R. John Garner, formerly of the United Kingdom Atomic Energy Authority, has been appointed director of the U.S. Public Health Service–Colorado State University Collaborative Radiological Health Animal Research Laboratory, Fort Collins, Colorado.

The Manufacturing Chemists Association recently presented its annual awards for outstanding college chemistry teachers to three men. Each received a medal, citation, and $1000. The recipients were:

Ernest L. Eliel, head of the chemistry department at Notre Dame University.

Albin Iver Johnson, chairman of the department of chemical engineering at McMaster University, Hamilton, Ontario.

William F. Kieffer, professor of chemistry at the College of Wooster, Ohio, and editor of the *Journal of Chemical Education.*

Ernest F. Nippes, chairman of the department of materials engineering at Rensselaer Polytechnic Institute, has been appointed director of the research division, succeeding **Raymond H. Hartigan**, who has joined the research and development division of National Dairy Products Corp.

The Smithsonian Institution's highest honor to an employee, the "exceptional service award," has been presented to **John C. Ewers**, director of the Museum of History and Technology. The award, first of its kind to be given by the Smithsonian, and a $1000 honorarium were presented to him for his "exceptional performance and extremely significant contributions which have served to promote the basic purpose of the Institution: 'the increase and diffusion of knowledge among men.' "

Roger P. Maickel, of the National Heart Institute, has been named associate professor of pharmacology at the Indiana University medical school.

Recent Deaths

John D. Benjamin, 63; professor of psychiatry at the University of Colorado; 14 May.

Sidney C. Hayward, 60; secretary of Dartmouth College; 29 May.

Erwin Jungherr, 68; pathologist at Lederle Laboratories and former professor of animal pathology at the University of Connecticut; 16 April.

Carl J. Mess, 89; former dean of the George Washington University dental school and former professor of prosthetic dentistry at Georgetown University; 30 May.

Jason John Nassau, 73; professor emeritus of astronomy at Case Institute of Technology; 12 May.

Ferdinand Springer; head of Springer-Verlag scientific publishers in Heidelberg, Germany; 12 April.

Erratum: In the report "Rubella complement fixation test" by J. L. Sever, R. J. Huebner, G. A. Castellano, P. S. Sarma, A. Fabiyi, G. M. Schiff, and C. L. Cusumano (16 April, p. 385), the amount of sediment given in parentheses in the second sentence of the third paragraph should have been "approximately 0.1 ml."

Erratum: In the legend to Fig. 3 in "A new method for studying the atom" by S. Bashkin (21 May, p. 1047), the initial energy of the bromine ions should have been given as 10^7 electron volts. In Fig. 4, the two microphotometer tracings should have been aligned so that the peak between 4800 and 4900 Å in the lower tracing would be directly beneath the peak labeled H_β, N III (9) in the upper tracing; the wavelength scale in the lower part would then also apply to the upper part of the figure.

Erratum: In the report "Nitrous acid mutation of transforming DNA: Consideration of mode of action," by S. H. Goodgal and E. H. Postel (21 May, p. 1095), centered subheadings in both tables are transposed. In Table 1, the subheadings should have read *H. influenzae* and *H. parainfluenzae,* respectively, instead of *H. parainfluenzae* and *H. influenzae;* in Table 2, the subheadings should have read *H. parainfluenzae* and *H. influenzae,* respectively, instead of the reverse. In addition, the sentence beginning on page 1097, column 2, line 22, should read "On the other hand, the deamination of adenine to hypoxanthine would be consistent with the results since hypoxanthine could function like quanine." The original sentence implied the opposite.

REPORT FROM EUROPE

World Health Organization Shelves Research Center Plan

London. For some time to come the World Health Organization is going to stick to its primary role of adviser and agent of rapid information exchange. This is the substance of decisions taken by WHO's 18th general assembly, which met in Geneva from 4 to 21 May. The assembly approved increases in efforts to eradicate smallpox and malaria and agreed to administration of a five-nation cancer center, but it firmly rejected such large-scale projects as establishment of a center for biological and medical research, a proposal which has been studied for the last 3 years.

The most dramatic of the decisions was unanimous agreement, after many years, on a resolution permitting WHO to give advice on the regulation of population to countries asking for it. Complex bargaining in a Geneva working group produced a resolution so worded as to satisfy the varied sensibilities of Communists, Roman Catholics, and proponents of crash programs to limit births. The resolution does not favor any one method of contraception or any one policy. It does not allow WHO to accept requests for running birth control services without a vote of the general assembly.

The resolution is especially interesting because of the hints it offers about the way in which the Roman Catholic Church may resolve the conflict between acknowledged social requirements for birth control and the church's need to maintain its spiritual authority.

The resolution, carefully based on a resolution of the U.N. Economic and Social Council and on WHO's function, as stated in its constitution, of promoting maternal and child health and welfare and of fostering "the ability to live harmoniously in a changing total environment," asserts that "changes in the size and structure of

the population have repercussions on health conditions . . . [but] problems of human reproduction involve the family as well as society as a whole; . . . The size of the family should be the free choice of each individual family."

