

**Sir Edward Albert Sharpey-Schafer,**  
Kt., M.D., D.Sc., LL.D., F.R.S.

THE death of Sir Edward Albert Sharpey-Schafer on March 29, 1935, in his eighty-fifth year, has taken from our midst the doyen of British physiologists and a man of outstanding personality and world-wide reputation. Sir Edward Sharpey-Schafer was elected a Fellow of the Royal Society of Edinburgh in 1900, shortly after his appointment to the Chair of Physiology in the University of Edinburgh, and from that time onwards took an active part in the work of the Society. He was a member of Council for three periods, Vice-President from 1913 to 1917, and President from 1929 to 1934. The Society awarded him the Neill Prize in 1921 for his contributions to our knowledge of physiology, and in recognition of his published work extending over a period of fifty years. His high scientific attainments, wide experience, and business capacity were freely given and were invaluable to the Society.

Born in London in 1850, Sir Edward was the son of John William Henry Schäfer and was of German origin on his father's side. He was educated at Clewer House School and at University College, London, where he came under the influence of William Sharpey, the first occupant of its Chair of Physiology. The training he received there, more particularly in histology and its technique, laid a fitting foundation to his life's work. His undergraduate career was of great promise, and he became the first Sharpey Scholar in Physiology in 1871. An unfortunate experience led him to abandon his intention of graduating in medicine in the University of London, but he took the qualification of M.R.C.S. in 1874. Thereafter he sought no degree—honorary degrees were to come to him in plenty in later days—but began his work in physiology as Assistant-Professor to Burdon Sanderson in University College. On the appointment of the latter to the Chair of Physiology in the University of Oxford, Schäfer became Jodrell Professor of Physiology in University College in 1883, and remained there until 1899, when he succeeded Professor William Rutherford in the University of Edinburgh. He resigned in 1933, barely two years before his death, and had been successively the head of two great departments of physiology, in London and in Edinburgh, for a period of fifty years, and had been actively engaged in teaching and research for sixty years.

As a teacher Sir Edward was logical and clear, his subject-matter well arranged, and as often as possible illustrated by diagrams or lantern slides. But it was research which attracted him most and in which he excelled. Keenly observant and critical, little escaped his notice. His publications were many and varied, his outlook wide, and there were few branches of his subject to which he had not made valuable contributions. He was a pioneer in the field of the ductless glands and internal secretions. With Oliver in 1894 he was the first to discover the pressor activity of the medulla of the suprarenal capsules and of the pituitary body. He also discovered the immediate diuretic effect of extracts of the posterior lobe of the pituitary body, though he failed to recognise their subsequent anti-diuretic property. His work laid the foundation of the physiology of the ductless glands, and his writings maintained his position as the authority in this branch of physiology. His book on *The Endocrine Organs*, an extension of the Lane Medical Lectures delivered at Stanford University, California, was published in 1916, and a second edition in two volumes, Part I appearing in 1924, and Part II in 1926. In it he defined internal secretion and introduced the term autacoid to include all the drug-like or medicinal substances produced by the body, dividing them into stimulants, for which he kept the name hormone previously introduced by Bayliss and Starling, and inhibiting agents or chalones. It is of interest to note that in the section upon the internal secretion of the pancreas he remarked that it would be convenient to refer to the hypothetical autacoid as "insuline." This was six years before Banting and Best isolated from the pancreas the active substance now known as insulin.

While at University College Schäfer did much valuable work upon the central nervous system, investigating tracts and the localisation of function in the cerebral cortex and other parts of the brain and spinal cord. Microscopical observations upon insect muscle led him to propound a theory of muscular contraction which he linked up with the action of cilia and amœboid movement. He also described the histological details of the absorption of fat by the intestinal villi. Latterly he had been engaged in the study of respiratory movements and the physiology of the pulmonary circulation. He also experimented upon himself, and within recent years had had afferent nerves divided in his left hand to ascertain the sensory changes which resulted from various methods of nerve lesion.

