

answer. The agency's sixth annual conference, which opened this week at its headquarters here, is anticipating some concrete indication that the Kennedy Administration will attempt to give IAEA a more significant role in both spreading and safeguarding nuclear technology. There are numerous problems, however, involved in making this role meaningful, for whatever American intentions may be, the task of safely internationalizing atomic energy was politically undermined years ago by East-West hostility. It would seem that any attempt to place IAEA in the role of international guardian would be no more than a nostalgic stab at recapturing the chance that slipped away in the early days of atomic energy when the Baruch plan for the international control of atomic materials was rejected by the Soviet Union.

In an effort to show that inspection does not hurt, and also to give IAEA experience in developing inspection procedures, the United States recently opened four small experimental reactors to IAEA inspectors. The Soviets, to no one's surprise, failed to respond in a similar fashion, as did the French, who, in promoting their own atomic weapons program, have turned their backs on the agency's inspection role. More disturbing is the fact that India, in shopping for a 300,000-kilowatt reactor, has told the United States that it refuses to accept IAEA safeguards as a condition for obtaining the reactor from American sources. The Indians have said they would accept a bilateral inspection agreement with the United States, but the Administration, without having made a final decision, has shied away from this proposal, mainly because it would undercut IAEA at a time when the U.S. wishes to boost the agency's stature. IAEA officials state flatly that the agency's inspection role would probably be harmed beyond the possibility of resurrection if the United States were to supply a power reactor to an underdeveloped nation without insisting on IAEA safeguards. India, meanwhile, has made it known that the French Government is interested in supplying the reactor, a prospect which stirs very gloomy forecasts about the possibility of preventing the spread of nuclear weapons.

Russian policy toward the agency supports the theory that the Soviets think it possible that, sometime in the distant future, IAEA may become a useful instrument in international rela-

tions. At present they support the agency to an extent that helps keep it going, but they do not do anything to enlarge its activities, nor do they do anything to cut them back. They pay their regular assessment of about \$1.7 million a year but refuse to contribute to the agency's voluntary budget, which helps finance fellowships and laboratory operations. The Soviets originally fought against the establishment of an agency laboratory, but when it was finally established, with an American contribution of \$600,000, they contributed a bit of equipment, and recently they supplied a physicist for the laboratory staff. (They have regularly supplied their share of personnel for the administrative jobs that occupy most of the agency's staff.) Last fall when the Soviet representative, V. S. Emelyanov, then head of the Soviet civilian atomic energy program, stormed out of the general conference because a Swede, and not a candidate of the Communists' choice, was elected general director, the Soviet staff members stayed on and maintained their usually good relations with their colleagues, Western and otherwise. When Emelyanov quietly returned in February, there was no noticeable reaction among the Soviets. As one Western official put it, "They've never done anything to sabotage the agency, and they've never done anything to expand it. They just seem interested in continuing its existence."

The Smyth Report

The belief that the Kennedy Administration plans increased support for the agency comes from its general endorsement of the so-called Smyth Report of last May. The report, a review of U.S. relations with the IAEA, was made at the request of the State Department by a committee headed by Henry D. Smyth, chairman of the research board at Princeton University and U.S. representative to the IAEA. A principal conclusion of Smyth's committee was that, with economic nuclear power almost a reality, the Administration should seek to enlarge the agency's role to enable it to provide safeguards against the diversion of nuclear materials to military purposes. "Without effective worldwide controls, either political, or technical or both," the committee warned, "nuclear products of nuclear power plants can be readily diverted to the manufacture of atomic weapons: the answer to the safeguards problem," it concluded, "lies in a vig-

orous and technically competent international organization."

The Smyth report went a long way toward raising the morale of the people who staff the agency, but they harbor no illusions about the ability of the agency to prevent the spread of atomic weapons. The French are well on the way toward achieving a nuclear arsenal; they have not paid attention to United States opposition, and they certainly are not inclined to recognize the authority of the IAEA. The Chinese are beyond the reach of the agency, and rumors continue to circulate about Israeli nuclear efforts and joint Franco-German undertakings.

