So little is known about the actual performance of this radical design that elaborate safety precautions are being employed in the pretest preparations. A two-mile railroad track will carry the reactor from the engineering center to the instruments that will test its performance. It will then be returned to the engineering center for further examination.

As an additional safety precaution, the test center itself is laid out in the form of a triangle, with the test bunker, the engineering center, and the control center placed at the three angles. A distance of two miles separates each unit from the adjacent units.

Radioactivity Catalog

A world-wide search has been launched to locate at least 2000 persons who were exposed to radium poisoning during the period 1920–1930.

A program initiated by the Massachusetts Institute of Technology looks toward the establishment of a central catalog agency which would serve as a major source of information on the effects of radioelements in the body. The search is primarily directed toward locating persons who were exposed to radium either in connection with their work (for example, the painting of luminous watch dials) or as a part of medical treatment.

The central catalog, to be set up at the Radioactivity Center of the institute, will record information on persons who have carried radioactive material in their bodies for a generation or more. All physicians have been requested to aid in the search, which is being conducted with the cooperation of the division of biology and medicine of the Atomic Energy Commission.

Uranium Isotopic Standards

The National Bureau of Standards, in cooperation with the Atomic Energy Commission, has prepared the first of a series of uranium isotopic standards for use by educational and research institutions and industry in the United States and abroad. Ten standard uranium isotopic samples became available from the bureau on 1 October 1958. Five additional uranium standards are in preparation to complete a series of fifteen.

Standards for other atomic energy materials such as plutonium and thorium will be made available under a continuing program intended to provide materials of known certified composition which will be universally acceptable as analytical standards.

Order forms for domestic use (AEC contractors and licensees) may be obtained from the National Bureau of Standards, Washington 25, D.C. Orders from foreign sources should be submitted to the Division of International Affairs, U.S. Atomic Energy Commission, Washington 25, D.C.

New Detector for Infrared Radiation

Scientists at the Westinghouse Research Laboratories have developed a new infrared detector. The device, so sensitive that it can respond to less than 0.05×10^{-9} watt of infrared (heat) radiation, was developed by Max Garbuny, J. R. Hansen, and T. P. Vogl, in consultation with Henry Levinstein of Syracuse University.

Every object above the absolute zero temperature of outer space emits infrared radiation, which is generated inside the molecules of a material as a result of their own thermal motion. The higher the temperature, the faster the molecules move, and the more energetic and shorter in wavelength is the infrared radiation emitted by the body. The infrared wavelengths lie between the wavelengths of visible light and microwaves.

The function of an infrared detector is to convert infrared radiation into electrical signals that can be amplified and seen. It is the "heart," as well as the most critical component, of complete infrared systems, which are assuming ever-increasing importance in a variety of scientific and military tasks. These systems are used for guiding missiles to a target, for detecting missiles and fast-flying aircraft, for making "heat pictures" of the ground in the complete absence of light, for studying the radiation from stars and other celestial bodies, and for a variety of similar purposes. The detector is potentially very useful in medical research, astronomy, exact scientific experimentation and industrial control.

Since the sensitivity and frequency response of a photoconductive infrared detector are increased by operating it at low temperatures, the new detector is cooled to a temperature of $-320°F$ by surrounding it with liquid nitrogen in a special container.

Grants, Fellowships, and Awards

Mathematics. The School of Mathematics of the Institute for Advanced Study will allocate a small number of grants-in-aid to gifted young mathematicians and theoretical physicists to enable them to study and to do research work at Princeton during the academic year 1959–60. Candidates must have given evidence of ability in research comparable at least with that expected for the degree of doctor of philosophy. Blanks for application may be obtained from the School of Mathematics, Institute for Advanced Study, Princeton, N.J., and are returnable by *1 January 1959.*

Medicine and dentistry. The University of Rochester has established a program of postdoctoral fellowships to be awarded graduates of approved medical schools to enable them to pursue research in any of the departments of the School of Medicine and Dentistry. The Buswell fellowships are intended to assist well-qualified doctors of medicine to prepare adequately for academic careers. Junior fellowships will be awarded to medical graduates who have completed at least 1 year of internship or equivalent training. Research experience is not required but will be of advantage. Research interest and promise are essential. Stipends range from $4500 to $6000 per year. Senior fellowships will be awarded to medical graduates who have held a junior fellowship for 2 or 3 years or have had comparable experience in medical research and wish to continue in an academic career. Stipends range from $5500 to $8000 per year.

Applications for Buswell fellowships will be received at any time. Additional information and application forms may be obtained from Dr. L. E. Young, Chairman, Committee on Buswell Fellowships, University of Rochester Medical Center, 260 Crittenden Boulevard, Rochester 20, N.Y.

News Briefs

A major oceanographic research program for the Indian Ocean is being prepared by the Special Committee on Oceanographic Research of the International Council of Scientific Unions. The study, to take place during the period 1961–62, will be an international effort with scientists from the United States, the Soviet Union, the countries bordering the Indian Ocean, and others participating. Among the problems to be studied will be the mass mortality of fish, the ocean's floor, and the effect of monsoon winds on the currents and layers of the ocean. A fleet of at least 16 research ships is expected to be used in the program. A total cost of $4 million is the current estimate for the year-long program.

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The more than 600 technical papers presented by American nuclear scientists at the second International United Nations Conference on Peaceful Uses of Atomic Energy held in Geneva 1–13 September have been published by the Atomic Energy Commission and are for sale by the Office of Technical Services.

U.S. Department of Commerce, Washington 25, D.C. A list of the papers may be obtained from OTS for 25 cents.

