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BIOGRAPHICAL MEMOIR

OF

GEORGE SUMNER HUNTINGTON

1861–1927

BY

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Geo. J. Huntington

Preface

While I was a member of the Pathological Institute of the State Hospitals I was introduced in 1897 to Professor George S. Huntington, with the object of studying the collection of human bones, which I was informed was being made in his museum. He received me very kindly in his laboratory, took me down to the basement where a large room facing 59th Street and the Roosevelt Hospital was nearly filled with all sorts of boxes and cases containing bones, and here I was let loose on the then precious, tagged, but otherwise unkempt accumulation. Here in this basement room, the tall windows of which had never been washed, I spent a good and happy part of my time when in the city until my departure for Washington in 1903, examining, arranging and supplementing the collection with its important yearly accretions. I saw Professor Huntington whenever I had a need of him, without abusing the privilege. He was invariably friendly and helpful and there gradually developed between us a quiet unassuming friendship which, as long as we saw each other, at least two or three times a year until his illness, was never marred by the slightest shadow.

During all those years I had free access not only to the bone collection but also to all parts of the museum and laboratory, which gave me a chance to become well acquainted with most of the collections, as well as Huntington himself and his own work. I acquired a cordial esteem of him and was always glad of a chance to see him, be greeted with his cheerful smile, and find him understanding and helpful. One of my deep regrets is that I never saw him again after ill health obliged him to leave the college.

It was because of my long association with Professor Huntington and my gratefulness to him, but above all because of my esteem of his devotion to scientific work and of his wholly unselfish and high character, that I was happy to accept the assignment to prepare his biography for the National Academy of Sciences. Regrettably it will not be possible to do full justice to the task. Though a number of biographic notes of

Huntington were written soon after his death,[1] above all the excellent ones of Professor McClure, a large part of what concerned his life as a man and even his illness and death, is missing, and what is worse, not now adequately obtainable. He himself left no autobiographic notes, there is no account of his intimate life, nor any surviving life-long friend who might remember, and the still living members of his family know comparatively little about it. Even the details of his illness and end have not been and can no longer be properly recorded.

In preparing this memoir I shall draw, with his permission, copiously on Professor McClure's very good presentation. I am indebted for valuable details, foremost to Mrs. Ann H. O'Donnell, the oldest daughter of Professor Huntington, and to Mr. Martin Petersen, the able illustrator of his works and his aid in many matters in the laboratory and museum. I wish to thank also Dr. Samuel W. Lambert, of New York City, for additional notes regarding Dr. Huntington's last illness; Dr. Ellsworth Eliot, of the same city, for his personal reminiscences; Drs. William K. Gregory of the American Museum of Natural History, New York; Frederick Tilney of the Neurological Institute of Columbia University; Henry H. Donaldson of the Wistar Institute, Philadelphia; Frederick T. van Beuren, Jr., College of Physicians and Surgeons; and William Darrach of New York City, for additional valuable aid. I am also grateful to William E. Huntington, at present of Washington, D. C., for his endeavors to be helpful; and last but not least to Dr.

[1] McClure (C. F. W.) George Sumner Huntington: An Appreciation. Am. Jour. Anat., Vol. XXXIX, No. 3, July 15, 1927, pp. 355-377.

McClure (C. F. W.) George Sumner Huntington: Anatomist. An address delivered before the New York Academy of Medicine on January 20, 1928. Science, March 23, 1928, LXVII, No. 1734, pp. 301-307.

McClure (C. F. W.) Life and Work of George S. Huntington. Bull. N Y. Acad. Med., Vol. IV, February 1928, pp. 250-265.

Lambert (Samuel W.) Life and Work of George S. Huntington. Bull. N. Y. Acad. Med., Vol. IV, February 1928, pp. 250-265. Discussion following presentation of paper by C. F. W. McClure.

Tilney (Frederick) An Appreciation of Dr. George S. Huntington. Bull. N. Y. Acad. Med., Vol. IV, February 1928, pp. 254-260.

Obituary note. Med. Jour. and Rec., N. Y., 125:277, February 16, 1927.

Charles B. Davenport, of Cold Spring Harbor, Long Island, who assisted me effectively wherever it was possible.

I shall not attempt to go deeply into the more remote genealogy of the Huntington and Sumner families, those of Dr. Huntington's derivation. Such matters are difficult of satisfactory treatment, and what is known has been covered adequately by the Huntington and Sumner family genealogies,[2] and by Dr. McClure in his two commemorative articles.

[2] Huntington, E. B. 1863. A genealogical memoir of the Huntington family in this country, embracing all the known descendants of Simon and Margaret Huntington.

Appleton, William Sumner. 1879. Records of the descendants of William Sumner of Dorchester, Massachusetts.

GEORGE SUMNER HUNTINGTON

1861–1927

BY ALEŠ HRDLIČKA

George Sumner Huntington, elected to the National Academy of Sciences in 1924, died January 5, 1927, at the age of sixty-six years less two months, after a prolonged illness, induced by repeated cerebral embolism.

George S. Huntington—as he signed himself—was born in Hartford, Connecticut, March 21, 1861. He was the son of Hezekiah Huntington, Jr., and of Katharine B. Sumner, both descended from old American stocks of distinction. At the time of George's birth Hezekiah was sixty-six years old, his second wife, George's mother, being in her thirties. There were two children of this union, the first a daughter, Katharine Sumner,[3] and George. The father died not long after the birth of the son.

His father, initially a publisher and business man, was eventually president of the Hartford Fire Insurance Company; his mother was the daughter of a Hartford physician. Both the parents were derived from old American family lines, various members of which reached eminent positions. His grandfather on his father's side was a lawyer of note.[4] On the Huntington side the Puritan American ancestry of the family reaches to 1633, that on the Sumner side to 1636. The Huntingtons were essentially Connecticut people, the Sumners were from Massachusetts and Connecticut. Both families furnished numerous public servants, judges, churchmen, businessmen, soldiers, lawyers, and doctors. There were, interestingly, no artists nor musicians; and no literary men, philosophers, nor men of science, with the exception of George Sumner, the maternal grandfather of George S. Huntington, who showed marked mathematical

[3] The sister was but a year or two older; she died in recent years.

[4] For details on the two families see McClure (C. F. W.)—George Sumner Huntington: An Appreciation. Am. Jour. Anat., Vol. XXXIX, No. 3, July 15, 1927, 355 et seq.

abilities, graduated in medicine, and is said to have become eventually professor of botany at Trinity College.

To quote from Dr. McClure:[5]

"the descendants of Simon Huntington, the Puritan emigrant, have been well represented in all the industrial, educational, military, civil, and religious movements of the American continent for more than two centuries. . . . There have been two governors of states, and at least fifteen judges of county courts, superior judges, federal or chief justices. Nearly one hundred members of the family have been college graduates. . . . Ministers have exceeded one-third of the college list, and lawyers and doctors have equaled nearly a third each."

On the Sumner side, there were a large number of prominent men in public service and in the Army, including one governor and a general, with numerous deacons.

Surely a rare and honorable hereditary background, but one also very interesting genetically, for while it presents on both sides of the family an unusually similar record of public servants, administrators, soldiers, lawyers, doctors and churchmen, it eventually results in the appearance of an outstanding example of a man almost withdrawn from the world and devoted to scientific research.

