



Medicine



Sir Charles Sherrington

The Nobel Prize in Physiology or Medicine 1932

Biography



Charles Scott Sherrington was born on November 27, 1857, at Islington, London. He was the son of James Norton Sherrington, of Caister, Great Yarmouth, who died when Sherrington was a young child. Sherrington's mother later married Dr. Caleb Rose of Ipswich, a good classical scholar and a noted archaeologist, whose interest in the English artists of the Norwich School no doubt gave Sherrington the interest in art that he retained throughout his life.

In 1876 Sherrington began medical studies at St. Thomas's Hospital and in 1878 passed the primary examination of the Royal College of Surgeons, and a year later the primary examination for the Fellowship of that College. After a short stay at Edinburgh he went, in 1879, to Cambridge as a noncollegiate student studying physiology under Michael Foster, and in 1880 entered Gonville and Caius College there.

In 1881 he attended a medical congress in London at which Sir Michael Foster discussed the work of Sir Charles Bell and others on the experimental study of the functions of nerves that was then being done in England and elsewhere in Europe. At this congress controversy arose about the effects of excisions of parts of the cortex of the brains of dogs and monkeys done by Ferrier and Goltz of Strasbourg. Subsequently, Sherrington worked on this problem in Cambridge with Langley, and with him published, in 1884, a paper on it. In this manner Sherrington was introduced to the neurological work to which he afterwards devoted his life.

In 1883 Sherrington became Demonstrator of Anatomy at Cambridge under Professor Sir George Humphrey, and during the winter session of 1883-1884 at St. Thomas's Hospital he demonstrated histology.




The years 1884 and 1885 were eventful ones for Sherrington, for during the winter of 1884-1885 he worked with Goltz at Strasbourg, in 1884 he obtained his M.R.C.S., and in 1885 a First Class in the Natural Sciences Tripos at Cambridge with distinction. During this year he published a paper of his own on the subject of Goltz's dogs. In 1885 he also took his M.B. degree at Cambridge and in 1886 his L.R.C.P.

In 1885 Sherrington went, as a member of a Committee of the Association for Research in Medicine, to Spain to study an outbreak of cholera, and in 1886 he visited the Venice district also to investigate the same disease, the material then obtained being examined in Berlin under the supervision of Virchow, who later sent Sherrington to [Robert Koch](#) for a six weeks' course in technique. Sherrington stayed with Koch to do research in bacteriology for a year, and in 1887 he was appointed Lecturer in Systematic Physiology at St. Thomas's Hospital, London, and also was elected a Fellow of Gonville and Caius College, Cambridge. In 1891 he was appointed in succession to Sir Victor Horsley, Professor and Superintendent of the Brown Institute for Advanced Physiological and Pathological Research in London. In 1895 he became Professor of Physiology at the University of Liverpool.

During his earlier years in Cambridge, Sherrington, influenced by W. H. Gaskell and by the Spanish neurologist, [Ramón y Cajal](#), whom he had met during his visit to Spain, took up the study of the spinal cord. By 1891 his mind had turned to the problems of spinal reflexes, which were being much discussed at that time, and Sherrington published several papers on this subject and, during 1892-1894, others on the efferent nerve supply of muscles. Later, from 1893-1897, he studied the distribution of the segmented skin fields, and made the important discovery that about one-third of the nerve fibres in a nerve supplying a muscle are efferent, the remainder being motor.



At Liverpool he returned to his earlier study of the problem of the innervation of antagonistic muscles and showed that reflex inhibition played an important part in this. In addition to this, however, he was studying the connection between the brain and the spinal cord by way of the pyramidal tract, and he was at this time visited by the American surgeon Harvey Cushing, then a young man, who stayed with him for eight months.

In 1906 he published his well-known book: *The Integrative Action of the Nervous System*, being his Silliman Lectures held at Yale University the previous year, and in

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1913 he was invited to become Waynfleet Professor of Physiology at Oxford, a post for which he had unsuccessfully applied in 1895, and here he remained until his retirement in 1936. Here he wrote, and published in 1919, his classic book entitled *Mammalian Physiology: a Course of Practical Exercises*, and here he regularly taught the students for whom this book was written.

In physique Sherrington was a well-built, but not very tall man with a strong constitution which enabled him to carry out prolonged researches.

During the First World War, as Chairman of the Industrial Fatigue Board, he worked for a time in a shell factory at Birmingham, and the daily shift of 13 hours, with a Sunday shift of 9 hours, did not, at the age of 57, tire him. From his early years he was short-sighted, but he often worked without spectacles.

The predominant notes of his character as a man were his humility and friendliness and the generosity with which he gave to others his advice and valuable time. An interesting feature of him is that he published, in 1925, a book of verse entitled *The Assaying of Brabantius and other Verse*, which caused one reviewer to hope that «Miss Sherrington» would publish more verse. He was also sensitive to the music of prose, and this and the poet in him, but also the biologist and philosopher, were evident in his Rede Lecture at Cambridge in 1933 on *The Brain and its Mechanism*, in which he denied our scientific right to join mental with physiological experience.

The philosopher in him ultimately found expression in his great book, *Man on his Nature*, which was the published title of the Gifford Lectures for 1937-1938, which Sherrington gave. As is well known, this book, published in 1940, centres round the life and views of the 16th century French physician Jean Fernel and round Sherrington's own views. In 1946 Sherrington published another volume entitled *The Endeavour of Jean Fernel*.

Sherrington was elected a Fellow of the Royal Society of London in 1893, where he gave the Croonian Lecture in 1897, and was awarded the Royal Medal in 1905 and the Copley Medal in 1927. In 1922 the Knight Grand Cross of the Order of the British Empire and in 1924 the Order of Merit were conferred upon him. He held honorary doctorates of the Universities of Oxford, London, Sheffield, Birmingham, Manchester, Liverpool, Wales, Edinburgh, Glasgow, Paris, Strasbourg, Louvain, Uppsala, Lyons, Budapest, Athens, Brussels, Berne, Toronto, Montreal, and Harvard.

As a boy and a young man Sherrington was a notable athlete both at Queen Elizabeth's School, Ipswich, where he went in 1871, and later at Gonville and Caius College, Cambridge, for which College he rowed and played rugby football; he was also a pioneer of winter sports at Grindelwald.

In 1892 Sherrington married Ethel Mary, daughter of John Ely Wright, of Preston Manor, Suffolk. After some years of frail health, during which, however, he remained mentally very alert, he died suddenly of heart failure at Eastbourne in 1952.

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Sir Charles Sherrington died on March 4, 1952.

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