

Yves Delage. By Professor J. H. Ashworth, F.R.S.

(Read January 9, 1922.)

THE loss of Professor Yves Delage is deeply felt by a wide circle of friends and fellow-workers by whom he was held in the highest esteem for his outstanding merits as an investigator and for his unaffected simplicity. He was a pupil of Lacaze-Duthiers, and obtained his doctorate in 1881 for his "Contribution à l'étude de l'appareil circulatoire des crustacés édriophthalmes marins." His next important work was his famous memoir (1884) on *Sacculina*, in which he described the structure and made known for the first time the complete life-history of this remarkable parasitic crustacean and its extraordinary relations to its host (crabs). Succeeding memoirs dealt with *Balænoptera*, the histology of *Convoluta*, the functions of the semicircular canals—Delage was not only a first-rate morphologist, but a keen physiologist,—with the oocysts of invertebrates as organs of orientation, and with the development of siliceous and fibrous sponges.

In 1895 appeared his stimulating book on *L'hérédité et les grands problèmes de Biologie générale*, an impressive example of the great extent of his knowledge and the clearness of his outlook. In this volume, Delage discussed in masterly fashion the structure of protoplasm, development, heredity, the evolution of species, and the principal theories relative to these subjects. In his views on evolution he was definitely Lamarckian, and on many points opposed to Weismannism. By this time he had turned his attention to the factors—external and internal—which determine the development of the egg, and he propounded a theory to account for the activation of the egg which led him to the experiments on artificial parthenogenesis with which his name (and that of Jacques Loeb) will ever be associated. He was able, by treating eggs of sea-urchins in hypertonic sea water alternately with tannin and ammonia, to activate them, and he succeeded in rearing some of the resulting larvæ through their metamorphosis. His researches in this domain extended over some ten years. His last published work (1920) is an important volume on dreams, in which he discussed the principal theories, psychological and physiological. A list of his publications shows not only his wonderful output of first-rate work—for his industry was extraordinary—but also his many-sided intellect.

Delage rendered notable service to biology by founding in 1895

*L'Année biologique*, some twenty volumes of which have appeared giving critical abstracts of memoirs on general biology. Reference should also be made to the *Traité de Zoologie concrète*, written in collaboration with Professor Hérouard, the five volumes of which are marked by great lucidity of exposition.

No account of his services to biological science would be complete which omitted to record an appreciation of his work for the marine biological station at Roscoff, first as assistant-director under Lacaze-Duthiers, and, since 1900, as director. In 1908-9 he reconstructed, extended, and reorganised the station, and for a generation has been an inspiration to many grateful workers there.

He succeeded Lacaze-Duthiers twenty years ago in the chair of Zoology at the Sorbonne, and was in active work there practically to the end of his life. For several of the last years an affection of the eyes made him almost blind, so that he was unable to carry on himself researches requiring delicate technique; but his intellectual vision remained as keen as ever, and younger workers continued to receive freely of his encyclopædic knowledge and his warm encouragement. He was elected an Honorary Fellow of the Society on 21st June 1920, and died on 7th October 1920, aged sixty-six.