PERSONAL LIFE AND FAMILY

Little is known definitely about George Sumner Huntington's childhood. It evidently was spent in Hartford, Connecticut, and offered nothing unusual. After the death of his father, his mother, for some reason took the ten-year-old boy to Germany, and for six years George was given instruction in German and attended German schools. They returned in 1877 and that same year the young man, so nearly Germanized that he spoke English with an accent and, according to Dr. Eliot, greeted male friends with kisses, entered Trinity College at Hartford. However, he soon became re-Americanized, though throughout his career in writing he was occasionally liable to transpose a

[5] McClure (C. F. W.) George Sumner Huntington: An Appreciation. Am. J. Anat., 1927, XXXIX, 355 et seq.

word in German style. At Trinity he soon became a member of Alpha Delta Phi and was well liked by his class mates.

Information about his private life during these and the next few years is very meager. On June 18, 1885, a year after his graduation in medicine, he married Annie McNair Elderkin, a daughter of Col. William A. Elderkin, at one time a professor of Spanish and mathematics at West Point, and Fanny Gurley, daughter of the Rev. Phineas D. Gurley, who was President Lincoln's pastor.

Four daughters were born of this union. The oldest, Ann H., a highly intelligent and sensitive woman, graduated from Barnard College in 1910, and from 1913 to 1918 acted as assistant librarian in the library of the Medical Society of the County of Kings, Brooklyn. Before her marriage she made abstracts in the Army Medical Library, Washington, D. C. She is married to John Joseph O'Donnell, an employee of the Washington Navy Yard. They have three sons.

The second daughter, Katharine Sumner, has not married. She graduated from the School for Nurses of Roosevelt Hospital, New York City; is now retired from active work and makes her home in Hollywood, California.

The third daughter, Frances Gurley, graduated from the Presbyterian School for Nurses in New York City. She married Louis LeBouvier, an officer in the British Army during the World War, by whom she had two sons. Later she married Samuel Ades, a British coal merchant. She now resides in Chelsea, London, and operates an exclusive little night club.

The fourth daughter, Elizabeth Putnam, was killed in a train-auto collision on May 11, 1928, mid-way between Denver and Colorado Springs. She had written a novel before the time of her death, and was collecting material for another. The book, "The Son of Dr. Tradusac," was published after her death. She also wrote a little volume of verse entitled "The Playground of the Gods." She worked at the New York Orthopedic Hospital for some time.

The three last mentioned daughters served in the U. S. Army during the World War, the two older ones as nurses, the young-

est as a "reconstruction aide." All three apparently inherited their father's love for and interest in medicine.

In 1908 Dr. Huntington, after a blighting divorce, married Alice Ashley Kidd of Tivoli, New York, the widow of one of his friends, Dr. Churchill Carmalt. She was fifteen years his junior, and they had no children. The union was happy and she attended G. S. H. devotedly throughout the years of his illness. She still lives in Charleston, N. C.

EDUCATION, CAREER

The elementary education of G. S. H. consisted of courses in the public schools of Hartford, and of preparatory courses with eventual attendance in a gymnasium (details wanting) in Germany.

On his return from Germany he read and spoke German, and read Latin and some Greek. In the fall of 1877 he entered Trinity College and took courses more especially in zoology, chemistry, English, German, Latin and Greek. He was graduated with the degree of Bachelor of Arts, receiving honors in mental, moral and political philosophy, in chemistry, and in natural sciences. In his senior year he received the Chemical Prize for his essay on explosives. At his graduation from Trinity College he ranked seventh in a class of nineteen.

In the same year (1881) Huntington matriculated in the College of Physicians and Surgeons, New York, at that time located on 23rd Street and Fourth Avenue. His preceptor was Dr. Henry B. Sands, a prominent surgeon, and Huntington's intention at this time was to become a surgeon. Dr. Samuel W. Lambert, his fellow scholar and friend, states "we both believed we were started on a surgical career." In 1882, according to Dr. Lambert, medical instruction at the College was given entirely by lectures, either theoretical or clinical. Evidence of attendance was given only by the purchase of cards for the theoretical lectures and for anatomical material. George Huntington bought his real education, like many more of us, outside or inside the College walls, by paying the younger hospital, dispensary and laboratory physicians for private courses.

The length of the medical course at that time was three years and Huntington graduated with the degree of M.D. in 1884. This time he ranked second in a class of 125. In a competitive examination known as the Harsen Prize Examination, taken by the first ten men in the graduating class, he won the first prize of five hundred dollars. He won also a prize for the best clinical reports at the New York Hospital, and Trinity College conferred on him the honorary degree of A.M. After his graduation Dr. Huntington became an assistant in surgery to his preceptor, Dr. Sands. He was also appointed an interne on the surgical staff of the Roosevelt Hospital, which position he held until 1886.

In 1886 Dr. Huntington was made assistant demonstrator of anatomy at the College of Physicians and Surgeons, under Prof. Sabine. He also acted as a junior assisting surgeon at the Roosevelt Hospital and as a visiting surgeon to the Bellevue Hospital; and conducted a private quiz class in anatomy.

In 1887 the College moved to its new quarters in West 59th Street, and Huntington, in addition to his post in anatomy, was made the first chief of clinic in the surgical department of the Vanderbilt Clinic.

In 1889 Professor Sabine was obliged to withdraw from the anatomical department at the College, dying shortly after; and following a series of "competitive lectures" between Drs. Huntington and Gallaudet, the former in 1889 withdrew from his surgical activities and was appointed to the vacancy as a full professor of anatomy—the first full-time position of the nature in this country. This position he filled for the 35 years following, until obliged through illness to relinquish it in 1925.

Between 1889 and 1895 much of the history of Huntington's Department of Anatomy is lost. It was a period of laying substantial foundations both for the department and for a museum, which soon bore important fruit, as will be seen later.

In 1898 Huntington became the American editor of the (British) Journal of Anatomy and Physiology, in 1899 editor of the Anatomical Memoirs, in 1900 associate editor of the American Journal of Anatomy; from 1899 to 1903 he was the President of the American Association of Anatomists. In 1904 Professor

Huntington received the honorary degree of Sc.D. from Columbia University, in 1907 an honorary LL.D. from Jefferson Medical College; and on April 30, 1924, was elected a member of the National Academy of Sciences.

TEACHING

Dr. Huntington was not a public nor a popular lecturer; but he developed into a great teacher of anatomy. He changed anatomical teaching from didactic to essentially demonstrative; and he widened its scope by comparative anatomy. As time went on he became more and more engrossed with the developmental aspects of different parts, and his instruction was colored correspondingly. He gradually changed from a merely "practical" to a scientific anatomist, the foremost pioneer in that respect in this country. But his lectures were not "easy."

To give a fuller picture of the subject I will quote from letters and writings of some of Dr. Huntington's associates or collaborators.

"Huntington's conduct of the chair of anatomy was peculiar in that he devoted a large part of the course to comparative morphology and its application to the human subject. Students failed to acquire a 'working knowledge' of anatomy. The lectures were over their heads and were more adapted to the postgraduate specialist and to research workers. The students nevertheless admired and respected him greatly. To them he was 'George S.'" (Letter from Dr. Ellsworth Eliot, October, 1936.)

"As a teacher Dr. Huntington was extraordinarily stimulating to the students who were really interested in their work. He was always willing to help such men, but took no interest whatever in the dullards. He did practically no teaching among the students except to lecture and demonstrate, the dissecting room instruction being carried on by his assistants. Occasionally he gathered his assistants together and gave them most illuminating informal talks in his own museum on the development of various organs, illustrated by specimens taken from comparative anatomy." (Letter from Doctor Frederick T. van Beuren, Jr., June 2, 1936.)

