of uranium-235 about 6¾ inches in diameter. The sphere was made up of three sections which were assembled remotely to produce chain reactions in the performance of experiments.

At the time of the accident the assembly was being used as a source of neutrons for the instantaneous irradiation of uranium-loaded graphite. The purpose of the experiment was to determine the behavior of this material after exposure to a sudden wave of neutrons.

The thermal shock which resulted in the damage was caused by a nuclear power surge considerably higher than the expected power level. One of the characteristics of the assembly was that its power operating levels were self-limiting in that the thermal expansion of the assembly resulting from power surges would cause the chain reaction to stop. In the 12 Feb. experiment the power surged to such a level that the thermal expansion exceeded the strength of the uranium metal.

The uranium-loaded graphite which was being irradiated was enveloped in layers of polyethylene. It is believed that in the course of the remote operations, a malfunction of special test equipment for the temporary experiment shifted the polyethylene-encased graphite closer to the critical assembly than was intended. The shift in position caused the polyethylene to reflect neutrons back into the critical assembly. The reflected neutrons increased the chain reaction, resulting in a sudden increase in heat which produced the thermal shock in the uranium.

Because the Godiva was not especially designed for the heavy demands for prompt-burst service irradiations which have been made on it, another unshielded assembly had already been designed which will accommodate either delayed or prompt critical experiments. The new assembly will have a wider range and additional protective features desirable for repeated prompt-burst operations.

Lederle Medical Student Fellowships

The Lederle Laboratories Division of the American Cyanamid Company has anounced that it is making available to medical schools throughout the United States and Canada Lederle medical student research fellowships for the year 1957. These fellowships, in amounts not exceeding $600 per year for any one person, are intended to relieve in part the financial burden of students who desire to devote their summer vacations to research in the basic (preclinical) medical sciences.

Students who apply for the fellowships must be of good scholastic standing and must have the consent of the faculty member under whose supervision their research is to be conducted. The selection of students to receive such awards will be made by the dean of the medical school, or by the regularly constituted committee of the faculty charged with such selections. By special permission of the dean or the fellowship committee of the school, the student may carry on his research in another medical school, provided that satisfactory arrangements are previously made with the faculty member of the school and the department in which the work is to be done.

Resistance of Cells to Viruses

A new substance that may shed light on the susceptibility and resistance of cells to viruses has been isolated and identified by Guy T. Barry and Walther F. Goebel of the Rockefeller Institute for Medical Research, New York, who have reported their work in a recent issue of *Nature*. The chemical, colominic acid, was found in a strain of colon bacillus. This is the first time that an acid of this type has been discovered in bacterial cells.

Colominic acid is a new type of acidic carbohydrate. It is quite unlike any carbohydrate previously obtained from bacterial sources in that it is very rich in a substance resembling sialic acid, which has been of special interest in recent years. When combined in its native state with protein and other sugars, the sialic acid-containing complex interferes with the adherence of certain viruses, such as the influenza virus, to living cells.

Merit Scholarship Corporation

The first annual report of the National Merit Scholarship Corporation has just been released, covering the year ending 30 June 1956. The NMSC is, in the words of the report:

"An independent nonprofit organization, combining the largest independently supported scholarship program ever undertaken, together with a mechanism designed to assist business enterprises which are contemplating aid to education.

"The Ford Foundation and the Carnegie Corporation of New York have undertaken to finance the activity for a ten-year period by grants totaling $2,500,000 for its administrative expenses. For a basic continuing scholarship program the Ford Foundation has appropriated $10,000,000, payable at the rate of $1,000,000 a year for ten years, and is prepared to finance additional scholarships up to a total of $8,000,000 to match scholarships which may be contributed from industry.

"The major underlying purposes of these grants are twofold: to discover throughout the country the ablest youth and to make it possible for these talented young people to get a college education regardless of their financial situation; and to make it easier for business enterprises and other organizations to contribute effectively to the support of higher education by the scholarship route.

"A further purpose is to provide, in one organization, a single national talent search and an open-ended flexible scholarship program that will reduce wasteful duplication of operation, and will, at the same time, meet the interests and purposes of the donors."

In the first year of operation 58,158 students took the examination. They were selected by school principals from the top 5 percent of their class. In addition to this method of selection, in 1957 any high-school senior may take the scholarship examination by paying a nominal fee of $1. Some 5078 finalists were selected from the 58,158. Although "every one of these finalists would have been granted a Merit Scholarship had funds been available (they were among the top two percent of the nation's finest high school students)," 556 winners were selected by a special committee.

Merit scholarships are for 4-year programs, available to seniors in all secondary schools, made on a competitive basis, state by state proportionately to the senior-high-school population. The recipient of the award may attend any accredited institution of his choice, and the stipends vary from $100 up to the full amount of tuition and expenses, depending on the individual's need. In addition, a certificate of merit was awarded to more than 4000 finalists, and a booklet listing their names was sent to all colleges and universities and to scholarship-granting agencies. "In many instances, these certificates of merit winners received offers of scholarships from one or more institutions and have written to say that, in their opinion, these offers were largely due to our award of a certificate of merit."

Funds (up to $8 million) are available to match, dollar for dollar, any merit scholarship provided from other sources. All the sponsor's investment goes directly to scholarships, and, further, this investment releases a matching sum. The program expenses are borne by NMSC. "The sponsor is relieved of any embarrassments growing out of the selection of students and the selection of institutions, although the sponsor may, if he wishes, select his Merit Scholar from the large group of highly qualified finalists." In addition the sponsors may specify characteristics in which they are inter-

ested: type of curriculum, geographical area, vocational goal, sex, and so forth. During the first year some sponsors specified scholars who proposed to study science or engineering. About 11 percent of the scholarships were restricted to students planning to study science or engineering; more than half of the merit scholars intend to enter such fields.

