

OBITUARIES

Dr. Cresswell Shearer, F.R.S.

DR. CRESSWELL SHEARER, who died at Cambridge on February 7, after a brief illness, will be remembered as one of the most interesting personalities in the ranks of British zoologists.

As a young man Shearer took a medical degree at McGill University, but his main scientific interests lay in the field of experimental embryology. He spent much time at Naples at a period when the Stazione Zoologica was perhaps at the zenith of its fame. There he met many of the great figures of late nineteenth century biology, and his recollections of this period were afterwards a constant source of delight and instruction to his own Cambridge pupils. In 1910 he settled in Cambridge, and shortly afterwards was appointed the first of a series of University lecturers in experimental zoology. The next decade was a period of active and productive research. They were also, however, years of unusual inspiration to students. His lectures were almost invariably unorthodox in presentation, if not in substance, but they gave a real insight into contemporary biological thought and threw into relief the lines along which future progress seemed likely to come.

Prior to the War of 1914-18, Shearer had published a number of important papers on the development of trochosphere larvæ and on sex determination in *Dinophilus*. In 1913 the *Philosophical Transactions of the Royal Society* contained the well-known monograph on "The Experimental Hybridisation of Echinoids", which was the result of Shearer's work in collaboration with W. de Morgan and H. Munro Fox. This work was carried out at Plymouth, where many of his pupils followed him in the summer months of each year. During the War, he returned to medicine and worked in the west of England. Here began many years of happy married life.

Shearer was elected a fellow of the Royal Society in 1916, and in 1918 returned to Cambridge to carry out a series of important researches on the effect of fertilization on the metabolism of the eggs of sea urchins. He showed, for the first time, that spectacular changes in oxygen consumption occur for a few seconds after the spermatozoon has entered the egg.

Shearer's versatility was perhaps one of the most characteristic features of his University career. He worked first in the Department of Zoology, then in those of Pathology, Physiology, and finally Anatomy, keeping in close contact with the younger research workers in all these and other laboratories. For several years he held the post of University lecturer in embryology in the Department of Anatomy. On his retirement from University work, he returned once more to the Zoological Department, much to the pleasure and advantage of the Department.

Apart from his biological interests, Shearer was a man of wide general learning. His knowledge of medieval Italian architecture was profound, and in 1935 he published "The Renaissance of Architecture

in Southern Italy". It is to be hoped that his later work will also be made available to those interested in this field of learning. His ability as an artist and his enthusiasm for photography were not only of great value to him in both his scientific and literary work, but also gave very considerable pleasure to his friends.

Shearer was a man of rather retiring disposition, but once the thin crust of his reserve was broken, he revealed a warm-hearted and most generous nature. His memory will not readily fade. J. GRAY.

Dr. J. G. Priestley

By the death of John Gillies Priestley, which occurred on February 9 at the age of sixty-one, the School of Physiology at Oxford has suffered a loss which it can ill afford, especially at this critical time when university education is faced by endless difficulties arising from the War. He was, it is true, somewhat reticent by nature, but those who knew him best gained in his friendship something that they prized. A man of great personal charm, generous to those in need, he was always ready to interrupt his own work to give help and advice to any who sought it. With a balanced judgment on the work of others, he was hypercritical of himself and modestly diffident of his own powers. Meticulously accurate in his experimental methods, no trouble was too great for him to take in his research work, and in his teaching he always tried to inculcate into his pupils some of his own gift for accurate observation and attention to detail. With a quiet courage and determination that was characteristic he fought against ill-health that told more and more upon him as the years passed, publishing his final paper in December 1940, and resigning his readership only a few weeks before his death when he knew that he had no longer strength to fulfil the duties of his office.

Priestley was educated at Eton and gained an open scholarship at Christ Church in 1898. It was whilst reading physiology at Oxford that he became acquainted with John Haldane, whose friendship was to have a great influence on his future career. As soon as he had taken his degree in 1902, he joined Haldane in an investigation which resulted, in 1905, in the publication under their joint authorship of that remarkable paper on the "Regulation of the Lung Ventilation" which was to play so large a part in the development of physiological knowledge. Leaving Oxford he then went to St. Bartholomew's Hospital to complete his clinical studies. After gaining his medical qualification he became house physician to Sir Wilmot Herringham, whose high opinion he won. After working for a year with Falta in Vienna he returned to St. Bartholomew's to take charge of the new Laboratory of Chemical Pathology which had just been opened, but within two years he developed tuberculosis of the lungs and had to go

to Davos for treatment. The disease was checked, but pulmonary fibrosis left him with a legacy of ill-health, which was all the more tragic to a man who had a great interest in out-door sport and big game shooting, and had been a distinguished oarsman at Oxford.

