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