News of Science

U.N. Committee on Effects of Atomic Radiation

The 15-nation Scientific Committee on the Effects of Atomic Radiation has concluded its second 2-week session at United Nations Headquarters in New York. The committee has reviewed the extensive series of reports reviewed in response to its request on the levels of radiation and radioactivity from natural and artificial sources [*Science* **123**, 928 (25 May 1956)].

Besides considering information submitted to it, the committee invited specialized studies by the Food and Agriculture Organization and other groups; surveyed methods for measuring radiation and endorsed World Health Organization and United Nations Educational, Scientific and Cultural Organization programs for supplying calibration standards and instruments in collaboration with the International Commission on Radiological Units and Measurements; invited reports on disposal of radioactive wastes in oceans and seas; decided to further consider genetic effects of radiation; and sought further information from governments on these and other pertinent subjects.

The committee also prepared its first yearly progress report to the General Assembly. A final report is to be submitted by July 1958.

Much of the session's work was carried on in working groups, which considered effects of small doses of radiation, radiological data—that is, measurements of natural and man-made radiation and calculations of radiation levels based on these measurements—measurement methods, and the genetic effects of radiation.

The committee noted the need for more research and data before final conclusions can be reached. The committee is continuing to obtain information from governments and specialized agencies. Radiological data submitted before 1 Feb. 1957 will be considered at the committee's next session.

The committee is also inviting governments to submit detailed descriptions of measurement methods; these will be made available to other governments upon request. It is also requesting the Secretary-General to assist in arranging exchange of standards and samples when requested by governments.

In relation to the possible ocean and sea disposal of radioactive wastes, the committee has invited UNESCO and FAO to prepare data arising from their present research programs in oceanography and marine biology. Governments are being invited to inform the committee, periodically through the Secretary-General, of any significant disposals of radioactive wastes from atomic energy installations.

Study of the biological effects of small doses of radiation is being urged by the committee as an important factor in its work in evaluating effects.

In addition to its requests for further information, the committee is proposing several specialized studies on various aspects of radiation effects. The hazard from radioactive strontium fallout and from industrial radioactive wastes is being studied and assessed. As calcium ingestion may influence uptake of radioactive strontium, FAO has been invited to assemble information on the calcium content of the diets consumed throughout the world. The fallout hazard resulting from tests of nuclear weapons continues to be a main subject of the committee's work.

Genetic effects of radiation were discussed at the present session, but detailed consideration was deferred to the next session. More information, some of which is already being prepared for the committee, will then be available.

The committee is proposing initiation of a technical study by specialized groups of ways in which medical exposures to radiation can be recorded and evaluated. The committee is also circulating a statement through the medical press urging the medical profession's cooperation in its work.

The committee will hold its next session in April 1957. The 15 nations represented on the committee are Argentina, Australia, Belgium, Brazil, Canada, Czechoslovakia, Egypt, France, India, Japan, Mexico, Sweden, the U.S.S.R., the United Kingdom, and the United States. At the current session, Carlos Chagas (Brazil) was chairman and Zenon Bacq (Belgium) was vice chairman.

Intermedin

Research to determine the structure and synthesis of the various pituitary hormones, which already has led to Vincent du Vigneaud's notable work on oxytocin and vasopressin, continues apace. The most recent development of importance is the isolation by I. I. Geschwind, C. H. Li, and L. Barnafi of intermedin and their determination of its structure [*J. Am. Chem. Soc.* (5 Sept. 1956)].

Intermedin, which was obtained from the pituitary glands of pigs, is the hormone that stimulates the expansion of melanocytes. Long thought to be limited in occurrence to the lower vertebrates, in which the pituitary has a definite intermediate lobe, it has now been isolated from the posterior lobe of the pituitary in a mammal. (In mammals the posterior side of the oral pouch that grows into the anterior pituitary gland fuses with the posterior part which grows from the brain, so that the posterior lobe actually includes what in other vertebrates constitutes a separate intermediate lobe of the pituitary.)

The work reported by Geschwind *et al.* demonstrates that intermedin is a peptide consisting of 18 amino acids, of which no more than two are of any single variety. The most striking feature of the structural analysis is that a central sequence of seven amino acids (methionine, glutamic acid, histidine, phenylalanine, arginine, tryptophan, glycine) is identical with a corresponding sequence that has been found to occur in all corticotropins so far isolated from the anterior lobe of the pituitary. The presence of this sequence thus probably explains the melanocyte-stimulating activity of pure corticotropin preparations. The adrenal-stimulating activity of the corticotropins must in that case depend on the specific sequences of the six amino acids on one end of the central sequence or on the five on the other. One may conjecture that the syntheses of intermedin and of the corticotropins are closely related.—B. G.

Second Atoms-for-Peace Team Visiting Latin America

A ten-man mission, composed principally of nuclear scientists, is visiting six Latin American nations to participate in discussions of the scientific potential of peaceful applications of atomic energy in the respective countries, especially in the areas of radioisotope applications and nuclear research and training. The mission, sponsored jointly by the Department of State under its International Educational Exchange Program, the U.S. Atomic Energy Commission, and the In-

ternational Cooperation Administration, is visiting Chile, Peru, Ecuador, Colombia, Panama, and Costa Rica. A similar group made an orientation and survey tour last June that included Venezuela, Brazil, Argentina, and Uruguay.