In an interview, Sigvard Eklund, director general of IAEA, said, "It is very late. Perhaps five years are left before nuclear weapons get out of hand." Eklund was not optimistic, but like many on the agency's staff, he saw hope in the fact that both the United States and the Soviet Union have continued to support the existence of the agency. He acknowledged that that is a rather slim basis for hope, but unfortunately, it is the only one available.

—D. S. GREENBERG

Announcements

The Institute of International Education reports that the number of **foreign students, faculty members, and scholars** in the United States totaled 72,113 in the 1961-62 academic year; this is an increase of 8.15 percent over the previous year. The survey, in the 1962 issue of *Open Doors*, also reveals an increase of 27 percent in the number of U.S. citizens abroad, to a total of 22,263.

Of the 58,085 foreign students—a 10 percent increase over last year—11 percent were from Canada. The number of African students, although only 7 percent of the total number of foreign students, increased by 39 percent, totaling 3930. Twenty-two percent of the foreign students enrolled in engineering, 19 percent in the humanities, 16 percent in the natural and physical sciences, and 14 percent in the social sciences. Other major fields were business administration, medicine, education, and agriculture.

For the fifth consecutive year the University of California had the largest number of foreign students, 2534. Howard University had the highest percent-

age of foreign students in relation to its total enrollment, 858 out of 5175.

There was a 52-percent increase in the number of foreign professors, instructors, lecturers, and advanced research scholars, to a total of 5530. The largest group (41 percent) came from Europe. The number of African scholars doubled, totaling 119; the Japanese were the most numerous (748). The natural and physical sciences continued to be the area of greatest interest; the greatest increase was in agriculture. (Institute of International Education, 800 2nd Ave., New York 17)

A national center to supply investigators with free samples of *Mormoniella vitripennis*—a small parasitic wasp used in **genetic research**—is being established at Dartmouth College through a National Science Foundation grant. The center, organized and directed by George B. Saul, II, associate professor of biology, plans to collect and maintain over 200 strains of the wasp. Genetic analyses of new mutants will be conducted, and a list of research reports will be published and revised annually.

The NSF is also supporting the establishment of similar supply centers for other organisms important in genetic research, such as bacteria, viruses, fruit flies, mice, fungi, and corn. (George B. Saul, II, Department of Biology, Dartmouth College, Hanover, N.H.)

Publications

A *Subject Guide to Microforms in Print*, covering all **microreproduced materials** available from U.S. commercial publishers, will be released this month. The catalog, to be issued yearly, will also note publications of noncommercial organizations issuing lists or catalogs on a regular basis. (Microcard Editions, 901 26 St., NW, Washington 7, D.C.)

The National Cancer Institute has published a directory of **American scientists in cancer-virus research**, listing the institutional affiliations, research areas, and specific activities of nearly 400 scientists. (Superintendent of Documents, Government Printing Office, Washington 25, D.C. \$0.30. Order PHS No. 946)

The institute also plans to publish a directory of Russian scientists in this field. Individual copies of a preliminary

edition are available free of charge. (Virology Research Resources Branch, National Cancer Institute, 7981 Eastern Ave., Silver Spring, Md.)

The following new publications have been made available by the Atomic Energy Commission:

An analysis of the **safety aspects of increased power level and heat flux limits** proposed for the Dresden Nuclear Power Station in Grundy County, Illinois, near the Dresden dam locks of the Illinois River. (Director, Division of Licensing and Regulation, U.S. Atomic Energy Commission, Washington 25, D.C.)

