

Obituary Notices

Prof. Charles Gravier

PROF. CHARLES GRAVIER, of the Natural History Museum of Paris, died on November 15 in his seventy-third year. Born at Orléans in 1865, and educated at the Ecole Normale of Saint-Cloud, he made his first step in the academic service of his country with an appointment in 1887 to a professorship at the Ecole Normale of Grenoble. In 1893, he was *agrégé des Sciences Naturelles* and in 1894 became *Professeur de Lycée* at Clermont-Ferrand, and two years later obtained his doctorate with a thesis on the Polychæta entitled "Recherches sur les Phyllociens".

From Clermont-Ferrand Gravier moved to Paris, where he held the post of assistant first to E. Perrier and afterwards to L. Joubin at the Natural History Museum. In 1917 he was appointed *Professeur au Muséum (Vers et Crustacés)*, a chair which he held until his death, and in 1922 he was elected a member of the Paris Academy of Sciences. He married a lady who also belonged to the academic world, for she held a chair of mathematics at the Ecole Normale of Sèvres, and their only son Maurice is a student of Scandinavian and Germanic philology.

Gravier saw more of the world than most men that follow an academic career, for he worked at the Zoological Station at Naples, at Bergen, in Germany, and was familiar with all the principal European museums. He went twice to America, and was entrusted with two scientific missions, to San Thomé in the Gulf of Guinea and afterwards to Djibouti in the Red Sea.

Gravier's life was devoted to the study of marine zoology, and his great powers of work enabled him to cover a wide field. He was mainly preoccupied with the systematics and morphology of the Polychæta and the Coelenterates, but he was also deeply interested in their bionomics, and he had the capacity of extracting the last ounce of evolutionary significance from his material. He wrote upwards of eighty papers on the Coelenterates, dealing with nearly all the groups of that phylum, and about a hundred and thirty papers on the Polychæta, of which nearly thirty were in collaboration with J. L. Dantan. He also published on the Crustacea and sponges.

Much of Gravier's work was in the form of short notes, two or three pages in length, but he also contributed a number of substantial memoirs. For example, in the Coelenterates he described the corals of the second French Antarctic expedition and also those collected by the Prince of Monaco's oceanographic expeditions. In the Crustacea he described in 1912 the parasitic Copepoda of the second French Antarctic expedition and in 1931 published a valuable account of the breeding habits of the group. The bulk of his work was on the Polychæta, and in this group his main contributions were the description of the Polychæta of the first and second French Antarctic

expeditions, his memoir on the Polychæta of the Red Sea, his papers on the breeding habits of the group, and more recently his account in collaboration with J. L. Dantan of the planktonic Polychætes obtained by fishing at night with a light in the Bay of Algiers and off the coast of Annam. He also made a special study of freshwater Polychætes.

All Gravier's work was careful and finished, and displayed the characteristic French clarity, proportion and sense of style. As a man, he had great charm. He never obtruded his great learning and always remained courteous, unassuming and kind,

C. C. A. M.

Prof. E. L. Nichols

ON November 10 the death occurred of Prof. E. L. Nichols, emeritus professor of physics in Cornell University, in his eighty-fourth year. Prof. Nichols's connexion with Cornell was of very long standing, as he studied there from 1871 until 1875 and was appointed professor of physics in the University in 1887. Thus for the past fifty years he has been continuously associated with Cornell, his appointment as emeritus professor dating from 1919. Previous to 1887, he had held the post of professor of physics, first at the University of Kentucky and then at Kansas University.

The period through which Prof. Nichols lived was one of most active and intense development in the realm of physics; this will be the more readily appreciated from the fact that he was for a short time associated with Edison in the development of the incandescent lamp. Throughout his life, his most constant interest was in photometry, optics and fluorescence, and he was responsible for a very large number of papers on various aspects of these subjects. His investigations of fluorescent phenomena were particularly numerous, and the book he wrote in collaboration with H. L. Howes and D. T. Wilbur on "Cathodo-Luminescence and the Luminescence of Incandescent Solids" is probably his most important work. Measurements of fluorescence are difficult at any time, and in his early work Prof. Nichols must have been very seriously hampered by the absence of the photometric standards to which we are now accustomed; but it must have been a source of considerable interest and satisfaction to him to see the rapidly growing industrial importance of the subject of fluorescence during the last few years, in connexion with new forms of lighting devices and with cathode ray tube development.

In addition to his own research activities, Prof. Nichols played an important part at the end of the last century in placing research in its correct perspective in American universities. At that time, teaching was almost the sole concern of the staffs of the various universities, and it is largely due to