Members of the group, in cooperation with local scientists, are holding unclassified discussions and delivering lectures on the following subjects: the application of radioisotopes to industry, medicine, and biology; nuclear educational and training programs, including research reactors; the organization and functions of atomic energy administrative organizations. Additionally, staffs of the respective U.S. embassies are being briefed on all aspects of the atoms-for-peace program. The mission is headed by Clark C. Vogel, assistant director of the AEC Division of International Affairs.

Reactor for Japan

The Atomic Energy Commission has issued a license for the export of a research reactor to Japan, the first such commercial transaction in the history of the U.S. private atomic energy industry. Notice of the license was filed with the Federal Register on 2 Nov. 1956. Interested persons have 30 days from that date to request a formal hearing on the issuance of the license.

The license was issued to the New York firm of Marubeni-Iida for export of a reactor, fueled by an aqueous solution of uranyl sulfate and operating at 50 kilowatts, for use in Japan by the Japan Atomic Energy Research Institute. Atomics International is manufacturing the reactor at its plant in Canoga Park, Calif.

Microcards for WMO's IGY Work

The World Meteorological Organization has awarded a contract to the Microcard Corporation of West Salem, Wis., to microcard the observations made by meteorological groups for the International Geophysical Year. These data will come from between 2000 and 2500 continental stations and weather ships. It is estimated that this will involve some 2 million forms reduced to 30,000 Microcards per set. This quantity of data incorporated in one set will store in 24 14- by 3- by 5-inch card-file drawers and occupy about 13 cubic feet of space.

The Microcard Corporation will establish a photograph branch in Geneva for the program to insure rapid production and close liaison with WMO. The period 1–5 Jan. 1957 has been designated as a trial period and all meteorological services have been requested to submit WMO standard forms covering this period for microcarding.

Another Voice on Radiation Effects

A comment on the effects of radioactivity has been published in a letter to the *New York Times* (31 Oct.) from William G. Cahan, assistant attending surgeon at the Memorial Center for Cancer and Allied Diseases. After citing various cases of cancer from radiation exposure — x-ray diagnosticians who used fluoroscopy in its early days, Hiroshima victims, a wild muskrat that had eaten water plants growing beside the river that flows past Plant X-10 at Oak Ridge, Tenn.— Cahan concludes:

"The addition of even the smallest amount of radiation (a known carcinogen) to the many causes of cancer which are still unknown, but which are undoubtedly present in our daily lives, may be enough to tip the scales. . . . It would seem apparent that with our present lack of factual knowledge about the potential genetic and carcinogenic properties of radioactivity we should suspend large-scale radioactive enterprises until our biological knowledge is more secure than it is at present. Only then can genuine safeguards be established."

AEC Offices Abroad

The establishment of U.S. Atomic Energy Commission offices in London and Paris has been announced. The commission has maintained a liaison office in Canada at Chalk River, Ont., for some time. Amasa S. Bishop of the commission's Research Division has been appointed to the Paris post, where he assumed his duties on 1 Nov. Edward L. Brady of the Knolls Atomic Power Laboratory, Schenectady, N.Y., will open the London office on about 1 Dec.

The commission representatives will assist in scientific and technical aspects of the rapidly expanding work related to the United States program for international cooperation in promoting the peaceful uses of atomic energy. Their duties will include liaison with the atomic energy authorities and technical staffs of the country to which they are assigned and expediting the day-to-day scientific and technical problems growing out of the U.S. bilateral agreements for cooperation in nuclear energy matters.

There are now in effect agreements with 30 nations. Accords with seven others await the formal exchange of notes or the expiration of the statutory 30-day waiting period before the Joint Committee on Atomic Energy. A number of amendments to original agreements are pending and negotiations are under way with additional nations for nuclear research or power agreements. The commission representatives also will assist the Department of State, the International Cooperation Administration, the United States Information Service and other agencies in nuclear energy matters.

Tranquilizing Drugs

The U.S. Public Health Service has announced the establishment of a new unit to assist in the development of scientifically sound research programs on tranquilizing and other drugs used in the treatment of mental illness. The new unit is called the Psychopharmacology Service Center; it is in the National Institute of Mental Health in Bethesda, Md. Jonathan O. Cole, has been appointed psychiatrist in charge of the center. He is a former member of the staff of the Division of Medical Sciences of the National Research Council, where he worked with its committees on psychiatry and stress.

Almost simultaneously, the Veterans Administration announced plans for a nation-wide evaluation of the new tranquilizing drugs in 37 Veterans Administration hospitals. The study is designed to answer questions of the drugs' effectiveness and toxicity, what dosage is desirable, and how long they should be administered.

The project will be directed by an executive committee of physicians from various VA hospitals, under the chairmanship of S. Theodore Ginsberg, chief of VA's Psychiatry Division. Two of the tranquilizing drugs now in clinical use will be studied in the first research program, which will involve about 1000 patients with acute and chronic schizophrenia. Preliminary results of the investigation are to be discussed at the VA's third annual conference on chemotherapy in psychiatry, 8–11 May 1957, at the Downey, Ill., VA Hospital.

News Briefs

■ It is reported that the satellite which the U.S.S.R. will send aloft during the International Geophysical Year will be about the same size, 20 inches across, as the satellite now being built in this country. However, it will be five times as heavy as ours and its orbit will begin further out in space (460 miles compared with 300). The Russian satellite also will require an initial push from its launching rocket of 1000 miles per hour more than the U.S. satellite.

■ Seventeen medical schools, 16 in the United States and one in Canada, have reported completion during 1955–56 of construction projects that cost $65 million. In the same period, 17 schools in