research and teaching facilities of the Florsheim Cardiac Clinic, which was established in 1938. The clinic will move into larger quarters that will provide additional laboratories, examination and treatment rooms, and provisions for nursing care and social service. It will be on the third floor of the Montgomery Ward Memorial Building at Northwestern University Medical Center in Chicago.

Necrology

ISAAC A. ABT, Chicago, Ill.; 87; professor emeritus of pediatrics at the Northwestern University Medical School, Chicago, Ill.; 22 Nov.

ANDREW J. AKELAITIS, Pelham, N.Y.; 51; assistant professor of neurology at the Cornell University Medical College, New York; 24 Nov.

WILLIAM L. BRYAN, Bloomington, Ind.; 95; psychologist; president emeritus of Indiana University; 21 Nov.

CLEMENTS C. FRY, New Haven, Conn.; 63; psychiatrist in charge of the department of university health, Yale University, and lecturer in psychiatry and mental health; 24 Nov.

MAUDE GLASGOW, New York; 87; retired physician who lectured at Teachers College, Columbia University, New York; 20 Nov.

RICHARD L. HARRIS, Montrose, N.Y.; 59; assistant professor of clinical psychiatry at the Cornell University Medical School, New York; 23 Nov.

THOMAS C. MCBRIDE, Bryn Mawr, Pa.; 87; retired mechanical engineer; 24 Nov.

RUSH F. NEWCOMB, New Providence, N.J.; 77; retired electrical engineer, former treasurer of Bell Telephone Laboratories, Murray Hill, N. J.; 26 Nov.

MALCOLM PROUDFOOT, Oxford, England; 48; associate professor of geography at Northwestern University, Evanston, Ill.; 21 Nov.

LASZLO REINER, Verona, N.J.; 61; research associate at the Institute of Cancer Research, Columbia University, New York; 27 Nov.

HAROLD R. SANSTEAD, Silver Spring, Md.; 54; staff member of the Laboratory of Biochemistry and Nutrition at the National Institute of Arthritis and Metabolic Diseases; acting executive director of the Interdepartmental Committee on Nutrition for National Defense; 1 Nov.

WILLIAM B. SWARTLEY, Philadelphia, Pa.; 71; instructor in anatomy at Jefferson Medical College for 28 years; former director of surgery at Germantown Hospital and chief of surgery at Chestnut Hill Hospital and Philadelphia Hospital for Contagious Diseases; 15 Nov.

JEAN P. WASSERMAN, Basel, Switzerland; 82; expert on alloys; 20 Nov.

Education

■ High-school students will have an opportunity to learn about careers in physics through a series of lecture-demonstrations in Chicago that are patterned on the Christmas Juvenile Lectures that have been given every year since 1826, except for a short period during World War II, at The Royal Institution of Great Britain in London. The lectures, which were instituted by Michael Faraday, are delivered during the holiday season. The new series in Chicago has been planned by the Chicago High School Physics Teachers Association in cooperation with the Physics Club of Chicago and four Chicago-area colleges and universities: Illinois Institute of Technology, the University of Chicago, Northwestern University, and the University of Illinois at Navy Pier.

The first lecture is titled "Fire magic" and will be presented by Llewellyn Heard, a chemist for the Standard Oil Company of Indiana. It will be delivered on 21 Dec. at Illinois Institute of Technology. Instead of 1 week of daily lectures as during Faraday's time, physics educators hope to establish two or three regular programs each semester.

■ The George B. Pegram Laboratory, containing a 6-Mev generator for nuclear research, was dedicated last month at Columbia University. Construction of the laboratory began the first of this year. It has been completed at a cost of about $400,000. The Van de Graff generator, which cost $450,000 installed, was lent by the Atomic Energy Commission. The commission also contributed $295,000 to the construction cost of the building.

The laboratory is named for Pegram, an atomic physicist who is now vice president emeritus of Columbia and a special adviser to the president of the university. He was chairman of the Columbia University Committee on War Research from 1941 to 1945, and was a key figure in the establishment of the Atomic Energy Commission's Manhattan District.

