. BRITTON, director of the Edgar C. Britton Research Laboratory of the Dow Chemical Company, Midland, Mich., has received the 1956 Perkin medal of the American Section, Society of Chemical Industry.

CHARLES F. KETTERING, inventor and General Motors research consultant, is the first recipient of a medal named in his honor that is being sponsored by the American Institute of Electrical Engineers. The general concept of the new award, subject to later refinement, is to recognize from time to time those who have made creative contributions through discovery, invention, or improvements in designs or processes.

Seven scientists will be honored by the American Society for Metals during its 38th National Metal Exposition and Congress in Cleveland, Ohio, 8–12 Oct.

EDGAR H. DIX, JR., assistant director of research at the Aluminum Company of America's Aluminum Research Laboratories in Pittsburgh, Pa., will be presented with the Albert Sauveur achievement award for his outstanding work in aluminum alloys research.

WILLIAM H. EISENMAN, for more than 39 years national secretary of the society's headquarters in Cleveland, will receive the ASM gold medal. The citation describes Eisenman as a man who "advanced metallurgy from an art to a science" while helping build the society to its present membership of more than 27,000 members in 100 chapters around the world.

CHARLES M. WHITE, recently elevated from the presidency to the board chairmanship of the Republic Steel Corporation, will be given the ASM research medal for his consistent sponsorship of metallurgical research and development. Under White's leadership, Republic Steel in recent years has been in the forefront of stainless steels and titanium research.

ERNEST P. NIPPES, professor of

metallurgy at Rensselaer Polytechnic Institute, will be given the ASM's teaching award for his outstanding performance in the teaching of technical men.

Three scientists share the ASM Henry Marion Howe medal award for their joint paper on "Delayed failure and hydrogen embrittlement in steel": ALEXANDER R. TROIANO, professor and head of the department of metallurgy at Case Institute of Technology; WILLIAM J. BARNETT, former Case research associate now with the General Electric Company at Evendale, Ohio; and RICHARD P. FROHMBERG, also a former Case research associate, now a senior engineer with the North American Aviation Corporation, Downey, Calif.

SYLVAN I. COHEN has joined Olin Mathieson Chemical Corporation as an agricultural research specialist in the research and development department of the Insecticides Division at Port Jefferson, N.Y. He was formerly vice president for research of Gallowhur Chemical Corporation, Ossining, N.Y. Much of his work has concerned the development of mercurial seed disinfectants and other new organic foliage fungicides. He holds patents on several compounds developed for use in this field.

LESTER GUTTMAN, who from 1946 until 1955 was a member of the faculty at the University of Chicago, has been named to the metallurgy and ceramics research department of the General Electric Research Laboratory, Schenectady, N.Y. Prior to joining the G.E. staff, he spent a year in Harwell, England, studying neutron diffraction.

Recent Deaths

BERNARD V. CHRISTENSEN, Columbus, Ohio; 71; retired dean of the College of Pharmacy of Ohio State University; 13 Sept.

ALICE DUNBAR, Somerset, Md.; 77; one of the first women chemists in Government service; 8 Sept.

WILLIAM A. D. EVANS, Summit, N.J.; 75; electrical engineer; retired executive of the General Electric Company; 13 Sept.

IDA V. GIBSON, Ithaca, N.Y.; associate professor of food and nutrition at Cornell University; 16 Sept.

JOHN I. HAMAKER, Lynchburg, Va.; 86; biology professor emeritus of Randolph-Macon Woman's College; 24 July.

HARRY L. HOLLINGWORTH, Montrose, N.Y.; 76; professor emeritus of psychology and founder and former head of the department at Barnard College; 17 Sept.

BERNARD D. JUDOVICH, Philadelphia, Pa.; 52; associate professor at the Graduate School of Medicine of the University of Pennsylvania; founder and head of the Pain Research Foundation of the Graduate Hospital; 13 Sept.

