rite cup inductance core, and other circuit elements—are combined in the center of the pill. Housed in one end is a minute, replaceable storage battery which powers the oscillator. (In World War II this type of battery was used for the VT proximity fuse for antiaircraft shells.) The other end of the capsule is sealed by a flexible rubber membrane. The membrane transmits the body's pressure variations to a diaphragm, which supports the armature of the ferrite cup inductance core. This core contains a coil whose inductance varies with the pressure exerted on the diaphragm. The signal generated by the radio pill, at a frequency of approximately 1 megacycle, varies in frequency as the inductance is varied by changing pressure on the diaphragm.

The radio pill is radiopaque, so its course through the gastrointestinal tract may be traced by fluoroscopy or other means. Since it has magnetic properties, it may be possible to manipulate it by magnetic forces outside the body.

NSF Science Faculty and Senior Postdoctoral Awards

The National Science Foundation has announced the award of 100 science faculty fellowships in the sciences for 1957–58. Awarded this year for the first time, these fellowships are offered as a means of improving the teaching of science, mathematics, and engineering in American colleges and universities.

Science faculty fellows were selected from 416 applicants from all parts of the continental United States and its territories on the basis of ability as indicated in letters of recommendation, academic and professional records, and other evidence of attainment and promise. Eligibility requirements included a baccalaureate degree or its equivalent, demonstrated ability and special aptitude for science teaching and advanced training, and 3 years of full-time science teaching at the college level.

The foundation has also announced the award of 30 senior postdoctoral fellowships in the sciences for 1957–58, selected from 168 applicants. These fellowships were awarded to scientists of demonstrated ability and special aptitude for productive scholarship in the sciences. Sixteen awards were made in the life sciences and 14 in the physical sciences, including a number in interdisciplinary fields.

Science faculty and senior postdoctoral fellowships carry stipends adjusted to approximate the regular salaries of award recipients. These stipends may be applied toward study or research in an accredited nonprofit institution of higher learning in the United States or abroad.

Grace Nuclear Fuel Plant

W. R. Grace and Company, New York, has announced that construction will begin immediately on a plant to produce basic raw materials for nuclear reactor fuel. The plant will be located at Erwin, Tenn., and is designed to produce uranium, thorium, and rare-earth alloys and metals for reactors now in use or under construction by both private enterprise and defense units. Other than uranium, thorium is the only naturally occurring element that can be converted into fissionable material. The plant is perhaps the first of its kind financed and operated entirely by private enterprise.

The installation will consist of a solvent extraction plant producing pure thorium and uranium salt, a reduction plant that will convert the salt to metal powder or sponge, and a melting and casting plant containing both vacuum-induction and arc-melting facilities. The thorium metal produced probably will find extensive use in magnesium alloys for jet aircraft and guided missiles.

The new plant is expected to employ initially 50 to 60 people. It will be operated under the supervision of F. C. Nicholson, vice president for chemical operations of the Davison Division. Directly in charge of the plant will be T. C. Runion, general manager for nuclear reactor materials.

Cullen Engineering College at Houston

The University of Houston has received gifts totaling $6.5 million for the construction of the Cullen College of Engineering building and for creating six chairs for distinguished professors. A gift of $5 million for the building came from Mr. and Mrs. Hugh Roy Cullen, through their Cullen Foundation. The gift brings to about $30 million the total of the Cullen gifts to the university. The M. D. Anderson Foundation gave the school $1.5 million for the six professorships.

Soviet Scientists Cancel U.S. Visit

Six Soviet scientists who had accepted invitations to the recent seventh annual Rochester Conference on High Energy Nuclear Physics did not attend. A last-minute cablegram received by the University of Rochester, host to the conference, said: "Regret U.S.S.R. Academy of Sciences delegation will not attend Rochester conference due to technical reasons. Best wishes for conference success."