Shortly after going to Edinburgh Schäfer investigated the means of resuscitation in asphyxia, especially after apparent death by drowning. His prone pressure method, now known as the Schäfer method of treatment, proved highly successful and a great advance upon existing methods, and has been widely adopted by life-saving societies all over the world

(*Proc. Roy. Soc. Edin.*, vol. xxv, 1903, pp. 39–50). The Royal Life Saving Society awarded him their Distinguished Service Medal in 1909, and the great merit of his work has been recognised by the public.

In 1899 Schäfer edited the *Advanced Text-book of Physiology* in two volumes, a standard work to which he contributed largely. His other books include *A Course of Practical Histology*, *The Essentials of Histology*, now in its thirteenth edition, a *Text-book of Microscopic Anatomy*, which forms part 1 of vol. ii of Quain's *Anatomy*, and *Experimental Physiology*, now in its fifth edition. He wrote in conjunction with Professor Symington vol. iii, parts 1 and 2 of Quain's *Anatomy*, upon Neurology and the Peripheral Nerves and Sense Organs. His *History of the Physiological Society 1876 to 1926* appeared in 1927. Sir Edward was then the only surviving member of the small band of distinguished men who founded the Physiological Society in 1876. He founded the *Quarterly Journal of Experimental Physiology*, and edited it until his retirement in 1933. Volume xxiii of the journal consisted of papers written by his past and present assistants in 1933, and was dedicated to him.

Schäfer was one of the General Secretaries of the British Association from 1895 to 1900, and its President at the meeting in Dundee in 1912. His address on that occasion upon life and its origin was a notable one, and in some respects far in advance of the time in which it was delivered.

Honours came to him freely. He was elected a Fellow of the Royal Society in 1878, and was awarded a Royal Medal in 1902 and the Copley Medal in 1924. The Royal College of Physicians awarded him the Baly Medal in 1897. He was knighted in 1913. The Universities of Aberdeen in 1897, McGill in 1908, St Andrews in 1911, and Edinburgh in 1933 conferred upon him the honorary degree of LL.D.; Trinity College, Dublin, in 1905, Cambridge University in 1914, Oxford University in 1926, and the National University of Ireland in 1933 conferred upon him the honorary degree of D.Sc. The University of Berne gave him their M.D. in 1910, the University of Groningen their M.D. in 1914, and the University of Louvain their D.Sci. Med. in 1930. The Royal College of Physicians of Edinburgh elected him an honorary Fellow in 1931. He was President of the International Physiological Congress at the meeting in Edinburgh in 1923.

Sir Edward built up a school of physiology in Edinburgh, and his pupils fill Chairs in many parts of the world. He encouraged his staff to devote part of their time to research work, and in a well-ordered department he saw that their teaching duties did not prevent their attention to what he considered of more importance. He set the pace and never wasted time.

Sir Edward suffered a cruel blow in the loss of his two sons while on active service in the War, the elder in the Navy and the younger in the Army. Outwardly he remained the same, and carried on bravely and efficiently. In memory of William Sharpey, who had inspired his life's work, he had named his elder son John Sharpey Schäfer, and soon after the loss of this son he assumed the name Sharpey, and was henceforward known as Sharpey-Schafer.

Soon after he came to Edinburgh Sir Edward made his residence at North Berwick, where he built Marly Knowe and laid out its charming grounds. He was very fond of gardening, and here and at his later home at Park End his talent was very evident in the beauty of his gardens. Sir Edward and Lady Sharpey-Schafer were most hospitable, and during the summer frequently entertained staff and students on a large scale. Sir Edward was also an enthusiastic golfer, and until recently played round the courses of North Berwick and Muirfield.

Sir Edward Sharpey-Schafer was one of the great physiologists of all time. His work was continuous for sixty years, and good to the end. At heart he was very human. He was a good friend, thinking nothing of personal inconvenience whenever he could be of any help. To the Royal Society of Edinburgh he gave much of his time and thought. We owe much to him, and we revere his memory. (See also *Obituary Notices of Fellows of the Royal Society*, No. 4, 1935, p. 401.)

P. T. H.