Sponsors will be given as much publicity as they desire with regard to their individual program and are assured of having their names scrupulously associated with all payments to the scholar and to the college. Some sponsors wish primarily to help the colleges—almost half of the contribution from the sponsor goes to the private college as an unrestricted gift, in the name of the sponsor.

The 1956 annual report provides complete information on the background of participants, institutions attended by merit scholars, distribution of stipends, career choices of scholars, list of corporation sponsors, and so forth. Some 36 firms are already participating in the activities of NMSC and other firms who are interested in helping to provide scholarship funds to worthy students are invited to confer with the National Merit Scholarship Corporation, 1580 Sherman Ave., Evanston, Ill.

Lalor Faculty Awards in Biology

The principal award of the Lalor Foundation for the summer of 1957 is to Olov Lindberg of the Wenner-Gren Institute of Stockholm, Sweden, who has accepted the invitation of the Marine Biological Laboratory at Woods Hole, Mass., to be the senior Lalor fellow there. One Canadian, two Englishmen, one German, and one New Zealander have also received awards for biological research at institutions in the United States; and one Canadian and five United States citizens will be working similarly, part or full time, in other countries.

The other 30 faculty summer biology research awards go to 13 United States citizens who will be working at their home institutions, and 17 who will be carrying out their programs elsewhere in this country. In connection with the latter group, there are 12 research people who have been accepted for work at the Marine Biological Laboratory at Woods Hole, this being the largest number at any one institution.

The appointments cover a wide range of biological interest: there are 14 awards in biochemistry, nine in botany, five in microbiology, and 13 in physiology. The awards total approximately $49,000.

The appointments to the regular summer research awards all have been to faculty members at the instructor, assistant professor, or associate professor level. The distribution of appointments shows 16 percent from tax-supported institutions and 84 percent from privately supported universities and colleges. This contrasts with the previous year, when the appointments were nearly evenly divided.

Allergy Fellowships

The American Foundation for Allergic Diseases has announced the availability of three 2-year fellowships in research and clinical allergy. These awards carry a stipend of $4500 for the first year, $4750 for the second, and a total of $750 for laboratory and travel expenses during the 2-year period. The funds for these fellowships have been made available by John D. Rockefeller, Jr., in a grant to the foundation.

It is the hope of the foundation that the recipients will be stimulated to enter the field of research in allergy and will be equipped to teach others. Unlike the usual procedure, the foundation has established single fellowships with three investigators eminently qualified to teach the principles and techniques of scientific method in this field and in institutions where adequate clinical facilities exist. Applicants should apply directly *by 10 May* to one of the following investigators, who will make the final selection: Dr. Frederick G. Germuth, Jr., Associate Professor of Pathology, Johns Hopkins University Medical School, Baltimore 5, Md.; Dr. Colin M. MacLeod, Professor of Research Medicine, University of Pennsylvania, 820 Maloney Clinic, 36th and Spruce Streets, Philadelphia 4, Pa.; or Dr. Herman N. Eisen, Professor of Medicine (Dermatology) Washington University School of Medicine, Saint Louis, Mo.

Waterman Renominated NSF Head

Alan T. Waterman has been renominated by President Eisenhower for a second 6-year term as director of the National Science Foundation. Waterman's name was sent to the Senate for confirmation on 1 Apr. He was sworn in as first director of NSF on 6 Apr. 1951.

Reactor Exports

The U.S. Atomic Energy Commission has filed notice of proposed issuance of licenses for the export of two research reactors to the Danish Atomic Energy Commission. Applications for the licenses have been filed by the Foster Wheeler Corporation of New York and Loretz and Company of Los Angeles, Calif. Both reactors will go to the nuclear research center being developed by the Danish Government near Roskilde, about 20 miles west of Copenhagen.

Foster Wheeler plans to ship a 5000-kilowatt tank-type reactor. Loretz and Company will send a solution-type reactor, built by Atomics International of Canoga Park, Calif., that operates at a power level of 500 watts.

The AEC has also announced that it has issued a license to AMF Atomics, Inc., of New York for the export of a research reactor to West Germany.

Detectolab, Inc.

Detectolab, Inc., formerly a Chicago, Ill., affiliate of the Borg-Warner Corporation, has been consolidated into BJ Electronics, Borg-Warner's electronics division in Santa Ana, Calif. Detectolab manufactures four major types of nuclear instruments. Ray Weiland, one of the original founders of Detectolab, Inc., will serve as Detectolab product manager at BJ Electronics.

French Scientific Bibliographies

The French Cultural Services will publish bibliographies of French scientific works. The first, which covers the years 1951–53, is now available and will be distributed free of charge.

Proposed Legislation

Of the many bills introduced in Congress, some have a special relevance to science and education. A list of such bills introduced recently follows:

S 724. Provide for scientific study and research program for purpose of developing increased and additional industrial uses of agricultural products to reduce surpluses of such products and to increase income of farmers. Capehart (R Ind.) *et al.* Senate Agriculture and Forestry.

HR 3374. Encourage expansion of teaching and research in education of mentally retarded children through grants to institutions of higher learning and to state educational agencies. Cunningham (R Iowa) House Education and Labor.

HR 3485. Amend Public Health Service Act to provide for research and investigation *re* cause, prevention, and treatment of multiple sclerosis and related neurological diseases. Hoeven (R Iowa). House Interstate and Foreign Commerce.

HR 3516. Authorize Walter Reed Army Institute of Research to award