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BIOGRAPHICAL MEMOIR

OF

HARVEY CUSHING

1869—1939

BY

W. G. MacCALLUM

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PRESENTED TO THE ACADEMY AT THE AUTUMN MEETING, 1940

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Harvey Cushing

## HARVEY CUSHING

1869-1939

BY W. G. MAC CALLUM

Harvey Cushing was born in Cleveland, Ohio, on April 8th, 1869. He came from a family of physicians, his great grandfather David Cushing (1768-1814) practiced in Cheshire, Massachusetts; his grandfather Erastus (1802-1893) was a teacher in the Berkshire Medical School, and his father, Henry Kirke Cushing (1829-1910) was a practitioner in Cleveland. He had an elder brother, Edward, who after Yale, Harvard Medical School, and the Massachusetts General Hospital, practiced medicine in Cleveland and was of great influence on Harvey, stimulating him to his career in medicine.

Harvey Cushing went to school in Cleveland and then to Yale where he received his A.B. degree in 1891. Then to the Harvard Medical School where he gained his A.M. and M.D. cum laude in 1895. From this time he served for one year in surgery in the Massachusetts General Hospital and then, in 1896, he was appointed to the house-staff in surgery under Dr. Halsted at the Johns Hopkins Hospital where he remained until 1900 as resident in surgery. In that year he went to Europe and with others attended an International Congress in Paris. This remains in my memory because, I having left in February, we had made an appointment to meet at noon on August 1st at the only place to be precisely stated, the top of the Eiffel Tower, and there we met as the gun boomed noon. From there he went to Berne and with Kocher and Kronecker began his work in experimental neurology. Later he was associated with Sherrington in Liverpool and upon his return was appointed neuro-surgeon at the Johns Hopkins Hospital.

He then left the hospital where he had so long been resident surgeon and lived next door to Dr. Osler at 3 West Franklin Street where, with his associates in that house, he was a very constant guest of the Oslers nearby. This intimate and devoted association with Osler had a great influence on his life

and stirred in him not only his enthusiasm for his medical and surgical interests but perhaps especially his love for medical history and the books and writings of the great men of all time, that lasted and grew through his life and resulted in many essays and addresses, and in his magnificent library.

On June 10th, 1902, he married Katharine Stone Crowell, of Cleveland, and later they occupied a house at 107 East Chase Street where his first child, William, was born. The family was made up later of four other children, Mary, Betsey, Henry Kirke and Barbara.

His work, concentrated largely upon neurological surgery, but with a special course in experimental surgery for which the old Hunterian Laboratory was built, went on at the Johns Hopkins Hospital until 1912 when he moved with his family to Boston to take over the appointment as Professor of Surgery at the Harvard Medical School—afterward Moseley Professor of Surgery, and as surgeon-in-chief to the Peter Bent Brigham Hospital. Living in Brookline, his work at the hospital, with the acme of his development of neuro-surgery, went on until the war began. In 1915, he spent some time with the French Army at the American Ambulance Hospital in Paris, returning to Boston after a visit to the Osiers. Later, in 1917-1919, he was with Base Hospital 5 in France and after a short time, as Senior Consultant in Neuro-surgery of the American Expeditionary Force, which was a period in which his extreme physical exertions left him more or less disabled for the rest of his life. After the war he returned to Boston and carried on with increasing enthusiasm, until in 1932, he reached the age of 63, at which, according to the hospital regulation, he must retire. Next year, in 1933, he went to Yale as Sterling Professor of Neurology, a position which he held until 1937 when this professorship terminated. But he continued to work not only on the pathological changes in the brains, from cases which he had studied, but especially too upon his great interest in the anatomical literature of the middle ages. There was a celebration by the Harvey Cushing Society of his 70th birthday on April 8th, 1939, and then, on October 7th of that year, he died of coronary occlusion after a brief illness.

