John Shaw Billings—12 April 1838–11 March 1913:
On the One Hundred and Twenty-Ninth
Anniversary of His Birth

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In John Shaw Billings' lifetime the last 26 States on the American mainland joined the Union, and the United States stretched westward to the Pacific. It was an era of expansion and activity.

In the early 1830s James Billings (1806-1892) married Abby Shaw (-1898), and they left their secure New England home to follow the westward movement. They stopped in Switzerland County, Indiana, where twin girls were born in 1836, and died five days later. On 12 April 1838, John Shaw Billings was born, and then his sister, Emma, in 1840. A fifth child lived only ten months.

Somewhat disheartened, they returned to the East Coast, where James Billings found employment as manager of one of the Tristam Burges' farms near Providence, Rhode Island. John and Emma were typical farm children, helping with the chores, going to a country school for three months during the winter, and playing along the shore with their cousins, William Henry and Charles Shaw.

John read everything he could get his hands on, including the Bible, verse by verse, and before he was 10 had made up his mind he did not want to be a farmer.

In 1848, the family moved back to Indiana where James Billings kept a country store, was Postmaster, and had a small shoe maker's shop. This was not what John Shaw Billings wanted either, so he made an agreement with his father that if he would help him get through college, all of his property should then be willed to his sister, Emma.

By this time he was convinced he wanted a career in medicine. Since he could expect no more financial aid from home, he took a summer job with an itinerant exhibitor of lantern slides and toured the Midwest delivering rapid-fire running commentary on the startling scenes his employer flashed before an enthralled backwoods citizenry, and at the age of 20 matriculated at the Medical College of Ohio in Cincinnati.

He paid for his room and school expenses by living at St. John's Hospital, cleaning the dissecting rooms, and doing all manner of odd jobs. There were lean times when he had less than a dollar left over for the week's food, but he managed to complete the two year course, and took his medical degree in 1860. He stayed on at the College as one of a faculty of nine.

On 4 March 1861, Lincoln was inaugurated, and in April the guns fired on Fort Sumter. It was Billings' 23d birthday. That fall he was "invited" to appear before the Examining Board in Washington, D.C., for admission to the Medical Corps. U. S. Army. He passed first on the list of candidates, after taking several...
parts of the test a second time. Somewhat later he learned the reason for the repetition—he came out with a higher score than the Surgeon General's favorite, and was asked to repeat certain portions of the test to satisfy Dr. William A. Hammond (1828-1900) that he knew the answers.

One of the examining officials, Dr. Adam McLaren (1805-1874), asked Billings to accept a contract immediately, and be commissioned later. He did, and reported to the Georgetown Hospital with three possessions no other surgeon had—a set of clinical thermometers, a hypodermic syringe, and a Symes staff for urethral stricturotomy. His appointment as a First Lieutenant and assistant surgeon finally came through, and he accepted in on 16 July 1862.

In the fall of 1861, he had met Katharine Mary Stevens (-1912), daughter of the Honorable Hester L. Stevens, Representative from Michigan. They were married at St. John's Church in Georgetown on 3 September 1862, and shared nearly 50 years of devoted companionship. Wherever he traveled he wrote her daily about what he heard and saw; in spirit they were never separated, and she faithfully saved all of his letters as a priceless legacy for their children. With her, more than in his public life, he displayed his delightful sense of humor, as when he wrote her from Italy, "I have just had breakfast consisting of coffee and a small omelette. Butter not eatable but supply of toothpicks unlimited and dining room well frescoed," or describing the weather as "not frizzlingly hot, but stewily warm." From Scotland in 1901, he told her, "The scenery is fine, and the weather the same. I followed the sportsmen and watched the shooting with a critically ignorant eye. I have not much sporting blood. I have never seen a horse race or a prize fight, and don't feel any wish to see one. Plenty of books and papers is the only essential for me."

On 31 March 1863, Assistant Surgeon Billings reported to the Medical Director of the Army of the Potomac, Jonathan Letterman (1824-1872), and later described the Civil War experience as "a postgraduate course in surgery, with the service in camps and hospitals, with battlefields for the great clinic—a long, weary course."