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The name of the University of Pennsylvania's School of Auxiliary Medical Services has been changed to the School of Allied Medical Professions. The academic programs at the school offer bachelor of science degrees in physical therapy, occupational therapy, oral hygiene, and medical technology. The school also offers certificates in physical therapy and occupational therapy to graduate students who have received their bachelor's degrees.

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In an Air Force demonstration last month a Bomarc missile "destroyed" a 1000-mile-an-hour target missile. Although both missiles were launched at the Cape Canaveral test center, the Bomarc was under fire control by a SAGE air defense network center at Kingston, N.Y., 1500 miles away. The target missile was flying 75 miles away from the test center at an altitude of 4800 feet. The "knock-down" was simulated—recorded by an instrument—and the target missile later crashed near the cape landing strip.

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The National Science Foundation has announced that 642 grants totaling $12,162,513 were awarded during the quarter ending 30 June 1958 for the support of basic research in the sciences, for conferences in support of science, for exchange of scientific information, and for training of science teachers. This is the fourth group of awards to be made during fiscal year 1958. During the first three quarters, awards totaled approximately $25.2 million.

Scientists in the News

Sir RUDOLPH PETERS, a biochemist of Babraham College, Cambridge University, was elected president of the International Council of Scientific Unions at the closing meeting of that body's general assembly in Washington. W. A. ENGLEHARDT of the Academy of Sciences of the U.S.S.R. and PERE LEJAY of France were elected vice presidents. NICOLAI HERLOFSON of the Royal Institute of Technology, Stockholm, Sweden, became secretary-general, and E. HERBAYS of Belgium was reelected treasurer.

The American Institute of Electrical Engineers' Medal in Electrical Engineering has been awarded to J. F. CALVERT of the University of Pittsburgh, "in recognition of his distinguished service as a teacher of electrical engineering and as evidence of the high esteem in which his contributions are held by his fellow members of the American Institute of Electrical Engineers." Calvert, who is head of his university's electrical engineering department, will be presented the medal on 27 October during the opening session of the institute's 5-day fall general meeting at Pittsburgh.

The four winners of the American Heart Association's 1958 Howard W. Blakeslee Awards are as follows:

EUGENE J. TAYLOR, science writer, the *New York Times,* for a series of four articles which explained the nature and effects of cerebrovascular accidents, or strokes. The articles were published 28 through 30 November 1957.

LEE GEIST, management editor, *Business Week,* for his article, "Must Cardiacs Go on the Shelf?," which surveyed the attitudes of business and the medical profession regarding the employment of persons who have suffered a heart attack. The article was published on 8 June 1957.

"Hemo the Magnificent," television film, illustrating the function of the heart and the circulation of the blood, produced by Frank Capra as one of the Bell System Science Series and broadcast over the CBS–TV network on 20 March 1957.

"Stroke," a live-television program broadcast on 27 April 1957 which showed how stroke victims can be helped by early rehabilitation in the hospital and in the home. The program was part of the "Medical Horizons" series sponsored by Ciba Pharmaceutical Products, Inc.

JAMES J. STOKER, JR., associate director of New York University's Institute of Mathematical Sciences, has been named director of the institute. He succeeds RICHARD COURANT, who retired on 31 August. Courant is now professor emeritus of mathematics and science adviser to the university.

Scientific visitors to the United States from the United Kingdom include the following.

R. GOLDSMITH, a member of the Medical Research Council's scientific staff at the National Institute for Medical Research, Division of Human Physiology, London, is spending 6 to 8 weeks (which began early in September) in the department of pathobiology, Johns Hopkins University. Following his visit there, he will join a research party that is to be sent to the Antarctic for about 7 months.

D. W. GREEN, member of the Medical Research Council's external staff at Davy Faraday Research Laboratory, Royal Institution, London, will spend a year with Rich at the Massachusetts Institute of Technology.

J. MANDELSTAM of the bacterial physiology division, National Institute for Medical Research, London, has been granted leave of absence for a year to take up a research fellowship in the department of bacteriology at the Harvard Medical School from 1 October till 31 January 1959, and to work with Holvorson at the University of Wisconsin from 1 February till 30 September 1959.

ROBERT E. WOODSON, JR., professor of botany at Washington University, has been appointed curator of the herbarium of the Missouri Botanical Garden.

HENRY W. RIECKEN, JR., professor of sociology at the University of Minnesota, has been appointed program director for social science research at the National Science Foundation. He replaces HARRY ALPERT, who has accepted a position as dean of the Graduate School, University of Oregon.

JOSEPH SIMON, formerly of the University of Wisconsin, has been appointed associate research professor in the Cancer Research Laboratory of the University of Florida. He is in charge of the section on experimental pathology.

JOHN S. HALL became director of the Lowell Observatory on 1 September. For the past 10 years Hall was director of the Astrometry and Astrophysics Division of the U.S. Naval Observatory.

CLAUDE E. SHANNON has been appointed to be the first Donner professor of science at Massachusetts Institute of Technology. The chair was established recently with a grant of $500,000 from the Donner Foundation of Philadelphia.

JOHN L. FULLER, senior staff scientist at the Roscoe B. Jackson Memorial Laboratory, has been appointed assistant director for training at that institution. Effective 1 October, Fuller will direct all educational programs at the Jackson Memorial Laboratory. These include training courses for students at all levels, from precollege through postdoctoral grade.

ELWOOD R. QUESADA, lieutenant general, U.S. Air Force (ret.), has been appointed by President Eisenhower to head the newly established Federal Aviation Agency. He had been the President's special assistant on aviation matters.

E. LENDELL COCKRUM, associate professor of zoology at the University of Arizona, has been appointed research associate in the department of mammals of the American Museum of Natural History in New York.