A 167-page bibliography, **Graphite** (TID-3314), with 958 references prepared primarily as a guide to literature on reactor grade graphite. Also included are references to information on the manufacture and uses of graphite in other fields where high temperature environments exist. The publication contains subject, author, and availability indexes, and a list of AEC depositor libraries. (Office of Technical Services, U.S. Department of Commerce, Washington 25, D.C. \$2.75)

A 44-page preliminary report, **Gnome Post-Shot Temperature and Radiation Studies** (PNE-106P), by Lawrence Radiation Laboratory describing in detail, with photographs and charts, temperature and radiation measurements in the zone of effect using previously developed techniques and equipment. (Office of Technical Services. \$1)

A 22-page **Weather and Surface Radiation Prediction Activities** (PNE-126F), final report of the Weather and Radiation Prediction Unit, U.S. Weather Bureau, covering weather conditions and comparison of radiation predictions with observed radiation levels provided by the U.S. Public Health Service. (Office of Technical Services. \$0.50)

A 114-page final report, **Pre-Shot and Post-Shot Structure Survey** (PNE-127F), by Holmes & Narver, Inc., of its survey to document the pre-shot and post-shot condition of all existing surface facilities within a 10-mile radius of ground zero. (Office of Technical Services. \$2.25)

A 20-page final summary, **Summary of Predictions and Comparison of Observed Effects of Gnome on Public Safety** (PNE-128F), by Roland F. Beers, Inc., of its review of all Gnome ground measurement studies. (Office of Technical Services. \$0.50)

The proceedings of the international conference on **freeze-drying of foods** (Chicago, 12-14 April 1961) are available without charge to qualified organizations and individuals. Discussions covered the basic biochemical and biophysical approaches to minimizing product damage, deteriorative actions affecting storage life, physical and engineering principles for accelerating the process, and science-founded approaches to improving product rehydration. (Commandant, Technical Services Office, Quartermaster Food and Container Institute for the Armed Forces, 1819 W. Pershing Rd., Chicago 9)

Meeting Notes

An interamerican conference on **legal medicine and forensic science**, jointly sponsored by the Puerto Rican Department of Justice and the University of Puerto Rico School of Law, will be held from 29 November to 1 December in Rio Piedras, Puerto Rico. Discussion topics will include presentation of expert medical evidence in court, legal problems of hospitals, and legal problems relative to psychiatry, narcotics addiction, and intoxication. The registration fee of \$30 is payable to the First Interamerican Conference. (Larry A. Bear, First Interamerican Conference, P.O. Box 12065 University Station, University of Puerto Rico, Rio Piedras)

A national conference on **air pollution**, sponsored by the U.S. Public Health Service, will be held from 10 to 12 December in Washington, D.C. The objectives of the conference are to explore ways of obtaining broader application of current methods of air pollution control; to stimulate cooperative action by the public, by industry, and at all levels of government; and to assess current knowledge of air pollution. Sessions will be open to the general public. (Executive Secretary, National Conference on Air Pollution, PHS, Washington 25, D.C.)

A 3-day seminar on **noise in electronic systems** will be offered from 16 to 18 October in Rochester, N.Y. The seminar is intended to provide working background in the subject through the electromagnetic spectrum, including sources, origin, system impact, and techniques of measurement. (Harold Kentner, Rochester Institute of Technology, Rochester 8, N.Y.)

Scientists in the News

R. Huisgen, director of the Institute for Organic Chemistry at the University of Munich, will be the Baker Lecturer in Chemistry at Cornell University for the 1962 fall term.

James R. Balsley, assistant chief geologist at U.S. Geological Survey, has been named professor of geology at Wesleyan University.

At National Aeronautics and Space Administration:

Robert L. Barre, private consultant in operations research and economic development, has been appointed scientist for social, economic, and political studies in the Office of Plans and Program Evaluation.

Hugh L. Dryden, deputy administrator for NASA, will receive the 1963 John Fritz medal of the American Society of Mechanical Engineers for his "scientific, engineering, and administrative leadership in all phases of aeronautics and of space exploration."

Edward T. Auer, associate professor of psychiatry at the University of Pennsylvania, will become director of the department of neurology and psychiatry at St. Louis University in September.

Ira B. Whitney, former assistant director of the analytical division of the U.S. Atomic Energy Commission, New York, has joined the research and development division of the National Dairy Products Corporation, Glenview, Ill.

Rudolph N. Griesheimer, research director for the Mead Corporation, has been appointed senior physicist at Franklin Systems, a nuclear research and development company in West Palm Beach, Fla.