At Chancellorsville and Gettysburg he performed many surgical operations, looked after transportation, obtained supplies, buried the dead, and ended up with the best managed hospital in the Union Army. Later as Medical Inspector, he kept an eye on everything, collected medical statistics and pathological specimens, dispatched ambulances, and here he developed his remarkable talent for organization and administration and his ability to write "as concise as a telegram."

On 27 December 1864, Billings was assigned to the Surgeon General's Office, and among other responsibilities the Library and Medical Museum came under his jurisdiction.

Well aware that there was no one place in this country where even a representative collection of medical literature could be found, he set about accumulating a medical library to preserve the hard-won knowledge of the past, and make it available to medical practitioners of his day. By 1867, the collection was moved to Ford's Theater, and when it outgrew this space, he organized an intensive building campaign, and urged doctors across the country to petition their Congressmen to appropriate funds for a new building to house the Army Medical Museum and Library.*

In his efforts to increase the library collection, Billings wrote an endless stream of letters seeking donations of books; haunted the book stores at home and abroad; ransacked his friends' libraries; and beseeched the American Medical Association to publish an appeal to physicians to send to the Surgeon General's Library such files of American medical journals, Transactions of medical societies, announcements of medical colleges and reports of hospitals, asylums and Boards of Health as they "... may have preserved, and may be willing to part with in consideration of the object for which they are desired."

So successful was his book hunt that the collection expanded from about 1,800 volumes

*The Medical Museum of the Armed Forces Institute of Pathology, and one-time home of the Library, at 7th St. & Independence Ave., S.W., was constructed on Billings' design in 1887.
in 1865 to over 116,000 volumes and 191,000 additional reference works before he left the Surgeon General's Office in 1895. Every item was systematically catalogued by author and subject. Thus the Index-Catalogue was born, and the Index Medicus, a forerunner of the monthly publication of new accessions, followed. After many changes in its name, the Library of the Surgeon General's Office (in 1956) became the National Library of Medicine under the auspices of the Department of Health, Education and Welfare. Although Surgeon General Joseph Lovell (1788-1836) began assembling the Surgeon General's Library in 1836, its real growth and usefulness is a monument to the industry and ingenuity of John Shaw Billings, about whom Oliver Wendell Holmes (1841-1935) said, "... for libraries are the standing armies of civilization, and an army is but a mob without a general who can organize and marshall it so as to make it effective."

In the 30 years that Billings was assigned to the Surgeon General's Office, establishing the world's greatest medical library, he was also involved in many other activities.

In the early 1870s, he was detailed under the Secretary of the Treasury to inspect and report on the Marine Hospital Service. He traveled extensively and wrote recommendations, which, when adopted, took it out of politics and organized the service along military lines. Since 1912 it has been known as the U.S. Public Health Service.

Long before the term "environmental medicine" became popular, Billings was presenting papers on the effect of mountain climate on health, medical topography, and community rights, duties and privileges in relation to public health. It represented pioneer work of the most advanced degree. His voluminous reports on "The Hygiene of the U. S. Army" and "Barracks and Hospitals" gained him a reputation as an authority on hospital construction and sanitary engineering, although in both areas he was completely self-taught.

In 1875, his plans for the Johns Hopkins Hospital were selected by the Trustees of that Foundation; the buildings were started in 1877, and formally opened in 1889. The following year he published "A Description of the Johns Hopkins Hospital" which became a kind of textbook on the subject of hospital construction and ventilation. His suggestions on the faculty for the School of Medicine brought together some of the foremost physicians of that time—Welch, Osler, Halsted and Kelly.

In 1879, Billings became Vice-President of the short-lived National Board of Health, talked Congress into appropriating a half million dollars, and authorized the first Federal Grants-in-Aid to the States and local Boards of Health on quarantine and other control measures. The following year he was elected President of the American Public Health Association, and was intimately concerned with the information gathered for the 1880 census, and the statistical compilations that followed the taking of the 10th, 11th, and 12th United States censuses.

