SCIENTIFIC EVENTS

RADIUM AT THE WESTMINSTER HOSPITAL, LONDON

THE London *Times* states that Westminster Hospital, already equipped with a £20,000 radium bomb for the treatment of cancer, will shortly be in possession of a new bomb containing at least double the amount of radium—namely, 4 grams—and therefore worth at least £40,000. It will be available in a few weeks for treatment at the Westminster Hospital annex in Hampstead.

Portions of the new bomb are being made in the annex workshop, and the whole will be assembled and tested there by the hospital physicist during the next few weeks. The making of the new bomb will be in itself a costly undertaking. A new tungsten alloy, one and a half times the density of lead, will be used in the construction of the hollow globe within which the radium will be concealed. This alloy, a new discovery, will enable the size to remain as at present although the weight must be greatly increased. Within the lower circumference of this globe there will be a solid gold collar. The superior density of the gold will assist in confining within a narrower compass the gamma rays which issue from the radium, and will thus prevent the rays spreading and causing injury to healthy tissues.

The present bomb has now been in use day and night for two and a half years, and over 600 patients have received more than 7,000 treatments. It has been found that there is a great advantage in working at a greater distance from the patient, and this will be made possible by the employment of a much larger quantity of radium within the bomb; the patient will receive a more effective dose at a greater depth below the surface. Minor improvements will be made in the suspension of the new bomb. New types of applicators will be introduced, and it will be no longer necessary to adjust the distance of the radium from the patient by raising or lowering the internal tube to which the radium container is attached.

For five days of the week the present Westminster bomb is in constant use throughout the whole 24 hours of each day. Three shifts of operators enable the work to go on. During the remaining two days of the week, Saturday and Sunday, the bomb is used by the physicist and surgeons for experimental work, the need for extensive research into questions of effect and dosage being always present. The new buildings in Horseferry Road will enable the radium and x-ray work now carried on in Hampstead to be brought again to Westminster. At least 1,400 square feet of space has been allotted in the plans of the new Westminster Hospital for this work.

MIGRATORY WATERFOWL REFUGES

RECENT executive orders have established two neighborhood refuges in North Dakota that when complete will cover 80,000 acres and will be one of the largest duck-producing areas in the United States. These sanctuaries are under the supervision of the U. S. Biological Survey and are designated the Upper and the Lower Souris Migratory Waterfowl Refuges. Both are being improved by CCC workers.

The two refuges lie on the Souris River, a stream that comes out of Saskatchewan and meanders through North Dakota for 358 miles, cuts a valley 170 miles long through the heart of one of the great hereditary nesting areas of the Northwest, and then goes north into Manitoba. Prior to the disastrous drainage activities of the early 1900's, hundreds of duck hunters went to this region every autumn.

The Upper Souris Migratory Waterfowl Refuge, a 30,000-acre tract in Ward and Renville Counties, not far northwest of Minot, will contain a large storage reservoir to furnish a more uniform water supply for that area and also for the Lower Souris Migratory Waterfowl Refuge. The principal dam for the storage reservoir will be about 27 feet high, requiring 302,000 cubic yards of earth fill, with concrete and steel outlet works and a separate spillway of rubble and reinforced concrete.

The Upper Souris dam will have a storage capacity, at normal water-level, of about 112,000 acre-feet and will provide water for flood-irrigating parts of the valley that have never been agriculturally productive since the costly drainage activities of 30 years ago. Flood storage will also improve the sanitary conditions of several valley towns.

Two CCC camps on the upper refuge are constructing smaller dams, dykes, ditches, spillways and two outlet structures in the development of an 8,000-acre marsh area in the valley. They will plant food and cover and construct firebreaks, roads, fences and buildings.

The Lower Souris Migratory Waterfowl Refuge, a 50,000-acre sanctuary 70 miles down the river from Upper Souris, is in Bottineau and McHenry Counties and northeast from Minot. This refuge has greater potentialities for geese and duck production than any other area now administered by the survey. The refuge is a strip of original marsh 40 miles long and varying from 1 to 3½ miles in width. The natural depressions are filled when the spring run-off occurs, and, in the restoration, the 40-inch annual summer evaporation will be counteracted by water drawn from the large storage dam at Upper Souris. This assured water supply means that the marshes will provide food

for young ducks until they are well on the wing. A CCC camp is established on Lower Souris.

In addition to ducks and geese, the Souris Refuges winter thousands of sharp-tailed grouse that migrate from Canada with the onset of the northern blizzards. The food supply is abundant, and the sanctuaries now have a large population of pheasants, partridges and grouse, as well as rabbits, some lynx, a number of beaver, and an occasional deer. A private herd of buffalo, of 60 to 80 animals, is at present maintained on Upper Souris.

