News of Science

The U.N. and Atomic Energy

The current discussion of the establishment of an international atomic energy agency makes the following abstracts from former President Harry S. Truman's memoirs particularly interesting. In describing his effort in 1945 to get the best possible advice on atomic energy policy, Truman says of one of his cabinet meetings:

"I had asked for a memorandum from Dr. Vannevar Bush, director of the Office of Scientific Research and Development, and one from the Joint Chiefs of Staff. Dr. Bush said he believed a proposal to Russia for exchange of scientific information would open the door to international collaboration in the field of atomic energy and eventually to effective control, the alternative being an atomic bomb race.

" 'The move does not involve "giving away the secret of the atomic bomb." ' wrote Dr. Bush: 'That secret resides principally in the details of construction of the bombs themselves, and in the manufacturing processes. What is given and what is received is scientific knowledge. Under an attempted closed system, and scientific espionage, it is probable that Russia would benefit to a considerable degree by our scientific progress, and we would benefit little by hers. Moreover, we cannot keep scientific secrets from Russia without also keeping them from the major portion of American scientists.'

"The Joint Chiefs of Staff recommended that the United States retain all existing secrets with respect to the atomic weapons."

A little further on Truman discusses atomic energy as follows:

"On Oct. 3 I sent to the Congress a message urging that a national policy for atomic energy be enacted into law.

"Meanwhile, the groundwork had already been laid for international discussions. I invited both Attlee and the Canadian Prime Minister, Mackenzie King, to visit Washington in November.

"Our discussions got under way on Nov. 11. . . . I told the two Prime Ministers that, so far as I could speak for the Government of the United States, I believed that a free exchange of scientific knowledge would be essential to the peace of the world.

"It was my view, I said, that the control of atomic energy for destructive purposes should be lodged in the United Nations, when we had become absolutely sure that the confidence of each nation in the good faith of the other was well founded. This, I suggested, might make it necessary to abandon the veto power in the Security Council.

"Both Attlee and MacKenzie King then gave their views, and I was pleased that they were essentially in agreement with me.

"I gave the Cabinet a detailed account of my conversations with the two Prime Ministers at the Cabinet meeting on Nov. 16 and asked for their comments. Secretary Wallace expressed some doubts about the device of a U.N. commission. Vinson and Clark, in line with the position they had taken at our earlier discussion of atomic energy, wanted to be assured that there was no intention on my part to reveal any of the 'know-how.' All agreed, however, that to refer the problem of atomic energy to the United Nations would give that organization a chance to prove itself."

Medical Education, 1954–55

■ American medical schools set all-time enrollment and graduation records in 1954–55, but they may face a student recruiting problem in the next few years, according to a report by the American Medical Association. Prepared by the AMA's Council on Medical Education and Hospitals, the 55th annual report on medical education states that 1954–55 was a year of "steady progress" in various phases of medical education.

An enrollment problem may result because the number of applications to medical schools has been decreasing for the past 5 years. However, the decrease this year was smaller, and it is hoped that a plateau has been reached. In the meantime, some schools may have difficulty in filling all available openings with qualified students.

Only 16.8 percent of the entering class in 1954–55 had an "A" college record, while 69 percent had "B," and 14.2 percent had "C." There were 6977 physicians graduated last year from 75 approved 4-year medical schools. This is the sixth consecutive year that a graduation record has been set.

Next year's class probably will be slightly smaller. However, the report said any decrease will be "only an incident" in a continually expanding number of graduates in years ahead, since classes scheduled for graduation in subsequent years are somewhat larger than next year's. Seven more schools will be graduating physicians by 1960.

Four are new schools just opened or in various stages of development: Albert Einstein College of Medicine at Yeshiva University, New York; the University of Miami Medical School, Coral Gables, Fla.; Seton Hall College of Medicine, Jersey City, N.J.; and the University of Florida School of Medicine, Gainesville, Fla. The other three are 2-year basic medical science schools that are expanding their programs to 4 years: the University of Mississippi School of Medicine, Jackson, Miss.; the University of Missouri School of Medicine, Columbia, Mo.; and the West Virginia University School of Medicine, Morgantown, W. Va.

Eighty-two percent of the first-year class in 1954–55 will be liable for military service on completion of medical school and internship training. Seventy-three percent of the class graduated in June 1955 was liable for such service. Total enrollment in American medical schools during 1954–55 was 28,585, an increase of 356 over the preceding year. Approximately two-thirds of the increase is accounted for by the addition of the University of California School of Medicine, Los Angeles, to the approved list.

The entering class of 7576 students was the largest ever enrolled in the nation's medical schools. This was an increase of 127 over the preceding year. Half of the increase in the entering class was accounted for by the addition of a first-year class at the newly approved California school.

The report also said that projected 1955–56 budgets show there has been a "modest improvement" in medical school financing. Approximately 95 percent of the support for research now conducted in medical schools is made possible by grants-in-aid from outside agencies.

Estimates for 1955–56 indicate that outside agencies will give about $54.5 million to medical schools for the support of research activities and slightly more than $7 million for special teaching programs. This is in addition to the estimated $98 million from tuition, endowment income, legislative appropriation, gifts, and grants that support the basic teaching programs.

More than $2 million was given to medical schools during 1954 by the National Funds for Medical Education. This fund is supported by business and

industry and by physicians who contribute to the fund through the American Medical Education Foundation. The AMA annually gives a direct contribution to the foundation.

During 1954–55, completed construction by medical schools had a value of more than $99 million and construction initiated had a value of more than $80 million. In addition, many hospital and clinic facilities used in teaching were financed by Government or private funds and not by the schools.

