

The reactor has a variety of potential uses in addition to its principal role as an aid in the testing of shields, according to the AEC. It can enable students and other investigators to perform critical experiments, study neutron distribution and, within limits, study the effects on reactor operation of various patterns of arrangement of the fuel elements. Operated at full power, the reactor has a flux high enough to make long irradiation periods unnecessary for most experiments. With the neutrons it provides, studies can be made of short-life beta and gamma radiation, and since a neutron beam can be collimated with ease, equipment for neutron diffraction research can also be used.

E. P. Blizard and C. E. Clifford of ORNL initiated the project for operating a radiation source under water. William M. Breazeale directed the design work, done by ORNL personnel, and the construction. The reactor and its equipment were built in laboratory shops, and the facility is now operated by J. L. Meem and his co-workers in the physics division shielding group. The laboratory is operated for the AEC by the Carbide and Carbon Chemicals Company.

Radiation Engineering

Laboratory Established at Stanford

Stanford Research Institute has announced the creation of a new radiation engineering laboratory which will be part of the Institute's applied physics department. The establishment will include laboratories for high, medium, and low levels of radioactivity for isotope experiments, a general purpose pilot plant, counting rooms, dark rooms, and other required facilities. Arrangements were completed some months ago for obtaining a 5000-curie source of cobalt-60, a gamma-ray emitter, from Brookhaven National Laboratory. The new laboratory will be concerned primarily with developing safe and practical systems in which large amounts of radioactivity will be applied to industrial processes and problems, and will be under the direction of Paul M. Cook, senior chemical and radiation engineer at the Institute.

Canadian Laboratory Expansion

Growth of Research Noted by NRC

The Canadian National Research Council, Ottawa, has recently summarized the new construction program now under way to provide additional laboratory space for Canadian research. Work of the National Research Laboratories has expanded considerably in recent years to meet Canada's growing requirements for the application of science to an ever-increasing industrial economy, it is reported, and defense requirements, especially in electronics, aeronautics, engineering, and building research, have stimulated this expansion. Peacetime research is also being carried forward in these fields as well as in physics, chemistry, and biology, and in related fundamental research, some of which is of a continuing long-term character.

New buildings are being erected on the Montreal Road site in Ottawa where the aeronautical and hydraulics laboratories are located, and the NRC reports that a new supersonics laboratory constructed last year is now in operation. This contains a supersonic wind tunnel where speeds up to five or more times the speed of sound can be attained. An addition to the supersonic laboratory is being built to provide for more extensive research on thermodynamics.

Nearby, also on the Montreal Road site, construction has been started on new laboratories for the Council's division of radio and electrical engineering, the division of building research, and the division of applied chemistry. At Halifax, Nova Scotia, a maritime regional laboratory to serve the general needs of the provinces by the sea has recently been completed. This building, which is situated on the campus of Dalhousie University, was officially opened at the time of the University Convocation last month. The Council's Atomic Energy Project, meanwhile, has been preoccupied with the detailed design of the new nuclear reactor which is to be constructed at Chalk River. This is to be a heavy-water reactor similar to the existing NRX pile, but of greater power and improved design.

While the NRC is known primarily for operating its own laboratories (largely for the benefit of Canadian industry), it is also the most important scientific foundation in Canada, now disbursing over one million dollars per year in support of fundamental research at the universities and to train young scientists.

Political Resonance

A Theory and a Passport are Denied

The May 24th issue of the British journal *Nature* contains a careful although necessarily abbreviated review of some remarkable Soviet pronouncements on molecular structure, provided from an examination of recent Russian scientific papers and of the report of a committee set up by the Institute of Organic Chemistry of the USSR Academy of Sciences to consider the present state of the theory of molecular structure. The Soviet literature cited was concerned primarily with an attack on the "pseudo-scientific" resonance theory of chemical bonds advanced, among others, by Professor Linus Pauling of the California Institute of Technology. The article also discusses in some detail the proceedings of last year's Moscow conference of organic chemists when several prominent Soviet scientists were severely censured for having subscribed to the "ideological perversions" of Pauling's views on structural theory.