The stress on choice within a family indicates that the Catholic Church may soon put more emphasis on the family's responsibility for birth control, and less on the counseling role of the priesthood.

Father de Riedmatten, Vatican City, observer at the assembly, expressed the church's cautious attitude this way:

"The couple which finds itself confronted with the imperious necessity to impose, either finally or temporarily, limits on reproduction faces questions which, it is evident, concern very directly the specialists in health and human physiology. . . . Without any doubt the findings of modern science and the new practical possibilities science offers will force the revival of issues one was able to believe were resolved and the re-examination—with loyalty to fundamental principles—of new, unsuspected situations" (*Le Monde*, 23–24 May, p. 19).

The resolution stresses that individual governments must take the initiative in setting their own population policies. It asserts that "scientific knowledge with regard to the biology of human reproduction and the medical aspects of fertility control is insufficient."

As part of its "reference services" WHO will provide support for studies on "medical aspects of sterility and fertility control methods and health aspects of population dynamics" (WHO has been supporting some research on human reproduction since 1963). Counsel on birth control will be limited "to technical advice on health aspects of human reproduction and should not involve operational activities."

While extending WHO's advisory, informational role to the area of population control, the WHO assembly reemphasized its interest in campaigns to stamp out malaria and smallpox.

Once, about half the world's people lived in areas deeply affected by malaria. Now, only a quarter of the people live in malarious regions, and in many of these the rates of disease are very low. About 800 million people are living in regions that have been freed of malaria since World War II. But because the malaria parasites and malaria-carrying mosquitoes continue to show great adaptability in the face of chemical attack, the delegates favored an increased budget for research on "means of fully interrupting the transmission of malaria."

Smallpox virus is proving a much more stationary target, and WHO director-general M. G. Candau has estimated that smallpox could be eradicated by 1975 at a cost of $30 million (over and above local contributions). Major smallpox areas persist in the Amazon basin of South America, in Africa south of the Sahara, and in Asia. The delegates adopted Candau's target date of 1975 and asked for contributions. They stressed the need for even wider use of freeze-dried vaccines, which, along with smaller and smaller jet-injection devices, have simplified vaccination programs in rural, tropical areas. In the "mass" phase of the smallpox campaign, the delegates acknowledged, international sources would have to provide up to 50 million doses a year beyond present production.

The resolution on smallpox got a push from a statement issued by the White House on 20 May promising help for smallpox eradication. The statement resulted from discussions of a U.S. committee for the International Cooperation Year, of which Harlan Cleveland, Assistant Secretary of State, is chairman.

Proposals on Drugs

An American offer to process information, under WHO auspices, on the adverse effects of drugs also originated in this committee. The offer is based on the U.S. Food and Drug Administration's prospective program for standardizing and speeding up the reporting of adverse effects of drugs during clinical trials and general medical use. The idea for this system was in part a result of the thalidomide scare of 1962. As U.S. Assistant Surgeon General James Watt noted in London on his way home from the WHO meeting, the deformities caused by this drug were not frequent enough in any one doctor's practice to cause alarm until thousands of fetuses had been harmed. The FDA's new, computerized system is scheduled to be operational by next 1 January. It is intended to provide earlier warning of harmful patterns of reaction, even if they show up only rarely. The system should provide information about special classes of patients—such as women in the first 3 months of pregnancy—likely to be affected adversely by a generally useful drug.

The WHO assembly thanked the United States for its offer and asked Candau to study it and any other offers of the kind, as well as ways of improving a world system for processing data on harm from drugs.

The delegates discussed quality control of drugs and noted "that large parts of the world population make use of pharmaceutical preparations without having in their countries adequate facilities for prior quality control." The assembly asked Candau to continue his present program of (i) helping nations to set up quality-control laboratories or to use existing laboratories in other countries; (ii) urging manufacturing countries to control the quality of drugs intended for export; and (iii) trying to get international agreement on quality-control principles and specifications.

The WHO assembly recommended that "widely abused sedatives and stimulants, such as barbiturates, tranquilizers and amphetamines," be made prescription drugs everywhere. It also urged that nations which have not ratified the 1961 Single Convention on Narcotic Drugs should do so. The convention is now in force, and the United States has not ratified it, reportedly because of opposition from the Bureau of Narcotics.

International Research Center

It was concern with such issues of epidemiology, information exchange, and environmental poisons which led the WHO permanent staff to develop the idea for establishment of an international research center under WHO (*Science*, 28 Aug. 1964). A leading figure in working out the details of this proposal was an American, Martin Kaplan, who originally hoped that the research center would have a broadly based laboratory for work in the biological and medical sciences, perhaps even including the laboratory proposed by the still-nascent European Molecular Biology Organization. Plans developed and presented

to WHO's executive board and general assembly in 1964 called for a center costing $43 million for buildings and equipment, and for an operating budget of $26 million a year for 10 years.

