

ignited, and there were several outbreaks of fire. About a million people were homeless, and though the loss of life was probably not more than five hundred, the material damage amounted to hundreds of millions of pounds.

The meteorologists at least have not been found wanting, and it is fitting to conclude this brief

account with a reference to the work of the United States Weather Bureau. The forecasts of the times and heights of flood stages were of incalculable assistance throughout to the patrols and rescue organizations. Without these warnings, the loss of property, and still more of life, would have been enormously greater.

News and Views

Prof. J. Stanley Gardiner, F.R.S.

THE retirement of Prof. Stanley Gardiner from the chair of zoology and comparative anatomy in the University of Cambridge next October will bring to an end a remarkably interesting and important period in the history of the Department of Zoology at Cambridge. At the time of his appointment, Prof. Gardiner was a leading authority on marine zoology, with a specialist's knowledge of the systematics of corals. He had gained a wide knowledge of the methods used in the exploration of the sea during the times when he took part in expeditions to the Pacific and Indian Oceans. As a result, he has been able to give most important and valuable advice and assistance to all the British expeditions for scientific oceanography from the time of his appointment to the present day. But Prof. Gardiner is a naturalist, and his extensive interests in animals and plants have given him a wide sympathy for all branches of scientific research in zoology, and therefore when the dream of an adequate zoological institute in the University became true, he saw to it that every aspect of the subject was fully provided for. The very large number of his former pupils will remember with gratitude the personal interest he took in their work, and the kindly advice and help he gave them at the outset of their careers.

Dr. J. Gray, F.R.S.

Prof. Stanley Gardiner will be succeeded by Dr. James Gray, who was one of his pupils when he became professor in 1909. Dr. Gray has had a varied career. He was demonstrator of zoology before the Great War, carrying out research on fertilization of echinoderm eggs. Then he saw war service from August 1914 until the peace, serving in France and Palestine, attaining the rank of captain and being awarded the *M.C.* Returning to Cambridge, he became Balfour student, commencing a long line of research on ciliary movement, in which he and his pupils are still interested. Lecturer and reader in turn, by a natural evolution he passed onwards to a comprehensive study of the physiology of animal locomotion, being especially interested in fish. In 1928, he was visiting professor at Columbia University. His share in the rebuilding of the whole Zoological

Department at Cambridge was great, and in particular he was charged with the design of the experimental section, which contains, besides a teaching laboratory, twenty-five separate research rooms and at present overflows into the whole building. Elected to the Royal Society in 1929, he is now a member of the Council. He is also a member of the Advisory Committee on Fisheries of the Development Commission, but perhaps his greatest public service to science is in the editing of the *Journal of Experimental Biology*, which is associated with the Society of the same name.

Inauguration of an Ultra-centrifuge at Oxford

A SVEDBERG ultra-centrifuge, generously lent to the University of Oxford by the Royal Society and erected in the Department of Biochemistry (Prof. R. A. Peters), was formally set going on February 27 in the presence of a large company by the Vice-Chancellor of the University, the president of the Royal Society and Prof. The Svedberg of Uppsala himself. The cost of the complete instrument, defrayed by the Royal Society, was £2,000. The cost of its erection has been met by the University. It is one of five similar instruments, the third outside Sweden—two are at Uppsala, one in London at the Lister Institute of Preventive Medicine, and another in the United States. It is designed for the determination of the rate of sedimentation of particles of very high molecular weights. The rotor, of a nickel-chromium steel found after many trials to stand the great strain put upon it, is supported by bearings of Babbitt's metal and driven by two small oil turbines, one at each end of the shaft, which give a smooth and easily regulated run. The rotor moves in an atmosphere of hydrogen of about 25 mm. pressure. Rotation speeds, determined electrically, up to 65,000 revolutions per minute (equal to about 300,000 times gravity) can be safely attained. The solution to be centrifuged is contained as a thin column in a cell with quartz windows carried, and suitably balanced, on the rotor. The height of the column, which is about 7 cm. from the centre of rotation, does not generally exceed 27 mm. The position of the moving boundary of the particles sedimented during a run of the ultra-centrifuge is determined from photographs obtained at suitable