Among the Russian delegates who had been expected was D. I. Blokhintsev, a director of the Joint Institute of Nuclear Problems in Moscow. Two non-Russian directors of the institute attended the conference. They were Marian Danysz of Warsaw, Poland, and Vazlav Vortruba of Prague, Czechoslovakia. Six other scientists from Poland also participated in the meeting.

Kelco Research Laboratory

The Kelco Company, large producer of algin products widely used as thickening, suspending, stabilizing, emulsifying, film-forming, and gel-producing agents, has announced construction of a new $250,000 research laboratory in Research Park, San Diego, Calif. The primary purpose of the new facilities is to provide advanced technical service in the solution of the product and processing problems of the company's clients in the dairy, food, textile, chemical, paper, plastics, beverage, paint, drug, and cosmetic industries.

National Bureau of Standards, 1956

The 1956 annual report of the National Bureau of Standards is now available at the U.S. Government Printing Office, (Washington 25, D.C.). This 158-page publication summarizes the bureau's research and development activities in the physical sciences during the last fiscal year. Brief descriptions are given of representative accomplishments in each area of the bureau's responsibilities, which include maintenance of basic standards, determination of physical constants and properties of matter, development of methods and instruments of measurement, and the provision of calibration, testing, and scientific advisory services.

During the past year, significant results were achieved in programs dealing with electronic computers, electronic instrumentation, and the properties of matter and materials. A new high-speed computer that provides the geographic fallout pattern after a nuclear explosion was developed for the the Atomic Energy Commission. Development work was successfully completed on a microimage data storage and retrieval device, which provides rapid access to any one of 10,000 microfilmed images located on a 10-inch-square sheet of film.

The bureau also developed a technique for capturing and storing large numbers of free radicals—highly reactive molecular fragments—at temperatures near absolute zero. In the field of optics and metrology, the bureau completed a comprehensive dictionary of color names, which lists some 7500 individual color names and defines them in simple accurate terms easily understood by workers

in different fields. A study of the effect of crystal orientation of fatigue crack initiation in metal was also completed.

The annual report is composed of five sections: a general review or summary, a résumé of the bureau's research and development work in progress or completed during 1956, a review of the testing and calibration program, a discussion of the bureau's various cooperative activities, and an appendix consisting primarily of statistical and organizational material and a complete list of publications by NBS staff members for the fiscal year.

May Scientific Monthly

Articles appearing in the May issue of *The Scientific Monthly* are "Changing Energy Scene," C. A. Scarlott; "Livestock Parasites and Grass," B. Schwartz and H. H. Vegors; "Global Distribution of Strontium-90 from Nuclear Detonations," M. Eisenbud; "Man's Place in Living Nature," H. J. Muller; "Canalization of the Moselle," W. E. McIntyre. Nine books are reviewed.

Scientists in the News

HERBERT S. GASSER of the Rockefeller Institute of Medical Research will deliver the annual Hughlings Jackson memorial lecture on 15 May at the Montreal Neurological Institute, Montreal, Canada. He will discuss "The properties of unmedulated nerve fibres with afferent function."

ROBERT W. WHITE, chairman of the department of social relations at Harvard University, will deliver a public lecture on 10 May at the New York Academy of Medicine on "Adler and the future of ego psychology." The occasion of the address will be the commemoration of the 20th anniversary of the death of Adler on 28 May 1937.

L. SIMINOVITCH of the Connaught Medical Research Laboratories, University of Toronto, has received the Ross G. Harrison prize of the International Society for Cell Biology. The award consists of a travel grant of $750 for attendance at the International Congress of Cell Biology.

FRANK J. DIXON, professor of pathology and chairman of the department in the University of Pittsburgh School of Medicine, has been awarded the first national Parke-Davis award in experimental pathology for "his original and meritorious work" in the field. He received the $1000 prize and a bronze plaque at the recent meeting of the American Society for Experimental Pathology in Chicago, Ill. The society is the administrator of the award. Dixon won the AAAS Theobald Smith award in 1952.