"Nothing impressed me more than his peculiar method of teaching. This was as singular as it was individualistic, and quite as distinctive as the atmosphere of his laboratory. If there

was one thing that distinguished the instruction which he gave me, it was its superb detachment, its masterly distance. Days went by, weeks passed, and further than the formal daily salutation, he never spoke to me or gave me the slightest attention. Then came a day, a rare day indeed, when he sat beside me for nearly a whole morning. After he had gone I felt inspired anew. I was conscious of a fresh zeal and determination, with something like a glow of enthusiasm even for the, to me, distantly related genito-urinary system of the domestic cat. Consciously or unconsciously, he had given me a new idea about teaching. He had clearly shown what is all too little understood by those who have the responsibility of medical instruction. Obviously, the chief purpose here is to inspire the student with the desire to learn, to provide every opportunity for such learning, and to eliminate in so far as possible all the processes of formal indoctrination. For the real joy of learning comes of that sense of independent acquisition, that realization of possessing a self-gained knowledge. This most effective teaching was not by words but by work. That superb detachment already mentioned he carried into his formal instruction and lecturing as well. He spread before his students a feast fit for the gods and it was no fault of his when perchance the gods had gone a-hunting in other fields than medicine, and none but minor deities came to his table. These considerations affected him not at all. Regardless of his auditors, he set forth in that splendid diction of which he was a master, the full content of his facts in all their details and relations. Each one of his lectures was prepared with meticulous care. The morning hours before them were spent in his library in concentrated study of the subject he was to present and all of the drawings employed to illustrate his points, he practiced beforehand in fullest detail." (Tilney (Frederick)—An Appreciation of Dr. George S. Huntington. Bull. N. Y. Acad. Med., second series, 1928, Vol. IV, pp. 254-260.)

To which should be added the very fitting account of Professor McClure:[6]

"Until the time of the appointment of Doctor Huntington, in 1889, as full-time professor, anatomical teaching in the College of Physicians and Surgeons consisted of three didactic lectures a week given to large classes; there was no regular provision made in the program for the systematic and regular dissection

[6] McClure (C. F. W.) George Sumner Huntington: An Appreciation. Am. Jour. Anat., Vol. XXXIX, No. 3, July 15, 1927, pp. 355-377.

of the human body. In other institutions of the same type the instruction in anatomy was scarcely better. There were two important changes which Doctor Huntington at once initiated. The first was the introduction of the laboratory method of teaching human anatomy to small sections. The second was his method of presentation; this was the application of the morphological method as a means of interpreting the structure of the human body . . . this last arose from his constantly broadening conception of the field of anatomy.

"While he was developing his new anatomical course at Columbia . . . it became more and more evident to him that the multitudinous detail which the structure of a highly specialized vertebrate such as man offers is very confusing to the students. It was then that he adopted the morphological method as a means of interpreting the human body, and in doing this he was instrumental in influencing the whole future of anatomical study in the medical schools in America by giving new importance to comparative anatomy, and so vitalizing the whole subject. There had been other comparative anatomists in America; Huntington was the first man in this country with the vision to see the importance of emphasizing the comparative method in the study of human anatomy, and to make clear the fact that the vast detail in the human organism has no significance unless this is interpreted from the standpoint of the morphology of the different systems, and in relation to the application of structure to function. The significance and importance of the structural peculiarities of man he accentuated and illustrated by comparison with the morphology of corresponding structures in the lower vertebrates. From the outset this new method of presenting the subject arrested the attention of his students and aroused in them a keener interest. What had before seemed to them a mere mass of disconnected details to be laboriously memorized now took on form under the scientific analysis and interpretation given them by Doctor Huntington."

Finally we have a few words on the subject by Huntington himself. In a paper on "Modern Problems of Evolution, Variation and Inheritance in the Anatomical Part of the Medical Curriculum," published in the American Journal of Medical Sciences, December 1898, p. 3, he says:

"I vividly recall my own student days, and I cannot but sympathize with the feeling, more or less akin to despair, with which many students begin to apply themselves to the minute details of structure taught in human anatomy. It seems to me

that it is wise to compare our system of instruction with that usually adopted in some other branches of scientific and mechanical education. It would be universally acknowledged a wrong course of procedure if a student of mechanical engineering were taught the constructive details of a modern locomotive, or of the quadruple expansion engines of an ocean steamer, before he had been offered the opportunity of examining and studying the simple piston, cylinder, or boiler; or if a course in electricity commenced with the dynamo, before taking up the magnet. And yet I believe that in many respects we err in the same direction if we place before our students the multitudinous details which the structure of a highly developed and specialized vertebrate like man offers, without availing ourselves of the advantages which the comparison with simpler and more evident forms possess both in respect to morphology and the physiological application of structure to function."

"Such," to use the words of Doctor McClure, "were the new methods in the teaching and general conceptions of anatomy which were initiated by Doctor Huntington in 1889, and were consistently followed and developed by him during the thirty-five years that he was professor of anatomy in the College of Physicians and Surgeons."

To the above I may add a few minor personal recollections. Professor Huntington's lectures were generally given in the latter part of the forenoon. The hours before each lecture were given exclusively to his preparation for the same and no one dared approach him during this time. He used no notes and few charts, but ample extemporaneous drawings. In the amphitheater in which he lectured were tables for specimens and a due supply of these was brought in for each lecture. There was a large supply of them in a big room in the cellar of the anatomy building, opposite the bone room. The lectures were thoroughly erudite and for that reason perhaps more instructive than merely enjoyable. Their object was a broad, materially documented understanding of the subject, rather than simple information. No undergraduates were permitted, for good reasons, in the laboratory or museum. The dissecting room work was wholly in charge of prosectors. A small menagerie of dogs, cats and other animals, including an old turtle, was kept for study and teaching purposes.

The Huntington method found before long an enthusiastic follower in Franklin P. Mall, professor of anatomy at Johns Hopkins, and the two men, Huntington and Mall, brought about a revolution in the teaching of anatomy in this country; which revolution, unfortunately, has been and is still being carried to excess, on the animal side, by some of their followers. Certainly neither Huntington nor Mall could have foreseen, or desired to see, human anatomy fall more or less into neglect because of the very comparative studies that were to enrich and help its further development.

SCIENTIFIC WORK

From the very beginning of his professorship in anatomy, Huntington engaged in scientific research, and to this he devoted all of his time outside of teaching requisites, not only in his laboratory, but to an increasing extent, as time went on, even in his home.

His work in this line was in the main that of dissection, observation with the microscope, and reconstruction in wax of sections. He became very expert with injections, and with the preparation of organs or parts for the museum or for instruction. He amassed a large and valuable personal library in anatomy and biology, but his main interests and endeavors were in original work. He did not go into experimental work on the animals of his "menagerie" but used these only for dissections and preparations; their skeletons being then cleaned and added to the collections.

He always had some collaborators in his laboratory, but these were generally independent scientific workers, each carrying on a research in his own line, mostly without Huntington's assignments, interference, or even visible supervision; but he knew well what was going on, and when consulted was invariably helpful with advice, and a worthwhile work had in him always a generous and helpful backer.

His writing must have been done mainly at home, for at the College he never had a stenographer. He had a typewriter in

his office which, on the rare occasions when he felt he *had* to use it, he manipulated with one finger. His scientific work was always unruffled, sustained, and methodical. He had a valuable helper with all the illustrations, and also in many other respects, in Martin Petersen.