CHARLES K. LEITH, Washington, D.C., and Madison, Wis.; 81; emeritus professor of geology at the University of Wisconsin; vice president of AAAS Section E in 1919; consultant to the foreign minerals division of the Atomic Energy Commission; 13 Sept.

JAMES P. PORTER, Swarthmore, Pa.; 82; retired editor of The *Journal of Applied Psychology*; former head of the department of psychology at Ohio University; 14 Sept.

HENRY B. SAFFORD, Garden City, L.I., N.Y.; 72; professor of gynecology and obstetrics at New York Medical College; 16 Sept.

Education

■ The Ford Foundation has announced the allocation of grants totaling $21,750,000 to strengthen instruction in the 44 privately supported medical schools now in operation in the United States. The grants are in the amount of $500,000 to each of 43 4-year institutions and $250,000 to the 2-year medical school at Dartmouth College. They were authorized by the foundation's board of trustees upon the recommendations of a special advisory committee headed by Lee DuBridge, president of the California Institute of Technology. The advisory committee was set up by the foundation to develop plans for distributing the $90 million that the foundation appropriated last December to aid the instructional programs of the private medical schools.

The grants are to be held by the recipient institutions as invested endowment for at least 10 years. During this time the income from the endowment may be expended for instructional purposes. Excluded from purposes of the grants are construction and research needs. After a 10-year period the medical schools will be free to use the principal sum as well as endowment income. In announcing the 44 grants the foundation indicated that it expects to disburse the balance of the $90-million appropriation during the current academic year.

■ The Office of Education is now accepting applications from American elementary, secondary, and junior college teachers who wish to teach abroad under the United States International Educational Exchange Program during the school year 1957–58. Three hundred awards will be made available by the Board of Foreign Scholarships.

To qualify for an award under this program, a candidate must be a United States citizen, have a bachelor's degree, and a minimum of 3 years of successful teaching experience. The deadline for receipt of applications is *15 Oct.* Requests for the bulletin, *Teacher Exchange Opportunities, 1957–58,* and application forms should be addressed to the Teacher Exchange Section, Office of Education, U.S. Department of Health, Education, and Welfare, Washington 25, D.C.

■ The Atomic Energy Commission, Oak Ridge National Laboratory, and the Oak Ridge Institute of Nuclear Studies have announced that 102 scientists from Oak Ridge laboratories will be available on request to lecture, conduct seminars, and participate in colloquia at university campuses throughout the country. This arrangement is made possible through the Oak Ridge Traveling Lecture Program, which is being presented for the ninth consecutive academic year.

A brochure has just been issued on the program for 1956–57; it lists the speakers who will participate and names some 165 different lecture subjects. Ninety of this year's lecturers are from ORNL, two represent the University of Tennessee–AEC Agricultural Research Program; three are with the ORINS, and seven are members of the AEC staff at Oak Ridge. Additional information and brochures may be obtained by writing the chairman, University Relations Division, Oak Ridge Institute of Nuclear Studies, Box 117, Oak Ridge, Tenn.

■ In an effort to meet its increasing demand for high-caliber technical graduates, the National Bureau of Standards is giving students an opportunity to become acquainted with a government research laboratory during their undergraduate summers and to discover the advantages of a professional career at the bureau. Open to physical science and engineering majors and also to selected high-school graduates who have displayed unusual scientific ability, the Student Trainee Program is proving mutually beneficial to the bureau and the trainees. Approximately 150 students have been employed annually since the program was initiated in 1948. Besides carrying their share of the work load during the summer, many fulfill the ultimate aim of the program and later return to the staff in a permanent capacity.

To gain eligibility on the register from which appointments to the program are made, college men and women must pass a written Civil Service examination for student trainees. At the high-school level a limited number of direct appointments are offered to winners in the Westinghouse Science Talent Search and other science competitions. A student who has taken part in the program and is recommended by his supervisor may return