

(not protoactinium as it is often misspelt nowadays). The study of radioactive recoils, of neutron-induced reactions in cloud chambers and of the absorption of  $\gamma$ -rays are a few more topics out of many. Professor in the University of Berlin since 1926 and joint director—with Hahn—of the Kaiser Wilhelm Institut für Chemie in Berlin since 1931, she left Germany in 1938 and has since lived and continued her research in Sweden. Her work with Hahn on the effects of neutrons on uranium came to fruition shortly after she left, in the discovery by Hahn and Strassmann of the formation of much lighter elements such as barium; but it was she (in a paper with O. R. Frisch) who explained the process in terms of Bohr's drop model of the nucleus as nuclear fission.

#### Prof. Otto Renner

PROF. OTTO RENNER has been professor of botany first at Jena and, since the War, at Munich. Renner's early work was directed chiefly to plant physiology. Between 1910 and 1915 he was interested especially in the problem of the ascent of sap and contributed a number of observations and theoretical considerations in support of Dixon's cohesion theory. For example, he developed the ingenious method of using fern sporangia for determining the cohesive strength of water. From 1912, however, he turned more and more towards genetic studies on *Oenothera*, for which he is chiefly known. Thirty years ago the importance of Renner's work on *Oenothera* would have seemed to lie in his breeding experiments, which resolved de Vries's mutation theory in terms of orthodox genetics. In the perspective of to-day his work has become much more significant than this. For it now appears that the complex differences in *Oenothera* are something between the gene differences as understood in ordinary Mendelian experiments and the differences existing between natural species. Renner put these differences into relation with the chromosomes on which they were based and also with the cytoplasmic elements with which they interacted. He also put them into relation with their developmental expression in the pollen and in the embryo sac, thus illuminating the general problem of fertility. Finally, others working on Renner's foundations have put them in relation to evolutionary processes. In short, no account of the genetics of higher organisms, whether physiological, cytological or evolutionary, would be satisfactory or convincing to-day which did not pay attention to Renner's work.

#### Johann Georg Gmelin (1709–55)

THE Gmelin family of Tübingen in Germany included several distinguished medical practitioners and scientific workers during the seventeenth and eighteenth centuries. Leopold is remembered for his discovery of potassium ferrocyanide in 1822 and for his "Handbuch der Chemie" (1817–19). His father's cousin, Christian Gottlieb, invented a process for the artificial manufacture of ultramarine in 1828 and was the first to observe the red coloration given to a flame by lithium salts. Johann Georg Gmelin, who died two hundred years ago on May 20, 1755, made his name as a botanist, chemist, pharmacologist and explorer. Son of the apothecary and chemist, Johann Georg Gmelin, he was born in Tübingen on June 12, 1709, and at the early age of fourteen began to study medicine in the local University. In 1725 he publicly defended a dissertation "De glandularum mesentericarum in chylum actione retardativa", and graduated M.D. in 1727. Following in the foot-

steps of two of his teachers, Johann Duvernoy and Georg Bernhard von Bülfinger, he went to St. Petersburg that same year and obtained a scholarship at the Imperial Academy of Sciences, which had recently been founded by Peter the Great at the instigation of Laurentius Blumentrost the younger, who served as its first president during 1725–33. Gmelin was appointed professor of chemistry and natural history in 1731 and two years later, at the request of the Empress Anna Ivanovna, undertook to explore Siberia in the company of the geographer and astronomer, Delisle de la Croyère, and the historian, Gerhard Friedrich Müller. He returned to St. Petersburg in 1743 and later published his monumental works, "Flora Sibirica" (4 vols., 1747) and "Reisen durch Siberien" (4 vols., 1751). In 1749 he was elected professor of medicine, chemistry and botany at Tübingen, where he died six years later of 'a fever' at the early age of forty-five. The bibliography of his writings in W. M. von Richter's "Geschichte der Medicin in Russland" (3, 219; 1817) includes the dissertations "De rhabarbaro" and "Corticis peruviani in febribus intermittentibus usum".

#### The Nature Conservancy: New Members

THE Nature Conservancy announces that the following have been appointed as members: Sir Basil Neven-Spence, Dr. F. Fraser Darling and Sir Wavell Wakefield. The vacancies have arisen through the death of Sir Edward Keeling and the retirement (on completion of their terms of service) of Sir Norman Kinnear and of Prof. J. R. Matthews, who remains a member of the Scottish Committee and the Scientific Policy Committee, but is succeeded by Sir Basil Neven-Spence as chairman of the Scottish Committee. Dr. C. B. Williams and Major D. C. Bowser have been appointed members of the Conservancy's Scottish Committee in succession to Prof. A. D. Peacock and Dr. D. N. McArthur, who have retired on completion of their terms of service. Mr. C. M. Floyd has been appointed a member of the Committee for England. Dr. V. M. Conway has been appointed director of the Conservancy's Merlewood Research Station at Grange-over-Sands in succession to Dr. K. R. S. Morris, who has resigned.

#### Royal Aeronautical Society: Awards

THE following awards have been made by the Royal Aeronautical Society: *The Society's Gold Medal*: Lord Hives, for his outstanding work in the field of propulsion of aircraft; *The Society's Silver Medals*: Dr. R. A. Frazer, for his outstanding work in aerodynamics over a period of many years, and Dr. A. A. Griffith, for his outstanding research contributions on aircraft engine design; *The Society's Bronze Medal*: Prof. M. J. Lighthill, for his contributions to aeronautical knowledge; *Wakefield Gold Medal*: Mr. J. Taylor, for the design and development of the counting accelerometer; *The British Gold Medal*: Mr. G. H. Dowty, for his outstanding practical achievement in the design and development of aircraft accessory systems; *The British Silver Medal*: Dr. S. G. Hooker, for his practical achievement in the design and development of aero engines; *George Taylor (of Australia) Gold Medal*: Mr. R. C. Morgan, for his paper on "Practical Experience of Airline Engineering"; *Simms Gold Medal*: Dr. D. Williams, for his paper on "Recent Developments in the Structural Approach to Aeroelastic Problems".