A few days before the appearance of the article in *Nature* Dr. Pauling made a public statement concerning certain criticisms from another quarter. "I had planned to make a trip to England," he said, "accompanied by my wife, in order to take part in a conference of the Royal Society of London on the structure of proteins, and also to present a discourse before the Royal Institution of Great Britain. I have been informed by the State Department that a passport is not being issued



Louis de Broglie, professor of theoretical physics at the Sorbonne, receives the Kalinga Prize for 1952 during ceremonies at Unesco House in Paris. Those shown, left to right, are: B. Patnaik, donor of the award; Prof. de Broglie; Paul Gaultier, member of the jury of award; and Jaime Torres Bodet, director-general of Unesco, who made the presentation.

to me since the Department is of the opinion that my proposed travel would not be in the best interest of the United States. It is my opinion that my proposed travel, solely for the purpose of taking part in scientific discussions in Great Britain, would, in fact, be in the best interests of the United States." Dr. Pauling added that an official of the State Department had informed him that the decision was made "because of suspicion that I was a Communist and because my anti-Communist statements had not been sufficiently strong."

On May 30th the Federation of American Scientists stated that Dr. Pauling had submitted a third application to the State Department for a passport—this time in order to spend about a month in England during the summer to present an invited paper before the Faraday Society and for other purely scientific purposes. In spite of repeated assertions that he has never been a Communist, Dr. Pauling's requests to the State Department and to the President for a full explanation of the Government's position in the matter have gone unanswered.

Concerning the Soviet attacks on his work, Pauling has replied that "if the Russians continue to attempt to force science to follow along a path determined by politics, Russia is sure to grow weaker. If Russian chemists are not allowed to use the resonance theory or are deprived of scientific freedom in any other direction, Russian science will fall behind Western science and Russian technology will also suffer."

Concerning his difficulties with the Department of State, Pauling stated that refusal of his request for a passport "would constitute the unjustified interference by the Government not only with the freedom of a citizen, but also with the progress of science."

Exchange of Instruments

Unesco Sponsors Inspection Scheme

Customs inspection of delicate scientific instruments exchanged between laboratories in different countries has long been a recognized hazard since most equipment designed for precise measurements requires the utmost care in handling. Unesco is currently sponsoring a

scheme designed to reduce the likelihood that instruments will suffer damage during transit across national borders. Under the plan proposed by Unesco, instruments would be inspected in some specified laboratory or laboratories in the exporting country and under expert supervision rather than at the regular customs stations. The instrument would be packed in the presence of a customs officer and allowed to pass unopened across international frontiers until it reached its destination where arrangements would be made for the instrument to be unpacked, again in the presence of an appropriate official.

Science Popularization

Kalinga Prize Awarded to de Broglie

Louis de Broglie, professor of theoretical physics at the Sorbonne, was awarded the first Kalinga Prize for his popular writing in science by Director-General Jaime Torres Bodet of the United Nations Educational, Scientific, and Cultural Organization in a ceremony at Unesco House in Paris on May 28th. The award, amounting to one million francs (\$2800), was established last year by Indian industrialist B. Patnaik, a director of the Kalinga Foundation Trust which has made generous grants for development and social work in the State of Orissa.

In establishing the prize, Mr. Patnaik emphasized that the Kalinga Foundation Trust is deeply aware of the impact of science on the development of underdeveloped areas such as Orissa and wishes to focus the attention of the world on the need for the understanding and broad use of science. "I am particularly convinced," he said, "of the necessity of making the great masses aware of the methods and achievements of scientific research, and to make them understand, in a form which they can assimilate, the impact of science on our daily behavior. One can scarcely envisage raising the standard of living of the world's population without a very broad understanding of scientific progress, an understanding which will strengthen the action of the Government at all stages through the comprehensive participation of a well informed public opinion.