■ A 4-week pilot course for training military veterinary laboratory officers in methods of detecting radioactivity in food and in food radioassay procedures will begin on 9 Jan. 1956 at the Walter Reed Army Institute of Research. The course will be open only to laboratory officers who have completed the veterinary radiological health course at the Institute of Nuclear Studies, Oak Ridge, Tenn.

The basic training for the new course will be given by the Walter Reed biophysics department; the Veterinary Division will be responsible for the applied techniques. Additional courses in food radioassay instruction will be given from time to time, but no date has been set for a second class.

■ Through a modernization of curriculums and facilities, the University of Pennsylvania has announced that it is able to accommodate 50 percent more engineering students than are now enrolled. The decision to increase enrollments comes during the celebration of the centennial year of the engineering program. About 1200 students are enrolled in the university's schools of chemical, civil, mechanical, and metallurgical engineering and its Moore School of Electrical Engineering.

Carl C. Chambers, vice president for engineering affairs, said that a combination of circumstances had given the university's five engineering schools the capacity to educate more students without impairing academic standards. He cited these factors:

In the modernization of curriculums, more emphasis has been placed on analytic studies and the humanities and less on shopwork and drafting; this makes certain facilities available to more users.

Completion last year of the university's new physical sciences building has enabled the physics and mathematics departments to teach those required subjects to more engineering students.

Fuller use is being made of other buildings and facilities beyond the normal classroom day, especially through an expanded evening program for graduate students.

Growth of the university's engineering research has drawn to the campus many highly qualified scientists who are available for teaching as well as for research.

Grants, Fellowships, and Awards

■ To help offset the dangerous cutback in science teaching at the secondary level, Shell Companies Foundation, Inc. has announced a program of recognition fellowships for high-school teachers of science and mathematics. Through the program, worked out with the cooperation of leading educational associations, Shell will underwrite summer seminars at Stanford and Cornell universities for 60 teachers yearly. The fellowship recipients, chosen on the basis of merit and demonstrated leadership qualities, will receive travel allowances, all tuition and fees, living expenses on the university campus, and $500 in cash to make up for the loss of potential summer earnings.

Basically, the program, to be known as the Shell Merit Fellowships for High School Science and Mathematics Teach-

ers, seeks to inspire those science teachers who in turn can best inspire the scientists and science teachers of tomorrow.

Last year, according to surveys, American colleges turned out 57 percent fewer mathematics teachers than in 1950. Because of the acute science teacher shortage, more than half the high schools in the country now have *no* classes in physics or chemistry.

Since 1900, the percentage of students studying algebra in the high schools has fallen from 56 to 24 percent; the percentage of geometry students has dropped from 27 to 11 percent. Today, only 4.3 percent study physics—as against 19 percent some 55 years ago.

Stanford and Cornell were selected by Shell because of their outstanding science and education departments and their active role in trying to remedy the science teacher shortage. The fellowships are particularly designed for the able, experienced teachers who ordinarily might seek remunerative summer employment outside the school system. The intensive seminar programs will include graduate-level classes, lectures by outstanding scientists, and visits to modern industrial installations and research laboratories.

Mathematics, physics, or chemistry teachers with 5 years of experience and known leadership ability will be eligible for the fellowships. Thirty teachers from west of the Mississippi River will attend the 8-week Stanford program, which will be administered by the School of Education. Thirty teachers from east of the Mississippi will be invited to a similar 6-week series of courses at Cornell.

In addition to teachers, also eligible are present heads of departments or supervisors with good background in mathematics, chemistry, or physics who previously were teachers. Final selection of the candidates will be the full responsibility of Stanford and Cornell.

■ Fellowships in systems engineering for the academic year 1956–57 have been announced by the Ramo-Wooldridge Corporation in cooperation with California Institute of Technology and Massachusetts Institute of Technology. The program for each fellow covers a 12-month period and will provide the recipient with an opportunity to pursue a broad course of fundamental study as well as an opportunity to work with practicing engineers and physicists in the field of systems engineering.

The emphasis on systems engineering, which may also include the techniques and practice of operations research, is a reflection of the growing need in industry for individuals trained to solve advanced design problems involving the complex relationship between electrical, mechanical, aeronautical, and chemical portions of complete systems.