The early years of his work under Dr. Halsted as resident surgeon in the Johns Hopkins Hospital brought him into contact with the use of the extremely careful technical methods in operating which were based on Dr. Halsted's study of the principles involved in asepsis and the minute attention to the avoidance of any mechanical injury to such tissues as were to be left in the body so that healing proceeded through a rapid and uninterrupted course. Concentration upon these principles impressed him deeply and characterized all his operative work throughout his life. His main thought was ever the protection of the patient in every detail.

On his return from Europe where he had undertaken some neurological work, he began his great interest in neuro-surgery to which his chief agreed that he should especially devote his energies and thus began the great contribution of his life. In addition to his studies of intra-cranial tension and of neuralgic diseases of the trigeminal nerves, with operative work on the various tumors and other disturbances of the central nervous system, he grew interested in the functional activities of the pituitary gland. Many papers resulting from his experimental studies, often with Crowe and Homans, were finally related in a Harvey Lecture in 1910 and published as a book on the Pituitary Body in 1912. His interest in this extraordinary organ which he named the master gland, continued throughout his life with several books and many papers, one condition which he described being generally known as the Cushing syndrome.

Through the next years, during his stay in Baltimore, he continued his operative study of cerebral tumors, including their effect upon the eyes and their various relations to intra-cranial pressure. It was then that he carried on his most stimulating course with a limited group of students in the Hunterian Laboratory on comparative surgery, which was really experimental surgery. But at no time did his interest in various aspects of the function of the hypophysis cease, and there were nine other papers before he left for Boston, ending in a Harvey Lecture on dyspituitarism. There, from 1912 on, this interest continued with some of his students and associates

and many other papers on the hypophysis and its relations with other organs of internal secretion, appeared. Further, with L. H. Weed, there were carried on studies of the cerebrospinal fluid which were later completed brilliantly by Weed and published in a series of papers.

The war interrupted his surgical activities in Boston for some time as related in various papers, and in two books, one describing Base Hospital 5, and the other, "From a Surgeon's Journal, 1915-1918." During his great physical activity throughout these years he began to show evidence of some disabilities which proved to be due to arterial changes in the extremities which made locomotion difficult and later produced worse effects. During this time with his old devotion he made several visits to Dr. Osler in Oxford and suffered with sympathy upon the tragic death of his son, Revere. Osler's death in 1919 was the next calamity and at Lady Osler's request he wrote the remarkable "Life of Sir William Osler" which was published in 1925.

From the end of the war, after his return to Boston, he worked with incredible energy until his retirement in 1932, not only over his hospital duties, his numerous operations which with his extreme precision and tenacity of purpose involved hours of intense physical exertion, his experimental work, his protracted study of the great mass of pathological material which he had accumulated, but also his bibliophilic pursuits. It seems hardly possible that any person should have been able to survive under such mental and physical toil, especially since he suffered those great disabilities from the arteriosclerotic disorder of his legs and feet which have been mentioned.

Several large books comprising his studies of the tumors of the nervous system appeared—Tumors of Nervus Acusticus, in 1917, Classification of Gliomas (with P. Bailey), in 1926, Studies in Intracranial Physiology and Surgery, 1926, Pathological Findings in Acromegaly (with L. M. Davidoff), 1927, Tumors Arising from Blood Vessels (with P. Bailey), in 1928, Intracranial Tumors, in 1932, Pituitary Body and Hypothalamus, in 1932, and finally, a great volume on Meningiomas (with L. Eisenhardt), in 1938. These, in addition to about

150 papers and addresses published during this period, give some idea of his extraordinary concentration upon his work.

After he left Boston to assume the Sterling Professorship of Neurology at Yale he took with him the pathological material from his operated cases and continued his studies of those tumors, as is shown by the last book on the meningiomas. But his long interest in the pituitary continued and he maintained further studies involving especially the so-called pituitary basophilism which is the basis of the Cushing syndrome. With Dr. K. W. Thompson he made many experimental studies in this connection.