Returning to Oxford in 1913 he began a series of investigations into the part played by the kidneys in the regulation of the composition of the blood, but this work was soon interrupted by the outbreak of the War of 1914-18. He volunteered at once, and was given a commission in the R.A.M.C. on September 1, 1914. Serving in France and Belgium he was in the following year awarded the Military Cross and was mentioned in despatches. He was wounded at Neuve Chapelle. Later in the War he was associated with Haldane and Meakins in an investigation into the after-effects of war-gas poisoning. When peace came he was appointed reader in clinical physiology at Oxford. His further investigations included work on various aspects of the physiology of respiration, on the function of the kidney, on some problems of general metabolism, and, more recently, he was engaged on a critical examination of methods for ascertaining the output of the human heart. He was again, and most appropriately, associated with Haldane as joint author of a new edition (1935) of Haldane's book "Respiration". With a clear appreciation of the relationship of physiology to medicine he was largely responsible for initiating a practical course of human physiology in the Final Honour School of Physiology, which led to the publication of "Human Physiology; a Practical Course", now in its second edition, of which he was joint author. For the Physiological Society he prepared a subject index of the first sixty volumes of the *Journal of Physiology*, and he succeeded John Mellanby in the editorship for a few years of *Physiological Abstracts*, a task in which his expert knowledge of the international decimal system for the classification of scientific papers proved of great service.

He leaves a widow, and a son, Major Charles Priestley.
C. G. DOUGLAS.

Dr. Alexander Bowman

AMONG the men of science who have guided fishery research in Scotland, and they form a distinguished company, Dr. Bowman was marked by a grasp of the practical problems of the fisheries and of the scientific efforts which must lie behind the solution of these problems.

Yet scientific work was not his earliest notion of a career. He began by helping his father in a prosperous business in Aberdeen, and then proceeded to take the normal training for a teacher at the Free Church Training College in that city. It was after these first essays that he decided to enter the University, and to study for a degree in science. He graduated in the University of Aberdeen with distinction in zoology, and was awarded the Fullerton research scholarship in natural science, but before the completion of its tenure he resigned on being appointed naturalist to the Fishery Board for Scotland.

There he worked in collaboration with Sir D'Arcy

Thompson, scientific member of the Fishery Board, and his early activities were centred upon the research steamer *Goldseeker* and the amassing of enormous collections made during the periodic voyages of that vessel, which were to help in explaining the movements of waters, the changes of salinity, the distribution of food materials, and thus to interpret the movements of the fishes themselves. Later he applied himself with great success to the solution of practical fishery problems, such as the elucidation of the enormous fluctuations in fish supplies, the forecasting of future yield, the effect of the size of mesh in influencing escapes of under-sized fish, and so on. During these years he worked almost single-handed and with great devotion, spending month after month at sea in the stormy northern waters, laying the foundation of his vast knowledge of the fisheries in their scientific and practical aspects. In 1908, Dr. Bowman obtained the degree of D.Sc. at the University of Aberdeen for a thesis containing some of his pioneer work in the experimental study of fishing methods, notably on the otter trawl and its effect on the stocks of fish. His experience of fishery research was widened by periods of study in Denmark and Germany.

On the sudden death of Mr. Nelson, who had just succeeded Dr. T. Weymss Fulton as scientific superintendent of the Fishery Board for Scotland, Dr. Bowman was appointed to fill the post in 1923. In this position he developed his earlier researches and enlarged the scientific staff of the Board. An excellent example of the value of his methods is to be seen in his work upon the haddock, which has formed the foundation of the most thorough-going knowledge of one of our most important food fishes. He considered that one of his greatest honours was his appointment in 1925 as chairman of the Northern North Sea Committee of the International Council for the Exploration of the Sea, but the choice was not surprising, for his colleagues at home and abroad had the greatest respect for his knowledge and judgment, and he was properly regarded as one of the best fishery experts of his time.

Dr. Bowman's training as a teacher was made use of by the University of Aberdeen when it appointed him lecturer in the scientific study of fisheries, and in Aberdeen and the surrounding district he conducted classes in marine zoology for teachers and delivered popular lectures on natural history. In 1933 ill-health compelled him to resign from his post, and a lingering illness ended his life on January 14, when he was in his sixty-fifth year.

WE regret to announce the following deaths:

Prof. F. A. P. Aveling, University professor of psychology in King's College, London, on March 6, aged sixty-five.

Miss Ethelind Gardiner, for thirty-five years secretary of the Royal Society for the Protection of Birds, on March 1.

Sir George Grierson, O.M., K.C.I.E., the Oriental scholar and compiler of the "Linguistic Survey of India", on March 7, aged ninety.