Among other items discussed in the report, which appeared in the 8 Oct. *Journal of the American Medical Association,* are the following:

There are 251 faculty vacancies reported for the 1955–56 session—seven less than in 1954–55. In view of the new schools and new faculty appointments, this slight improvement is perhaps more significant than it appears, the report said.

There were 1537 women attending medical school. This was a slight increase over the previous year. The 345 women graduates was the smallest number since 1947.

The year also witnessed the largest recorded attendance—105,466—at 1719 short courses, conferences, assemblies, seminars, and study and circuit courses for practicing physicians who wished to obtain additional training.

News Briefs

■ Electric wiring exposed for long periods of time to atomic rays from nuclear power may show various effects. In some types the insulation will break down, whereas others will show no ill effects, and some varieties will even improve. These observations were described by P. H. Klein and Clifford Mannal of the General Electric Company in a report delivered at the recent meeting in Chicago of the American Institute of Electrical Engineers.

For doses up to 10^8 roentgens, polyethylene tape and Formex wire enamel undergo discernible decreases in their resistance to short-time voltage breakdown. Cellulose acetate shows little change under the same conditions, and polyvinyl chloride shows some distinctly favorable alterations after irradiation. Mica-and-glass tape impregnated with silicone resin—an inorganic insulator—is virtually unaffected, even at radiation levels up to 10^{10} roentgens.

■ It is hoped that Britain's rabbit population, which was once 100 million, will be reduced to 3 million next year with the continued spread of the rabbit disease, myxomatosis, across the country. Derick H. Amory, Minister of Agriculture, has reported that since the disease took hold 2 years ago, the grazing season has been lengthened considerably, and crop yields in some places have been increased by 50 percent. He estimates that farmers have been saved approximately $42 million a year.

It is also reported that a strain of myxomatosis-resistant rabbits has appeared in an area of Nottinghamshire. Efforts are now being made to wipe them out.

■ A central laboratory building at Suffield Experimental Station, Suffield, Alberta, Canada, opened officially on 29 Sept. Facilities of the 1000-square-mile establishment, the Defence Research Board's largest station, are employed for experimental activities related to the defensive aspects of biological, chemical and radiological warfare. The staff scientists work closely with the Canadian Armed Forces and colleagues in the same fields in the United Kingdom and the United States.

The laboratory also accommodates station headquarters, the scientific administrative staff, a Canadian Army liaison office, a library, and other auxiliary services associated with the establishment's program. A conference room and a projection room will be used extensively for scientific discussions and films of trials and research and development techniques.

The $1.5 million building contains a diversified range of scientific installations. One is an electron microscope with a magnification of 20,000. In a nearby building associated with the central laboratory is a 2-million-electron-volt Van de Graaff generator.

■ Discovery of a new antibiotic in an organism obtained from East Pakistan earth was announced in the 1 Oct. issue of *Nature* by K. Ahmad and M. F. Islam of the University of Dacca, East Pakistan. The antibiotic has been named *ramnacin* after the place, Ramna, where the organism producing it was discovered. This organism is a *Streptomyces. Ramnacin* is a stable antibiotic showing activity against a number of bacteria, including some staphylococcus and streptococcus germs and two fungi.

■ Recently a Japanese seismologist, Takahiro Hagiwara, pointed out on his return from a 2-year UNESCO mission in Turkey that it may be possible to forecast earthquakes. Working under the UNESCO Technical Assistance Program, Hagiwara cooperated with the Turkish Government in establishing a Seismological Institute at Istanbul and three earthquake observation stations in other parts of Turkey, which is struck by earthquakes on an average of once a year. By correlating reports from these stations and from others all over the world, Hagiwara observed that it might be possible "to find a method of forecasting earthquakes so that people can be warned in time . . ."

The international cooperation that is required if earthquakes are to be understood, and perhaps forecast, is exemplified by the UNESCO project in Turkey. G. Gutenberg of California was in charge of the preliminary survey; preceding Hagiwara in Turkey were F. J. Roesli of Switzerland and M. Gaston Grenet of France.

■ Hormones circulating in the body of an expectant mother can cross into the unborn baby's body and there affect the baby's organs. This finding, which is contrary to current belief, was announced by William B. Ober, Charles C. Roby, Jay Bernstein and James E. Drorbaugh of Boston Lying-In Hospital at the recent meeting in Boston of the American Society of Clinical Pathologists.

■ After the Atomic Energy Commission turned over 961 papers on possible industrial uses of atomic energy to the Commerce Department's Office of Technical Services, sales by the office jumped about 400 percent.

Scientists in the News

ROBERT G. SPROUL was honored for his 25 years as president of the University of California with a Symposium on the Physical and Earth Sciences that was held 17–19 Oct. on the Berkeley campus as part of a state-wide commemoration of the anniversary.

It was during this symposium that Ernest O. Lawrence, Nobel laureate, inventor of the cyclotron, and director of the university's Radiation Laboratory, announced the discovery of a new atomic particle, the antiproton.

ELIZABETH L. HAZEN, microbiologist, and RACHEL BROWN, biochemist, of the division of laboratories and research of the New York State Department of Health, have received the $5000 Squibb award in chemotherapy for their discovery of nystatin, the first antifungal antibiotic safe enough for human use. The microorganism that produces nystatin was found by Hazen in a soil sample obtained from a farm near Warrenton, Va. The isolation of the active drug was carried out by Brown.

The discovery of nystatin resulted from a search started in 1946. Although many scientists were then screening soil samples for microorganisms possessing antibiotic activity, few, if any, were concentrating on antifungal agents.