But his old bibliophilic enthusiasm, so long stimulated by Dr. Osler, became once more almost dominant and his collection of the books of celebrated authors grew to fill many rooms. Although he wrote about many authors, his early interest in Vesalius came once more to the fore and his collection was rich in the writings of that man. Indeed, through his last days he was hard at work upon a new essay or perhaps a book on Vesalius which was interrupted by his sudden death.

In Harvey Cushing everyone recognized a person of brilliant intellect and of great personal charm. His influence upon all who came in contact with him was deep and inspiring and especially to his students and associates this had a lasting effect upon their lives. His extreme and rigid dominance over his assistants during his operations was only part of his care for the welfare of his patients and throughout the course of their illness under his supervision his devotion to their every comfort and attention to their slightest needs for the sake of their successful recovery was part of his profound interest in their good.

His contribution to the knowledge and the advance in the study of neurosurgical conditions was very great and his name will remain as one of the greatest of the world's scientific investigators in this field, illuminated as it was by his literary and artistic interests in related fields.

Many of his associates and friends have written memorial notes since his death and his biography by Dr. J. F. Fulton will appear shortly.

HARVEY CUSHING: VITA, DEGREES AND HONORS

Bachelor of Arts, Yale, 1891.  
 Doctor of Medicine, Master of Arts, Harvard, 1895.  
 House Officer, Massachusetts General Hospital, 1895-1896.  
 Resident Surgeon, Johns Hopkins Hospital, October 1897-May 1900.  
 Associate Professor of Surgery, Johns Hopkins Hospital and Medical School, 1903-1912.  
 Harvard University Medical School, Moseley Professor of Surgery, 1912-1932; Professor Emeritus, 1932-1939.  
 Surgeon-in-Chief, Peter Bent Brigham Hospital, 1912-1932; Surgeon-in-Chief Emeritus, 1932-1939.  
 Director, U. S. Army Base Hospital No. 5, 1917-1919.  
 Yale University, Sterling Professor of Neurology, 1933-1937; Professor Emeritus, 1937-1939.  
 Member, American Association of Pathologists and Bacteriologists. 1900.  
 Member, American Association for the Advancement of Science. 1902.  
 Member, American Neurological Association (President, 1923). 1903.  
 Member, American Physiological Society. 1905.  
 Fellow, American Surgical Association (President, 1927). 1906.  
 Fellow (Hon.), Royal College of Surgeons, England. 1913.  
 Fellow (Hon.), Institute of Hygiene (London). 1913.  
 Fellow, American College of Surgeons (President, 1922). 1913.  
 Member, National Academy of Sciences. 1917.  
 Fellow, Societas Medicorum Sverena. 1917.  
 Companion of the Bath (Military). 1919.  
 Doctor of Laws, University of Cambridge. 1920.  
 Chevalier, Legion d'Honneur. 1922.  
 Doctor of Medicine (Hon.), John Casimir University, Lwow, Poland. 1926.  
 Pulitzer Prize in Letters, Columbia University. 1926.  
 Honorary Fellow, Royal Society of Medicine, London. 1927.  
 Doctor of Laws, University of Glasgow. 1927.  
 Doctor of Laws, University of Edinburgh. 1927.  
 Fellow (Hon.), Royal College of Surgeons, Edinburgh. 1927.  
 Lister Prize Medalist, Royal College of Surgeons, England. 1929.  
 Docteur "honoris causa," University of Strasbourg 1929, Brussels 1930, Budapest 1931.  
 Doctor of Medicine "honoris causa," University of Amsterdam (Tercenary celebration). 1932.  
 Ehrenmitglied, Gesellschaft deutscher Neurologen und Psychiater. 1932.  
 Docteur "honoris causa," University of Paris. 1933.  
 Foreign member, Royal Society, London. 1933.  
 Foreign member, Royal Academy of Sciences, Sweden. 1934.  
 Ehrenmitglied, Gesellschaft der Chirurgen in Wien. 1936.  
 Doctor of Science "honoris causa," Oxford. 1938.



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1899

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1900

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1912

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1913

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1915

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