There were never any scientific assistants in the strict sense of the word, though now and then there was a co-worker in some line. The principal of such co-workers was eventually Professor McClure of Princeton. The list of other research men who in the course of time were associated with Dr. Huntington is a long one. An incomplete list includes Hugh Auchincloss, Joseph A. Blake, Dr. Brown, Churchill Carmalt, George Draper, Adolph Elwyn, K. Frantz, Bern B. Gallaudet, A. Hrdlička, Adrian Lambert, Samuel W. Lambert, Eugene Pool, Herman von W. Schulte, Anthony Spitzka, Jr., Fordyce St. John, Oliver S. Strong, Frederick Tilney, Frederick T. van Beuren, Jr., Allen Whipple, and many others.

It will be useful to give here the expressions on this subject of some of the surviving Huntington associates.

Dr. Ellsworth Eliot:

"Dr. Huntington's knowledge of comparative anatomy was most extensive . . . He was greatly interested in all variations which could be demonstrated in the course of human dissection." (Letter to A. H., October 1936.)

Dr. O. S. Strong:

"He was one of those men who simply lived in the laboratory, and I believe he had a more intimate first-hand knowledge of vertebrate anatomy than any living man. Perhaps his major interest along these lines was in the internal organs, next muscles and bones, and last the nervous system. He had a museum filled with beautiful dissections of vertebrates and corrosions of the bronchial tree, etc. Later he developed the work in his department along embryological lines and published researches along these lines, especially in the development of the blood and lymph vascular systems." (Letter May 16, 1936.)

Dr. William K. Gregory:

"Although the great mass of Prof. Huntington's work was outside my special field, as it dealt with various parts of the soft

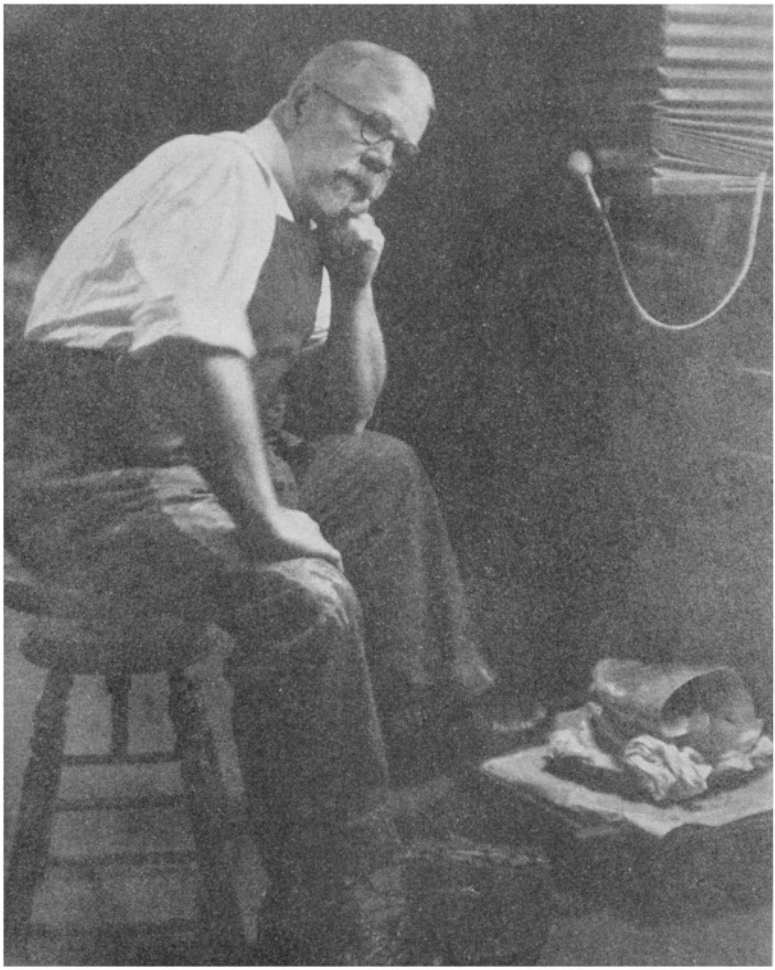
anatomy rather than with the skeleton, I can not refrain from admiring the constructive character of his work on the evolution of the eparterial bronchus of mammals, of the comparative anatomy of the ileo-colic region, on the evolution of the salivary glands, of the lympathic system, and others. His 'Modern Problems of Evolution, Variation, and Inheritance, in the Anatomical Part of the Medical Curriculum,' is in its way a masterpiece. In estimating the achievements of Prof. Huntington it should be remembered that his greatest work, a monograph on the evolution of the pulmonary system of vertebrates, has never been published, but that it is represented by an extensive series of lithographic stones which were made by his artist, Mr. Petersen, over a period of many years. It is deeply to be regretted that no one has undertaken to publish these plates with appropriate legends. In connection with his shorter papers on the subject, summarized in his 'A Critique of the Theories of Pulmonary Evolution in the Mammalia,' such lithographs would form a valuable contribution to science." (Letter, April 27, 1936.)

Dr. Samuel W. Lambert:

"During thirty-five years he worked in embryology, in comparative anatomy, and in human anatomy . . . As an investigator he left the beaten track of his predecessors and his contemporaries and added to comparative anatomy an exact knowledge of the internal organs of the vertebrates, a subject which had previously been neglected by every anatomist. He was always a full-time man in that he worked in term time and in vacation, in his college laboratory and in a hut in the Canadian woods; he labored seven days a week and was at his dissecting table from eight in the morning until seven in the evening, and his evenings were given to reading . . . He wrote scientific monographs on his special pieces of investigation which left nothing further to be added by others. He left unfinished a study of the comparative anatomy of the lungs which is as thorough as his best previous work and which was still growing when his final premature breakdown came at the age of sixty-two. At the same time he had begun a study into historical medicine in which he emphasized the content and human interest of the text of some of the books of the 16th century, which are usually regarded purely as collections of anatomical drawings of academic interest alone."[7]

An even more adequate account of Dr. Huntington's scientific

[7] Bull. N. Y. Acad. Med., 1928, pp. 250-265.



work is given by Professor C. F. W. McClure in his Huntington commemorative articles.[8] He says:

"George Sumner Huntington played an important rôle in America in raising anatomy to the status of an independent science. He had a masterful knowledge of comparative anatomy, as is evidenced by the great anatomical collection which he personally prepared and organized. . . . He made a number of investigations, fundamental and exhaustive in character, of lasting importance. As during his lifetime, certainly in the future he will be recognized, both in America and abroad, as one of the great anatomists of his time."

In answer to my inquiry as to the chief ultimate objects of Huntington's scientific work, Professor McClure answered as follows:

"I might say that the chief aim of Huntington's investigations was to interpret man's structure from the standpoint of comparative anatomy and embryology. His principal interest concerned the morphology of the vascular system. Huntington and I collaborated with each other for about twenty years and although it may appear to be immodest for me to say so, the high point reached by our joint investigations was the establishment of the principle of the local origin of lymphatic endothelium from mesenchyme, as opposed to the view held by Florence Sabin that it sprouts off from the veins.

"Our view is concisely stated in the latest edition of Gray's Anatomy (p. 683) as follows: 'The earliest lymphatic endothelium probably arises, like the blood-vascular endothelium, by local transformations of mesoderm into endothelial islands which fuse into definite channels and plexuses. As with the blood-vascular endothelium this transformation ceases at different times in different regions and further growth and extension of the lymphatic endothelium takes place by sprouts from the already differentiated endothelium.'" (Letter October 17, 1936.)

The extent of Huntington's publications is given at the end of this memoir. It shows better than words could his interests and the results of his researches.