Ray L. Edwards, retired professor and chairman of the department of physics at Miami University, Oxford, Ohio, will serve as visiting professor of physics at Harvey Mudd College, Claremont, Calif., for the 1962-63 academic year.

David V. Ragone, professor of metallurgical engineering at the University of Michigan, has been appointed chairman of the metallurgy department at General Dynamics Corporation's general atomic division, San Diego.

Andrew D. Suttle, Jr., director of the Mississippi Industrial and Technological Research Commission, has been appointed vice president for research at Texas A&M College.

Robert B. Edward, formerly with Olin Mathieson Chemical Corporation, has been appointed scientific director of Kremers-Urban, a pharmaceutical manufacturing company in Milwaukee.

Thomas J. Moran, director of laboratories for Presbyterian University Hospital, has resigned to become chief pathologist at Memorial Hospital, Danville, Va. He is succeeded by **Robert H. Fennell**, associate professor of pathology at the University of Pittsburgh.

Paul M. Newberne, animal pathologist at Auburn University, has been appointed associate professor in the department of nutrition at Massachusetts Institute of Technology.

Leo A. Adams, supervisor of analytical chemistry for the Austenal Company, Dover, N.J., has been named chief chemist at Metallurgical International Inc., Wallington, N.J.

John I. Peterson, a chemist with Melpar, Inc., Falls Church, Va., has been named supervisor of the physical analytical chemistry program at Woodard Research Corporation, Herndon, Va.

Donald G. Crosby, of Union Carbide Chemicals Company research department, South Charleston, W. Va., has been appointed chairman of the Pesticide Residue Research Laboratory at the University of California (Davis).

I. Murray Rossman, director of the Gowanda State Hospital, Helmuth, N.Y., has been appointed director of the new Bronx (N.Y.) State Hospital, scheduled to open in 1963.

James F. Hornig, of the University of California (Riverside), has been appointed associate professor of chemistry at Dartmouth College.

Abram S. Benenson, former director of the divisions of communicable disease and immunology at Walter Reed Army Institute of Research, Washington, D.C., is serving as director of the Pakistan-SEATO Cholera Research Laboratory, Dacca, East Pakistan.

Henry M. Leicester, head of the department of physiological sciences at the College of Physicians and Surgeons, San Francisco, has received the American Chemical Society's \$1000 Dexter award for his "contributions to the advancement of the history of chemistry."

Edward K. Kaprelian, deputy director of research at the Army's Signal Research and Development Laboratory, Fort Monmouth, N.J., has been named technical director of the Army's recently established Limited War Laboratory, Aberdeen, Md.

Robert Shapiro, associate clinical professor of radiology at Yale University School of Medicine, has become professor of radiology at Harvard. He succeeds **Felix G. Fleischner**, who retired in 1960.

R. Byron Bird, professor of chemical engineering at the University of Wisconsin, is the 1962 recipient of the William H. Walker award of the American Institute of Chemical Engineers.

Austin G. Boldridge, formerly with Dumont Laboratories, has been named vice president and director of research for the newly formed Aerospace Electronics Division of Breeze Corporations, Inc., Union, N.J.

Otto E. Lobstein, visiting research professor at the University of Redlands (Calif.) department of chemistry, has opened the Lobstein Biochemical Laboratory in Santa Monica, Calif.

Carl W. Bruch, laboratory director for the Wilmot Castle Company, Rochester, N.Y., has been appointed chief microbiologist at Schwarz Laboratories, Inc., Mount Vernon, N.Y.

Curt R. Schneider, formerly with the National Academy of Sciences' Division of Medical Sciences, has joined the research staff of the Gorgas Memorial Laboratory, Panama.

Theodore J. Bauer, retired chief of the U.S. Public Health Service's Bureau of State Services, has become medical director of the Becton-Dickinson Company, Rutherford, N.J.

Erratum: In the report "Deoxyribonucleic acid mediates sensitization of penicillin-resistant *Staphylococcus*," by R. B. Nathanson [*Science* 135, 916 (1962)], the quantity of antiserum in the reaction mixture (last paragraph, column 2, line 3) should have been 0.05 ml, not 0.5 ml.