S. MARSH TENNEY, formerly associate professor of physiology and medicine at the University of Rochester School of Medicine and Dentistry, has been appointed professor of physiology and chairman of the department of physiological science at Dartmouth Medical School. In addition, he is the college's associate dean in charge of research and planning.

ROBERT GOSSELIN, also formerly of Rochester, where he was assistant professor of pharmacology, has been appointed professor of pharmacology at Dartmouth.

PETER HIDNERT, well-known specialist in the field of thermal expansion, retired on 31 Mar. after 45 years of service at the National Bureau of Standards. He has been active in the study and development of low-expanding alloys and thermostatic devices depending on thermal expansion. His studies of the structural changes occurring in metals under varying temperature conditions have been of particular importance in developing high-temperature, high-strength alloys used in jet and rocket engines.

Hidnert joined the NBS staff in 1912 as a laboratory apprentice. He started his work in thermal expansion in 1916 and in 1946 was made chief of the thermal expansion section. Hidnert was awarded his A.B. degree in physics from George Washington University in 1918 and his M.S. degree in 1919. He took his doctorate in physics at American University, where he received his degree in 1931.

DICKINSON W. RICHARDS of Columbia University College of Physicians and Surgeons, who last fall was one of the three winners of the Nobel prize in medicine and physiology, will deliver the fifth annual Dakin memorial lecture at Adelphi College on 8 May.

The new appointments to the staff of the National Science Foundation have been announced: WILLIAM B. COOK will be associated with the Summer Institutes Program in the Division of Scientific Personnel and Education; and ROBERT L. BUTENHOFF has been appointed program director, Scientific Communication Systems, in the Office of Scientific Information.

Cook is on leave of absence from Baylor University, where he has been professor of chemistry since 1953.

Butenhoff will be responsible for coordinating arrangements for United States participation in the Brussels World's Fair—1958. The foundation has been charged with developing and carrying out the American science program to be presented at the fair. Butenhoff has been with the U.S. Atomic Energy Commission since 1949 as chief of the radiation instruments branch of the Division of Biology and Medicine.

I. BERNARD COHEN, associate professor of the history of science and general education at Harvard University, has been awarded the $500 book prize of the Institute of Early American History and Culture. The prize, given annually for the best book published in the field of early American History, will be presented to Cohen on 4 May at the yearly meeting in Williamsburg, Va., of the institute's council. The institute is devoted to research and publication in early American history and is sponsored jointly by the College of William and Mary and Colonial Williamsburg.

Cohen is being honored for his study on *Franklin and Newton, an Inquiry into Speculative Newtonian Experimental Science and Franklin's Work in Electricity as an Example Thereof*. The work was published this year by the American Philosophical Society as volume 43 of its "Memoirs."

CHARLES G. DODD, formerly of Lehigh University, has been named Halliburton professor of petroleum engineering at the University of Oklahoma.

J. FREDERIC WALKER of the DuPont Company's Electrochemicals Department, Niagara Falls, N.Y., has been selected to receive the 1957 Jacob F. Schoellkopf medal of the Western New York Section of the American Chemical Society. He will be honored for his outstanding contributions to the chemistry of formaldehyde. The medal will be presented at the annual Schoellkopf Award Meeting at the Sheraton Brock Hotel, Niagara Falls, Ont., on 14 May.

Sister MARY JOHN, chief pharmacist at Mercy Hospital, Toledo, Ohio, is the recipient of the 1957 Harvey A. K. Whitney award of the Michigan Society of Hospital Pharmacists. She has been chief pharmacist at Mercy for 17 years.

JAMES B. EVANS, bacteriologist with the American Meat Institute Foundation, Chicago, Ill., for the last 9 years, has been appointed chief of the division of bacteriology. In addition, J. WALTER GIFFEE, formerly assistant chief of the radiation preservation branch of the Quartermaster Food and Container Institute, has joined the foundation as chief of the division of hide research.