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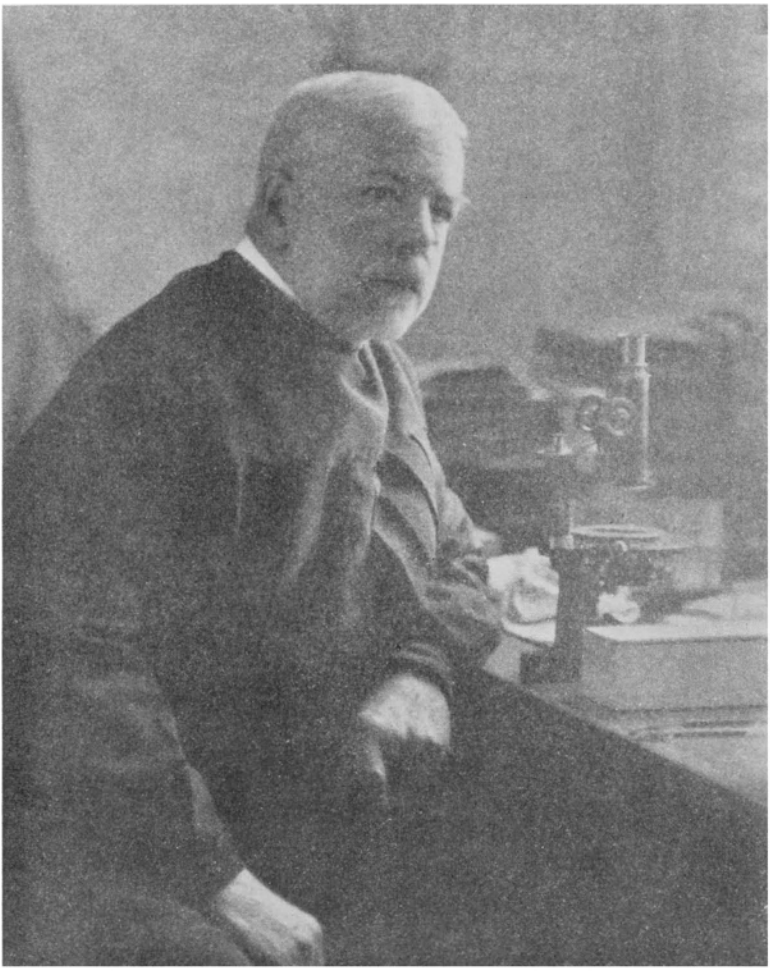
[8] Science, March 23, 1928, LXVII, No. 1734, pp. 301-307. Bull. N. Y. Acad. Med., 1928, pp. 250-265. Am. Jour. Anat., Vol. XXXIX, No. 3, July 15, 1927, pp. 355-377.

MUSEUM

In connection with his scientific work George S. Huntington also established and built up a rich museum of human and comparative anatomy. This was begun with such odds and ends as he had inherited from his predecessors, in the cellars of the old College. When the new College was to be built on West 59th Street, Huntington helped materially to raise the funds for a separate four-story wing for anatomy, which henceforth was exclusively his and in which two floors were used as a museum, one as a laboratory and library, with the top floor constituting a part of the dissecting room. The basement contained the "menagerie," the formalin-preserved parts of bodies used for lectures, and the bone collection.

The bone collection, with which the writer became intimately identified, was begun in 1893. It started with a heterogeneous lot of unidentified older bones and skulls, to which was added a rather large series of Indian crania. From 1893 the bones of all the bodies dissected in the College, except those used for surgical demonstrations, were collected, provided with leaden tags bearing the number of the specimen with the year of dissection, boiled out in steam-piped vats, and during vacation time spread over the dissecting tables, under sky-lights, where they were left to partly dry and lose excess oil until fall, when they were placed in boxes and cases and taken down cellar. Professor Huntington personally was more interested in research on the soft parts, but he was fully aware of the prospective scientific value of the osteological material and so continued its collection.

When I began to visit the College in 1897 there was already an important accumulation of bones, for there passed through the dissecting room yearly over 150 bodies; but the bones were still in the original boxes. With the generous help of "the Professor," as he was most commonly referred to among us, the collection was properly segregated, arranged, stored in specially constructed racks, and partly numbered and catalogued. A system of a proper taking of the body length and some other useful measurements of the bodies to be dissected was put in operation,



and studies of the yearly augmented material were instituted. The collection was of unparalleled importance. Many of the subjects at that time came from the immigrants of various nationalities in which New York abounded and were neither abnormal nor decrepit; and each body carried with it identification as to nationality, sex, age, and cause of death. No such anthropologically valuable material existed at that time—nor in some respects exists today—in any other institution.

When I left New York for Washington the bone collection represented approximately 1700 individuals. It was not complete in all respects due to requirements of the dissecting room instruction and incidental conditions, but what was there was very precious for the student. Under the old financial conditions, the collection, as also everything in the museum, was the property of Huntington himself. So when the collection reached the limits of accommodation in its quarters and could neither be catalogued nor kept in order; when, furthermore, Huntington had need of rare embryological and other comparative material which could be furnished to him from the National Museum, while my division in the Museum had great need of basic osteological collections of the whites; and under the surety that a similar gathering could readily be made in the College, there were entered into a series of exchanges by which in the course of some years the entire older accumulation was transferred to Washington.

Meanwhile, partly with the writer's help, a large series of rare bone preparates was made for the growing anatomical museum; but this from the beginning was accompanied and surpassed by soft preparations in comparative anatomy, injections, and eventually reconstructions. In the words of Dr. Lambert, Huntington's:

"most active work as a collector was put forth in gathering together the dead bodies of the lower animals both of rare and ordinary species, from which he built his museum. These dead bodies came from the zoological parks, from the ships in the harbor which were importing animals for the menageries of the Hagenbecks and Barnums, also in special preservative cases from the most distant places of the earth. They arrived

in greater numbers than could be handled quickly, and the refrigerators at the College were full to overflowing with vertebrates on cold storage."[9]

Professor McClure adds important details to this, largely from Huntington's pen:

"As his collection gradually grew in size and importance, Doctor Huntington saw that in its further development he must adopt some definite plan leading to the establishment of a permanent museum of comparative anatomy which should illustrate to the fullest extent possible the morphological truths embodied in the doctrine of evolution. Such a plan was formulated by him and was published in 'Science' in 1901, under the title: 'The Morphological Museum as an Educational Factor in the University System.' In the scheme adopted by Doctor Huntington, there were to be two main divisions of the museum. The first was to be a general exposition of the cardinal points in anatomical structure as illustrated by the skeletal and locomotory apparatus, the circulatory and nervous systems, and the alimentary, respiratory, and urogenital tracts of each class, subclass, and order of vertebrates. 'This display,' he states, 'forms the guiding thread to the study of individual forms in respect to typical structures; i.e., the fundamental anatomical characters of the mammal, bird, reptile, amphibian, and fish are grouped together to afford a comprehensive view of the entire organism, from which starting point the detailed investigation of characteristic structures in their various modifications is to be followed through the series of species belonging to the *same class*.' The second main division of the museum deals with the development, comparative structure, and evolution of single organs and systems, illustrating the homologies and modifications of typical structures in each class of vertebrates. I may cite as an illustration of the plan followed in this division of the museum the wonderful series of preparations which he made dealing with the morphology of the ileocolic junction, cecum, vermiform appendix, and allied segments of the large intestine. In 1901, this particular series was illustrated by over six hundred preparations, including type forms of the ileocolic junction found in fishes, amphibians, reptiles, birds, and mammals, leading up to a detailed exposition and interpretation of the human cecum and appendix in all their variations, as had

[9] Lambert (Samuel W.) Bull. N. Y. Acad. Med., 1928, pp. 250-265.

been thus far observed by him and other anatomists. The work involved in this particular series was in itself an investigation of considerable magnitude, and some of the results of it have been embodied in a book published in 1903 and entitled 'Anatomy of the Human Peritoneum and Abdominal Cavity.'