The award winners will be expected to begin the year's program in July 1956 with 8 to 10 weeks of advanced development work at Ramo-Wooldridge. The remainder of the time will be spent at C.I.T. or M.I.T. on work toward the doctor's degree or in postdoctoral study.

Each fellow will receive a cash award of $2000 or more, depending on his family responsibilities, in addition to a salary of about $2000 for summer and part-time work at Ramo-Wooldridge. A grant of $2100 for each fellowship will go to the institute involved to cover tuition and research expenses.

A candidate must be an American citizen whose qualifications and background will admit him to the graduate school of either C.I.T. or M.I.T. and who has completed 1 year of graduate study in mathematics, engineering, or science, before the beginning date of the fellowship.

Application may be obtained by writing to the Ramo-Wooldridge Fellowship Committee, Ramo-Wooldridge Corporation, 8820 Bellanca Ave., Los Angeles 45, Calif. Completed applications, together with reference forms and a transcript of courses and grades, must be received *not later than 20 Jan. 1956.*

■ Muscular Dystrophy Associations of America, Inc., New York, recently allocated $175,642 for six new projects to study muscular dystrophy and for continuation of 13 other research projects. This brings the number of current research projects to a total of more than 70. Some 200,000 Americans suffer from this disease, most of them children.

■ The Stewart-Warner Corporation, Chicago, Ill., has established four 4-year engineering scholarships, three in mechanical engineering and one in electrical engineering, to be awarded to deserving high school graduates of exceptional ability through the National Merit Scholarship Corporation scholarship award program [*Science* **122,** 508 (16 Sept. 1955)]. Stewart-Warner is the third organization to announce participation in the new program by establishing specific scholarships.

Previous scholarship contributors have been the Sears-Roebuck Foundation and Time, Inc. Stewart-Warner's action will release matching funds from the working funds of National Merit Scholarship Corporation for four additional scholarships.

■ The National Academy of Sciences–National Research Council has announced the continued availability of grants-in-aid for research on sex problems. The NAS–NRC Division of Medical Sciences is responsible for the administration of the grants, which are awarded on recommendation of its Committee for Research in Problems of Sex. Funds for the support of this program are provided by the Rockefeller Foundation. The committee welcomes the cooperation of universities and research institutions in making these opportunities known to members of their staffs.

Applications for grants for the fiscal year 1956–57 must be postmarked *on or before 1 Feb. 1956.* Preliminary correspondence regarding research projects should be addressed to the Committee for Research in Problems of Sex, Division of Medical Sciences, National Academy of Sciences–National Research Council, 2101 Constitution Ave., N.W., Washington 25, D.C.

■ The Carnegie Institute of Technology has announced the availability of teaching assistantships, graduate fellowships, and research assistantships for 1956–57 in the College of Engineering and Science. It is suggested that candidates write for application forms and information at an early date.

Applications, together with transcripts of record and other supporting evidence, should be submitted soon, preferably *not later than 1 Feb. 1956.* However, applications from well-qualified candidates will be considered even if they are received at a later date. Address all inquiries to Dean of Graduate Studies, Carnegie Institute of Technology, Pittsburgh 13, Pa.

■ Establishment by Chas. Pfizer and Company, Inc., Brooklyn, N.Y., of a $4500 postdoctoral fellowship in microbiology at the Institute of Microbiology at Rutgers University has been announced jointly by Pfizer and Rutgers. The new grant will be known as the Pfizer Post-Doctoral Fellowship in Microbiology. It will become effective on 1 Jan. 1956. The recipient is to be selected by the fellowship committee of the Rutgers Graduate School recommendation of Selman Waksman, director of the Institute of Microbiology.

In the Laboratories

■ Fairchild Camera and Instrument Corporation, Syosset, N.Y., has established a nuclear instrumentation department headed by Harold Eugene DeBolt, nucleonics expert. DeBolt was formerly associated with the nuclear power division of the Navy's Bureau of Ships and the Naval Reactor Branch of the Reactor Development Division of the Atomic Energy Commission.

Products under consideration for development and manufacture include radiation monitoring equipment, control-rod drive mechanisms for reactors, neutron