the neutrons produced by thermonuclear processes from those arising from other processes that are of no particular interest for controlled thermonuclear reactions. Since all neutrons are similar, their mode of origin has to be established by elaborate experiments. Such experiments are in progress in both countries.

Reports at the meeting in Princeton on the temperatures reached in the controlled thermonuclear experiments suggest that neutrons from thermonuclear reactions have been achieved, but more experimental work will be necessary to establish this as a fact. Realization of the objective of producing thermonuclear neutrons, if definitely established, would be an important step in the long-range effort to develop thermonuclear reactors for the production of economic power.

Development of Food Irradiation Reactor Suspended

The Atomic Energy Commission has suspended activities directed toward the design and construction of the Food Irradiation Reactor (FIR) and will terminate its contract with Kaiser Engineers, Oakland, Calif., for development work on this project. The reactor was being developed for use by the Army Quartermaster Corps in food irradiation experiments and other projects at the U.S. Army Ionizing Radiation Center, to be built at Stockton, Calif.

The Department of Defense has recently indicated an interest in the investigation of alternative sources of gamma irradiation, such as long-lived radioisotopes or spent reactor fuel elements. Pending the results of this investigation, the commission has suspended development work on the FIR.

Scripps Institution's Downwind Expedition

Two ships from the University of California's Scripps Institution of Oceanography have sailed on a 4½-month voyage to conduct studies in connection with the International Geophysical Year. The trip, called the Downwind Expedition, will take the research vessels *Horizon* and *Spencer F. Baird* to the southeast Pacific Ocean, scientifically one of the least known areas in the world. Henry W. Menard, Jr., associate professor of geology at the Scripps Institution, is scientific leader of the expedition, whose ports of call will include Tahiti; Pitcairn Island, settled by the *Bounty* mutineers; Robinson Crusoe's island, Juan Fernandez, off the coast of Chili; the South American ports of Valparaiso, Chile, and Callao, Peru; and Easter Island, noted for its mysterious stone statues.

However, only a few days will be spent in port, for the primary purpose of the expedition is to study how the deep waters of the ocean move. Practically nothing is known about deep currents because it is difficult and expensive to make measurements below the sea's surface, and effective methods have only recently been developed. In fact, so little is known about the circulation of the deep ocean water that nobody knows whether it takes 100 years or 10,000 for this water to travel from the Antarctic to the Equator and back again.

The expedition will also provide data for other IGY studies in the course of the more than 38,000-mile voyage. Twenty-five seismic stations will be occupied as part of the IGY seismological program. Samples for radiocarbon analysis of ocean waters will be taken from five locations. Such samples "date" ocean water. Air and water samples will be collected for analysis of carbon dioxide content.

In addition, the expedition's scientists will make a profile of the ocean floor along the line of 130° west longitude from the latitude of San Diego, Calif., to approximately 50° south. Several dredge hauls will be made to collect samples that will help determine the mineral resources of the sea floor. The atolls of the Tuamotu Archipelago will be studied.

One of the primary projects of the voyage will be investigation of the broad rises in the southeastern Pacific. Such rises are characteristic of all the oceans except the North Pacific, where most of the Scripps expeditions have been conducted. Surveys will also be made of the narrow, deep South American Trench just off the coast of Chile and Peru. The slope from the bottom of this trench to the crests of the adjacent Andes is the steepest in the world.

Scientists interested in joining the expedition at Valparaiso or Callao, or in having special observations or collections made, should communicate with Dr. Roger Revelle, University of California, Scripps Institution of Oceanography, La Jolla, Calif.

Golden Anniversary of the Pasteur Institute in India

This year marks the 50th anniversary of the Pasteur Institute in Kasauli, India. A souvenir volume published to celebrate the golden jubilee contains a tribute by its present director, N. Veeraraghaven, to the men who have guided the organization's development over the past half-century. Another section of the commemorative volume is devoted to a description of the institute's research activities, which have included significant work in the following areas: rabies, influenza, *Q*-fever, cholera, typhoid fever, diphtheria, fusospirochaetosis, serology of syphilis, tropical eosinophilia, malaria, leishmaniasis, venoms, and entomology.

Changes in vaccine for rabies and methods of production over the years are briefly described, and especial reference is made to the painstaking record-keeping, instituted by the first director and still maintained, of the history of hundreds of patients bitten by rabid animals, but untreated, considered in parallel with the results of treatment of persons bitten by the same animals. This continuing investigation is considered to be a unique record.

The last section is the scientific report of the institute for the year 1956. It describes an experimental evaluation of recent advances in antirabies treatment, an assessment of the value of 5 percent simple vaccine in human treatment, and studies on the cultivation of the rabies virus *in vitro*.

Postdoctoral Research Associateships

The National Academy of Sciences–National Research Council has announced that Postdoctoral Resident Research Associateships again will be offered for 1958–59 by the Argonne National Laboratory, the National Bureau of Standards, the Naval Research Laboratory, and the Oak Ridge National Laboratory. The associateships are tenable at the Argonne National Laboratory in Lemont, Ill.; at the Washington, D.C., and Denver, Colo., laboratories of the National Bureau of Standards; at the Naval Research Laboratory in Washington, D.C.; and at the Oak Ridge National Laboratory in Oak Ridge, Tenn.

These associateships have been established to provide young scientists of unusual ability with an opportunity for advanced training in basic research in the general areas of the biological, physical, and mathematical sciences. In addition, research associateships in visual psychophysics and engineering psychology are also available.

Applicants must be citizens of the United States. They also must produce evidence of training, in one of the listed fields, equivalent to that represented by the Ph.D. or Sc.D. degree and must have demonstrated superior ability for creative research. The stipend for these associateships is $7035 a year.

Application materials may be secured by writing to Fellowship Office, National Academy of Sciences–National Research