"Naturally, the Morphological Museum was built up by Doctor Huntington largely as illustrative of his own investigations; it was his hope, however, that in its completed state it should constitute a kind of general morphological reference library, for he says: 'In this sense the museum fulfills its highest functions, stimulating and directly promoting investigation and rendering such investigation fruitful and effective by contributing the series necessary for comparison and reference.' In speaking of the relation of such a museum to other departments of the university, Doctor Huntington claims that morphology offers a series of modifications which different forms present in their structure—a field of almost unlimited choice from which the physiologist may select forms most suited for special experimental study. 'The Museum of Comparative Morphology converts a haphazard search for a suitable form into one which will select the most desirable type with certainty.' "[10]

The Huntington Museum, since his death, has had the fate of an orphan. It is still in the old building on 59th Street, and to the date of this writing no definite plans have been made as to its transfer or re-establishment. It appears to be partly a matter of finances, partly of finding those who could and would take proper care and use of it. Moreover, it has not been safe from some depredation and damage, all of which is a great pity. A list of its contents prepared by Mr. Petersen shows the following: temporal bone or ear series, 132; ileocecum series, 539; lung series, 647; genito-urinary system series, 796; general viscera series, 250; shoulder-girdle series, 29; salivary gland series, 262; heart series, 235; plaster cast series of muscular variations, 123; postcava and variations series, 86; chondrocranium series, 12; brain series, 481; lymphatic series, 53; fetal series, 188; osteological series, 1312; microscopic slide series, 1046; photo-negative series, 8134; lantern slide series, 6602.

[10] McClure (C. F. W.) Am. Jour. Anat., Vol. XXXIX, No. 3, pp. 355-377.

LIBRARY

In connection with his laboratory and museum, Huntington built up gradually, at his personal expense, a large and valuable library in anatomy and comparative anatomy. This library was particularly rich in the older works. Among its 4,424 volumes it included 780 volumes published between 1483 and 1800, and 550 volumes from between 1800 and 1850. Among the older works, as catalogued by Mr. Petersen, were those of Berengarius, Bellini, Bartholemeus, Baptistae, Celsus, Casserri, Cowper, Aldrovandi, M. Albertus, Achillini, Ketham, Eustachius, Galini, Gersener, Grassdorff, Harvey (15 volumes), Laurentius, Valverde, Vessaeus, Vesalius (30 volumes). There were also close to 13,500 reprints.

The library, it is gratifying to state, was eventually acquired by the College.

In connection with this line of his activities, Huntington in 1922 started an elaborate work on the History of Medicine and in 1923 he had the first section of this publication ready for the printer.

MISCELLANEOUS ACTIVITIES

Professor Huntington did not engage in many activities outside of his classes and his laboratory. He was consulted by surgeons; in his laboratory and museum he was visited in the course of time by numerous prominent men in anatomy and comparative anatomy; he was one of the founders and editors of the *American Journal of Anatomy;* he served for four years as the president of the American Association of Anatomists and attended its meetings regularly; he was also for a time president of the New York Zoological Society, and a member of the advisory board of the Wistar Institute. But his heart was with his work alone and he cared but little for anything outside of the same. In harmony with this he was also a *bad* correspondent, answering but a very few letters. Dr. McClure tells me that even when they were actually collaborating he repeatedly had to send a man to New York, from Princeton, to get a reply to his letters.

In 1911, incidentally, he played an important part in a medico-legal case. He was the deciding witness in the trial of Albert Wolter, the degenerate slayer of Ruth Wheeler. It was his finding, in what remained of the charred left hand of the girl, of a few hairs which matched those of the slayer, that clinched the conviction of the latter and led to his execution.[11]

PHYSICAL TRAITS

There are, regrettably, no exact measurements and observations of George S. Huntington. He was somewhat above medium in stature, without being tall. His body and face were what could be described as well nourished or moderately stout, without any obesity. His hair, before greying, was brownish, his moustache and vandyke beard were slightly darker. In later years both the hair and the beard showed advancing greyness and the hair showed appreciable thinning, without baldness; by 1921 his hair was all white and beard grey. The eyes were blue or nearly so. The vault of his head was spacious but not high, the forehead medium, eyes moderately deep set, nose straight, lips, chin and lower face medium, ears of good size and regular, limbs muscular. He wore glasses in his work, but not otherwise. His teeth were regular and good. He was quick rather than slow in his movements, but always composed. His body, movement, behavior, showed absolutely nothing abnormal.

The frontispiece, from Dr. McClure's obituary article in the *American Journal of Anatomy* (kindly furnished by the Wistar Institute); the photograph showing Huntington in his early years, kindly furnished by his daughter, Mrs. O'Donnell; and especially the additional two photos which I owe to Dr. William Darrach, give him faithfully as he was.

QUALITIES AND CHARACTER

In his youth Huntington was thus remembered by one of his classmates at Trinity College:[12]

[11] See record of the case in *Liberty*, April 4, 1936, p. 29.

[12] McClure (C. F. W.), George Sumner Huntington, An Appreciation. Am. Jour. Anat., XXXIX, No. 3, July 15, 1927, pp. 355-377.

"I can recall his personal appearance; he was of athletic build, blond, wearing a full beard; he had a pleasant voice and a very winning smile. He spoke with a German accent, causing the rest of us some occasional merriment by his mispronunciation of our English words."

As an undergraduate, Huntington is described as active in athletic sports and prominent in social life.

In the period of his medical studies he is thus commented on by Dr. Lambert:[13]

"Huntington had been educated in part in Europe and had a fluent command of French and German and a greater facility with Latin and Greek than most college graduates of his day. He had a body that knew no fatigue and a mind that took in every branch of medicine. During his second year he was the personal assistant of Dr. Sands, did the microscopic work of private patients, assisted at operations or gave ether for that leading surgeon of New York. He was prosector for Dr. Sabine, the professor of anatomy, and was taking private courses in pathology, in physical diagnosis, in the quiz class of Dr. Richard J. Hall, and read medical science enough hours to occupy him from sixteen to eighteen hours a day."

Still quoting Dr. Lambert:

"George Huntington was a born collector who studied his collections for their own value; he was not a mere acquisitor. Early in life he collected beetles and butterflies, and was no mean authority on the coleoptera. When a student in Germany and while at Trinity in Hartford, he collected early editions of the classical authors, especially the smaller editions in Greek and Latin of Elzevir and Aldus. As a young surgeon he collected the files of the journals containing the record of the development of the science of surgery which followed the epoch-making work of Lister. When he gave up surgery he presented his surgical collection to the library of the Lying-in Hospital, in which I was then most interested. His collection of books on anatomy is grouped about Vesalius as the central figure and is particularly strong in the publications of the 16th and 17th centuries. It forms almost a complete history of the renaissance of anatomy following the revolt from the Galenical traditions of fourteen centuries.

"His professional life was that of an intellectual enthusiast,

[13] Lambert (Samuel W.), Life and Work of George S. Huntington. Bull. N. Y. Acad. Med., 1928, pp. 250-265.

devoted to an ideal to make of it all that he could in the pursuit of his controlling goddess, the science of anatomy, and with him life was always short and art long.