THE CURRICULUM IN PUBLIC HEALTH AT THE GEORGE WASHINGTON UNIVERSITY

THE School of Medicine of the George Washington University, of which Dr. Earl B. McKinley is dean, announces the establishment of a four-year integrated curriculum in public-health teaching to parallel its curriculum in mental health established three years ago under Dr. William A. White. The public-health curriculum has been made a part of the regular medical course for the degree of doctor of medicine, but is also open to special and graduate students in the public-health field. Courses in community health, sanitation, hygiene, preventive medicine and the public health aspects of medicine and surgery are included. The faculty is composed of the following specialists:

Roscoe Roy Spencer, A.B., M.D., associate professor of hygiene and preventive medicine, coordinating officer.
Warren F. Draper, A.B., M.D., professorial lecturer in public-health administration.
Walter L. Treadway, M.D., professorial lecturer in preventive medicine.
Royd R. Sayers, M.D., professorial lecturer in industrial hygiene.
William Charles White, M.B., M.D., professorial lecturer in tuberculosis.
Louis L. Williams, M.D., professorial lecturer in preventive medicine.
R. A. Vonderlehr, M.D., professorial lecturer in preventive medicine.
Estella F. Warner, M.D., professorial lecturer in child hygiene.
Leslie C. Frank, C.E., professorial lecturer in sanitary science.
Ralph E. Tarbett, B.S., professorial lecturer in sanitary science.
Selwyn D. Collins, A.M., Ph.D., professorial lecturer in sanitary science.

Other new appointments to the faculty and staff for the coming year include:

A. K. Balls, M.D., adjunct professor of biochemistry.
Edward Lewis, M.D., assistant professor in pediatrics.
William S. Anderson, M.D., instructor in pediatrics.
Harry A. Davis, M.D., instructor in pathology.
Elmer W. Fugitt, M.D., clinical instructor in medicine.
Madison Hunt, A.B., M.A., fellow in biochemistry.
Harry S. Douglas, A.B., M.D., research assistant in biochemistry.
Otto Behrens, M.A., Ph.D., research assistant in biochemistry.
Clement J. Rodden, B.S., M.S., microanalyst in biochemistry.

THE AUTUMN MEETING OF THE NATIONAL ACADEMY OF SCIENCES

THE autumn meeting of the National Academy of Sciences will be held at the University of Virginia, Charlottesville, on November 18, 19 and 20. This is the first time in its history of seventy-two years that the academy will have held a meeting in the South. Charlottesville is the center of historic Virginia, with the homes of Jefferson, Madison and Monroe in the vicinity. Dr. S. A. Mitchell is chairman of the local committee. Other members of the committee are: J. L. Newcomb, A. G. A. Balz, Professor Ivey F. Lewis, W. A. Nelson, Professor W. S. Rodman and F. E. Wright, *ex officio*.

Adequate hotel accommodations are available at the Monticello Hotel and at the Farmington Country Club, both of which have granted special rates to members and their families. The original Farmington home was remodeled by Jefferson. It is three miles from the University of Virginia, but taxi service will be arranged. Farmington affords a good view of the Blue Ridge Mountains.

Complimentary luncheons will be served to members and guests on Monday, Tuesday and Wednesday, November 18, 19 and 20. The receptions on each of the three afternoons will also be complimentary to members and guests.

The provisional program is as follows:

SUNDAY, NOVEMBER 17

2:30 P. M., Meeting of the Council, followed by dinner, Farmington Country Club.

MONDAY, NOVEMBER 18

Morning, 10:00, Address of Welcome by John Lloyd Newcomb, president of the University of Virginia. Response by President Frank R. Lillie, of the National Academy of Sciences. 10:30, First Scientific Session. *Afternoon*, 1:00, Complimentary Luncheon for members and guests, including ladies. 2:30, Second Scientific Session. 4:30, Reception, to members and guests, at the home of President and Mrs. J. L. Newcomb. *Evening*, 8:15, Public Lecture in Cabell Hall by Professor Harold C. Urey, of Columbia University.

TUESDAY, NOVEMBER 19

Morning, 9:00, Tour of the University. 9:30, Business Session (for members only). 10:30, Third Scientific Session. *Afternoon*, 1:00, Complimentary Luncheon for members and guests, including ladies. 2:00, Fourth Scientific Session. 4:30, Visit to the Leander McCormick