The plan was sent back for more study, and it became something of a political issue in Great Britain. People in the Edinburgh area had committed themselves to getting the research laboratory for that traditional medical center, where C. H. Waddington and others are revamping and enlarging biological studies. On the other hand, the Medical Research Council announced its firm opposition to the idea of the laboratory, while approving the plan of strengthening WHO's activities in epidemiology and information exchange. Most commentators in the press accused the MRC and Sir George Godber, chief medical officer of the Ministry of Health and an opponent of the scheme, of being "little Englanders" for saying, as Godber did, that the proposed research programs "ought to be related to the national health services from which they spring." They were accused of throwing away a chance for Britain to support internationalism in research and to gain for herself a major laboratory and a United Nations agency to boot.

Meanwhile, WHO committees were set up to make a complete review of the plan. Meeting in July and August 1964, the committees supported establishment of a research center whose divisions of communications, epidemiology, and biological research would focus on problems of environmental pollution and dangerous effects of drugs. The $260-million, 10-year budget originally proposed was cut to $145 million; the committees envisioned a computer laboratory and a scientific and technical staff of 700 ready at the end of 5 years.

The proposed communications division would concern itself with such computation problems as adapting computer languages to biology, finding the best systems of filing and listing information for computer handling, converting into digital form analog data from machines that were automatically monitoring patients, and sampling the data. It would work on such information problems as classification, nomenclature, development of models for epidemiology, elaboration of techniques for monitoring drug effects or pollution, and literature storage and retrieval, and on such health-planning problems as calculating how the logistics of an immunization program would affect a poor country's development program.

The WHO committee on epidemiology noted that epidemiology theory is weak. Most work has been done on the spread of communicable diseases in a large community, and even there mathematical difficulties have forced the use of oversimplified models, largely useful for understanding large-scale phenomena. One simple model, the "threshold theorem," has made it possible to calculate the probability of occurrence of epidemics in populations of different densities. But the probability of occurrence of certain diseases of great importance to poor regions of the world, those transmitted by vectors, is more difficult to calculate and has been studied less. The committee concluded that the development of mathematical theories about noncommunicable diseases will have to await the availability of better data.

Standardization was the epidemiology committee's watchword. Certain diseases—notably chronic bronchitis—need to be much more precisely defined, the committee said. Differences in the occurrence of diseases between places and over time often hint at causes and cures. But such figures mean little without standard measurements of population or of such environmental conditions as air pollution.

The proposed epidemiology division of the research center would have done work on communicable diseases, cancer, heart disorders, and psychological illness, and on drugs and pollution. The proposed biomedical division would have worked on screening and testing for toxic effects of therapeutic agents and environmental contaminants; adverse effects of long-continued administration of drugs, and of chronic exposure to low-level environmental contaminants; and fundamental cellular and subcellular studies of the underlying mechanisms of toxic action.

The WHO committees found the chief justification for such a research center to be "the speed and scope of changes in human ecology [which] leave little time to correct the inevitable errors before serious damage can occur." They felt that WHO could not achieve reliable international drug-evaluation standards or codify information on long-term effects of apparently useful drugs without moving into large-scale research. In addition to genetic and carcinogenic effects of drugs and environmental pollutants, the committees noted "peculiar effects" in some of the 200 million people now taking regular doses of antimalarial compounds, effects indicating that antimalarials "exert additional profound systemic influence in man."

The committee on epidemiology noted that the majority of highly qualified biological and medical scientists are concentrated in highly developed countries which have conquered their communicable diseases. "The result has been a steady decrease in interest in communicable disease problems, especially the mass diseases of tropical areas where highly qualified scientists are few. Parasitic and other vector-borne diseases are good examples."

Considerations such as these led Kaplan to assert (*New Scientist,* 18 February): "Despite the doubts raised in different quarters about the World Health Research Center there seems to be general agreement that it must come into being sooner or later. If we consider only the potential dangers of somatic and genetic effects of the ever greater number of new substances man ingests, breathes, and is injected with, perhaps the real question is whether nations can afford to delay any further this inevitable decision."

But they did delay it. The resolution passed by the 18th general assembly stated that the idea of a research center needs still more study. Certainly the attitude of the United States was important in this decision to shelve the center. The U.S. pays a third of WHO's regular budget (around $43 million a year), first proposed WHO's modest research program ($2.5 million in 1963) at the 11th general assembly in Minneapolis in 1958, and makes a large special contribution to enlarge the research program. Although the U.S. never stated its opposition to the research-center idea as publicly as the British did, the opposition was firm.

At the same time, both the United States and Britain joined France, Italy, and the German Federal Republic in agreeing to contribute a yearly $150,000 each to operate a proposed center for fostering international collaboration in cancer research.

—VICTOR K. MCELHENY