"George Huntington left open for all students the gate to success in anatomical study, but he took no interest in the laggard or the dull-witted, and he chose his favorites on his own estimate of each man's ability alone.

". . . In comparative anatomy he built up a collection of specimens which is so varied, so complete, so full of unusual examples, that no other institution possesses anything like it."

Added to these capacities, in the words of Tilney,[14]

"was a prodigious memory made invaluable by a most voluminous scientific reading. This was of inestimable service to himself as well as to the members of his staff, for he could with the greatest of ease give references to former work along a great number of research lines."

As expressed by Van Beuren:[15]

"He had the very sincere affection of practically everyone who worked with him, but the students in general stood in great awe of him."

"To his colleagues and contemporaries he was most congenial and they all enjoyed his friendship."[16]

In the estimate of McClure, who knew him well for many years:

"He was a modest man who never sought praise. . . . All who came in contact with him in his prime were deeply impressed by his forceful character, his great physical and mental energy, his indomitable perseverance, his brilliant intellect, his great power of concentration, his unbounded enthusiasm and ambition. He understood all types of men and threw himself into their interests with sincere enthusiasm. He had great capacity for deep friendship. His rare combination of social and intellectual qualities accounts for the great influence he exerted, and made him so inspiring a teacher and leader that his name will long remain a tradition in the College of Physicians and Surgeons. In my own recollection George Huntington will always stand primarily as a friend and collaborator. From my first meeting with him I was attracted by his magnetic personality. His

[14] Tilney (Frederick), An Appreciation of Dr. George S. Huntington. Bull. N. Y. Acad. Med., second series, 1928, IV, pp. 254-260.

[15] Letter from F. T. van Beuren, Jr., June 2, 1936.

[16] Letter from Dr. Ellsworth Eliot, October 1936.

intense interest in whatever he touched, his creative imagination, and active, well-stored mind, never failed to vitalize his subject and to stimulate his co-workers to put forth their best effort."

As I knew him, he was always a man to be looked up to, from whom to expect his calm but sincere and naturally charming smile, to be sure of in everything worth while. He did not invite familiarity, yet could be simple and full of good humor on suitable occasions. There was no guile to him. He could get angry if anything went wrong with his lecture arrangements, but was never nervous nor irritable. He was very generous to everyone about him. In his laboratory his conduct was marked throughout by simplicity, taciturnity, concentration. He was a cordial friend to those whom he esteemed, without demonstrativeness. He gave no directions nor even intimations to those who worked with him, once he was satisfied about them. In meetings he spoke with erudition, demonstrated a good deal, but never argued nor attacked anyone. In congenial company he was quite human, but never initiative. He was logical and attached to facts with such deductions as they justified—never indulging in fancies or preconceived theories. His published work throughout is marked by entire reliability and completeness; but he followed promising lines of research with great eagerness. He was a man and teacher whose friendship was very precious.

About his family and private life we know less than would be desirable; I was able, however, to obtain some very interesting notes from Mrs. O'Donnell,[17] his eldest daughter. They are here given:

"As children, we were not close to my honored father. A large part of his time at home was spent in his study. He knew us girls and we knew him scarcely at all. In this connection, there is an amusing anecdote. It seems that when I was a few months old my nurse took me to the park for a ride in my baby carriage. On the way we met my father. He stopped us to look at me more closely, and said to the nursemaid, 'That's a fine, healthy-looking child you have there, whose is it?' 'It's yours, Doctor,' the nurse answered . . .

[17] Letter, October 17-18, 1936.

"My mother seemed to fear my father, and that same fear, or semblance of fear, communicated itself to all their servants and to the governesses who had charge of us girls. But I have always thought it a remarkable tribute to the trust and respect that my father inspired in us . . .

"As to my father's likes, dislikes, disposition, hobbies, I will tell you what I can. He did not care for music, tho he had two favorite tunes—'Annie Laurie' and 'Fair Harvard'—which he used to pick out on the piano with one finger! He used to say that his musical 'bump' must be a 'dent.'

"He was a most versatile man, physically as well as mentally. He spoke French and German, was a lover of the classics, was always deeply interested in history—especially the story of feudal times, and was quite an authority on the traditions, coats of arms, etc., of ancient British families. He was active in athletics and many kinds of outdoor games and sports. He swam, played tennis, pitched quoits and was fond of archery. He drove his own horses, but was always 'leery' of automobiles. He could sail or row a boat and could paddle a canoe like an Indian. He enjoyed camping trips in the Canadian woods, during which he and his few friends would carry weighty packs. My father was well-versed in woodcraft of every kind. He liked fishing, but always seemed especially devoted to big game hunting. He was very fond of animals, especially of dogs, of which he kept about him, at all times, a good number and of various breeds. Some of these canines attained a venerable age; he had one little female water spaniel that followed him everywhere and reached the age of 21 years.

"Father was a skilled carpenter and used to make delightful rustic furniture fashioned from the white and silver birches on our Canadian estate. He possessed a large collection of rare moths and butterflies to which he was constantly adding.

"But I think that of all his hobbies—all his varied diversions—gardening was first, last and always his pet pastime. He took a great pride in his garden, a good-sized one—about 50 x 300 feet, and 'worked' it almost unaided. He also took an interest in 'crossing' fruits and vegetables. He had too a fine flock of sheep and an imported Lincolnshire ram of which he was very proud.

"His disposition, for the most part, was mild, although he could be severe when the occasion warranted. He had a charming and gracious manner and a quite delicious sense of humor. He was very popular with both men and women and had hosts of loyal friends.

"One of the most beautiful traits in my father, I always felt, was his modesty. He never sought praise. While not a religious

man in the ordinary sense, he was a strictly moral one and had a great respect for women. He was possessed of seemingly unbounded physical and mental energy, remarkable perseverance and unusual powers of concentration, all joined to a youthful enthusiasm."

INCIDENTS

Those who were associated with George S. Huntington recall many a mirthful incident in which wittingly or unwittingly he played a part. He was not in the least a joker, though possessing a good healthy sense of humor, but conditions sometimes played a joke upon him. Some of these are narrated by Lambert:[18]

"No one who was working at the Sloane or Vanderbilt Clinic in 1894 can ever forget the arrival at the College of the camel. This dead beast was delivered at the College yard at 3 p. m. on Friday, July 2. New York was enjoying one of its hot spells. The Hicks family, both Gilbert and Eddie, were gone for the week-end. Not even the Professor was on hand, and the unwelcome camel lay in the sun by day and the heat by night, with the temperature ranging from 80 odd to 96 in the shade, during the holidays of July 3, 4, and 5, Saturday to Monday. The travelers on the elevated road a block away thought that a terrible epidemic had befallen Roosevelt Hospital, and the whole neighborhood mourned over the death of that particular camel. On Tuesday the Board of Health came to the rescue and the deceased was promptly buried at sea.

"On one winter's day Eddie Hicks, the dissecting room attendant, received in a gunny sack a 'dead' South American python, from a ship near the Battery. On the way up town the bag, which was big with a 16-foot snake, was laid next to the steam pipes on the elevated. As Eddie went down 59th Street to the College, the rotten sack gave evidence of active peristalsis, but fortunately did not burst open until the laboratory was reached, when the boa constrictor was overcome, but not without a long struggle. He died shortly, a violent death, and his insides adorn the museum.

"When Jumbo, the pride of London and the triumph of Barnum, died, his skeleton and his hide went to the Museum of Natural History, but his entrails went to the College and his ileocecal junction forms a prominent dried specimen in the Huntington collections.

[18] Lambert (Samuel W.) Bull. N. Y. Acad. Med., 1928, pp. 250-265.

"Many other vicissitudes of fortune befell during the collecting of Dr. Huntington's specimens. His dissections are models of neatness and dexterity and show minute details. His laboratory was a dusty, uncared-for chaos in which the individual specimens formed cases illustrating the scientific accuracy of a genius. His catalogue was in his own head, and he knew what he had and where he had left it, and woe to him who had moved its position."

On an occasion recalled by Dr. Eliot (letter, October 1936), the

"sacred museum and laboratory, which was always kept under lock and key, was in some way invaded by a student prosector, who was detected and roundly scolded by the Professor. . . . The collections and preparations still occupy the old quarters in ghost-like seclusion, no provision having been made for them in the anatomical department of the present medical center."

To quote further from Eliot:

"Day after day, Huntington was always to be found in the laboratory, and he lived and breathed anatomy and cigarettes, being rarely without one of those 'weeds' as he worked. This extensive sedentary occupation may have been responsible for his early breakdown, for he was naturally strong and robust . . .

"His knowledge of comparative anatomy was so extensive that once it enabled him to distinguish the bones of a rodent which was served for terrapin at a luncheon he gave to some colleagues. The steward charged with the deception was compelled to admit it and to strike the item from the luncheon check."

In the bone room in which I worked and where there was a large sink, the Professor kept for many years a beast of a big old box turtle, which crawled over the bones, knocked things down and was in its waking hours a general nuisance. Why of all the "menagerie" this turtle alone escaped dissection, I never knew, but there he was, without visible means of sustenance, for I never saw any indications that it had been fed. It was in the room as long as I kept coming—even after I went to Washington.

Once during a visit Dr. Huntington invited me to lunch with him. He brought a good-sized, astonishingly neat package; we went to the very top of the building, climbed through a window in the roof, went over the roof to a door in a sort of a chemicals-

filled coop built on the roof over the main building for the photographer, found a stool and a box, and then he opened the package which was filled with excellent sandwiches and cake neatly wrapped. The Professor then heated coffee in a big beaker over a Bunsen burner, poured it, without bothering about possible former contents, into a graduated jar, got a couple of smaller beakers for cups, and thus we feasted. This was the usual way Huntington lunched when not obliged to leave his laboratory.

And there were of course the cigarettes. There were many each day, except when he was preparing for a lecture. But there was not the slightest sign of the cigarette-addict—just a deliberate and normal, if a bit profuse, consumption.

Huntington's outfit in the laboratory consisted invariably of blue overalls with a front piece and a couple of suspender bands; otherwise in shirt sleeves. The laboratory was always quiet, except for the doings of the mechanic at his bench on the side of the hall that faced toward 60th Street.

Facing 59th Street was the long table where Petersen was making his drawings, and along the side next to the main College building was a long bench for one or two collaborators—I never saw at one time a larger number. Most of the remaining space in the large room was filled with all sorts of receptacles for specimens and whole animals in their preserving fluids, awaiting study. The inside was kept thoroughly in order as far as was possible, even if the windows were neglected, and nothing could be displaced without incurring the wrath of Huntington, who knew of every item on the floor. The whole was a research sanctuary in which Huntington and others spent many highly interesting and happy hours.

ILLNESS

In 1914, apparently without any premonition, Huntington had a light stroke. From this he rallied and was for a period again in fair health. According to his daughter, Mrs. O'Donnell (letter October 21, 1936):

"Some time before I left New York, my father had suffered a stroke—it may possibly have been two strokes, on this point

I am not clear. I saw him shortly after his first stroke. At that time his speech was affected, but later he recovered the power of speaking clearly, I remember. Paralysis left him with one bad leg; he was obliged to give this leg a sort of swinging motion from the hip and to drag it when he walked. I do not recall that his mind was affected in the slightest degree by the paralytic strokes. He read, studied, and conversed as usual, even when confined for a considerable time to his chair. His second wife nursed him with little assistance."

A letter from Dr. Samuel W. Lambert (January 13, 1937) gives the following details:

"I took care of Dr. Huntington in his various attacks of paralysis and in his last illness. I was assisted by Dr. Irving Pardee, whom I have consulted about details, and earlier by Dr. Frederick Tilney.

"As usual when doctors treat one of their profession, no notes or history were ever written or kept. My recollection is that he had at first a cerebral attack with paralysis of the left arm. This was quite temporary and although the symptoms lasted an appreciable time, he did as good work as ever for twelve years, when he began to have recurrences. One of his 'strokes' had no symptoms of muscular paralysis but a complete uni-lateral anesthesia which was so marked that when he turned on his left side in his sleep he immediately awoke with a sensation of floating in the air or falling. I have never heard any other patient describe this symptom in this way before or since. During the last three years of his life he had a series of small cerebral attacks, which I took to be thrombotic, and he finally died in such an attack, being unconscious for the better part of a week. During the five years before he died he showed distinct lack of mental power compared with his old energetic self.

"One of his last activities was taking up translation from the Latin of the work of Berengarius. This manuscript is in existence and consists only of translations and notes. There is no continuous text.

"During the last two years of his life, the department at Columbia was run by his brother-in-law, Bern B. Gallaudet, without change in educational methods.

"Huntington died on January 5, 1927, and I signed the death certificate: 'General arterio-sclerosis; thrombosis of cerebral arteries'."

There was no autopsy. The body was cremated and buried, at his own desire, in Hartford, in the Huntington plot.

In 1924 Professor Huntington resigned from the College. This resignation was accepted with deep regret by all concerned, and the following resolution, for a copy of which I am indebted to Dr. van Beuren, was passed:

"RESOLVED, That the Faculty of the College of Physicians and Surgeons, Columbia University, upon the occasion of the retirement from active duty of their colleague, Dr. George S. Huntington, place on record their deep appreciation of his signal services to the institution and express their heartfelt regret that his active association with the teaching work of the college is to cease. During the long period of his professional work, extending uninterruptedly over thirty-five years, Professor Huntington developed the teaching of anatomy at this College from the very rudiments up to its present high degree of efficiency; from a series of casual lectures and unrelated dissections into a carefully integrated and scholarly course in histological and gross morphology with special reference to ontogenetic and phylogenetic relationships for the better comprehension of variations in the adult human forms. The morphological museum is the outgrowth of his personal enthusiasm and farsighted vision. The great mass of teaching material it contains is largely the work of his own hands, a lasting memorial of his great material service to the School of Medicine. But beyond and above this have been his spiritual services; the high enthusiasm with which he has imbued his students; the splendid loyalty he has bred in his assistants; the generous emulation he has inspired among his colleagues. He brought to his teaching both the highest degree of scientific knowledge and the humanity of a wide and liberal culture in literature and in the art of living. The confines of the laboratory and the constant devotion to scientific attainment have never narrowed his sympathies nor limited his view. His personality has mellowed and broadened through the years of strenuous endeavor often made more rigorous by physical ills. His kindly solicitude and generous interest has made him dear alike to students and instructors. More than all else we see in him embodied that spirit of service to science and to humanity which is at once the goal and the reward of all our labors. Our regret for the loss of his active participation in our academic problems is tempered by our understanding of his relief in laying aside those burdens of teaching and administration that have pressed so heavily upon him for so long. But we confidently look forward to the continuance of his interest in our plans, of his sympathy for our endeavors and of his ready response to our calls for his wise counsel."

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