On 5 August 1881, Billings was asked to give the general address before the International Medical Congress in London, an honor not previously accorded to an American. His subject was "Our Medical Literature," a discourse filled with wit and wisdom, and he received a standing ovation and highly favorable press reviews around the world.

In 1883, he was elected a Member of the National Academy of Sciences, in recognition of his work in building up the Surgeon General's Library and its Index-Catalogue. (This was defined as the most important contribution to American medicine in the 19th century, and declared the outstanding link with medicine in Europe.) He served as its Treasurer from 1887 to 1898, and as a Member of its Council from 1896 to 1907.

Among the first honorary degrees awarded to him was a Doctor of Laws given by the Senator Academicus of the University of Edinburgh in 1884. He accepted it in company with Pasteur, the poets Browning and Lowell, the chemist Bunsen, and medical men, Virchow, Henle, Sir William Jenner and Fordyce Barker.

In 1886, he was asked to address the Brit-
ish Medical Association's Annual Meeting, and he wrote his wife that this talk, too, was well received. His subject was "Medicine in the United States and its Relations to Cooperative Investigation." With brutal frankness he had described the state of medicine in America, where there was no shortage of physicians, but where the standards of education varied widely, and the least talented seemed to practice in the poorer regions of the Southeast. This incurred the wrath of the Southern editors, and powerful segments of the American Medical Association, which could have ruined a man of less stature.

In 1889, he was in England again to receive a degree of Doctor of Civil Law from the University of Oxford, a distinction conferred on few members of the medical profession. He chose to wear the gown presented to him at that time when he posed for Cecilia Beaux in 1895, for the striking portrait which now hangs in the Main Reading Room at the National Library of Medicine. (Fig. 1)

On his 1890 visit to Europe, he addressed the International Medical Congress in Berlin. His wife accompanied him, and they spent three months on the continent visiting all of the leading cities about which he had written her on his many previous trips. By this time their children were grown. The three older girls, Mary Clare, and the twins Kate Sherman and Jessie Ingram were all engaged, and John Sedgwick and Margaret Janeway were 20 and 18.

In 1892, following two operations for cancer of the lip, he visited Great Britain again, and accepted an honorary degree of M.D. from Dublin University, and an honorary Fellowship of the Royal College of Surgeons of Ireland. His other honorary degrees included an LL.D from Harvard in 1886; an M.D. from Munich, Germany in 1889; an M.D. from Budapest in 1896; an LL.D from Yale in 1901, and an LL.D from Johns Hopkins in 1902.

When he resigned from the Army in 1895, he moved his family to Philadelphia. He had been appointed Professor of Hygiene at the University of Pennsylvania where he had designed the first distinctive laboratory for research in clinical medicine in the United States. He inspired his pupils and others to produce notable work, but cared little for clinical research himself, and was happy to be relieved when appointed Director of the New York Public Library in 1896.

In the fall of 1895, the city of Philadelphia honored him with a banquet; the largest purse ever raised for a physician by private subscription was given to him in recognition of his work on the Index-Catalogue and the building up of the Surgeon General's Library. On accepting the silver box with check for $10,000—"wealth beyond the dreams of avarice," he said, "I can only say that I thank you all from the bottom of my heart. To judge from my own sensations, that is not going very deep, because to me my heart seems at present to be in the neighborhood of my larynx . . . besides a very large part of this has not been due to individual merit, but, as you know, to opportunity."

At the New York Public Library he managed in his cool, deliberate way to reclassify
all the material and rearrange it into one alphabetical dictionary catalogue, similar to the Index-Catalogue. Plans for the central building at Fifth Avenue and 42d Street were drawn by Billings on a weekend visit to Atlantic City. In a very real sense he was its creator, preferring things plain and simple, but accepting architectural styling as "something which could hardly be avoided under the circumstances." Thirty-seven of the 42 branch libraries were erected from funds made available to Dr. Billings by Andrew Carnegie (1835-1919), who eulogized him in later years as "having left the world a little better than he found it."

On 4 January 1902, the Carnegie Institution of Washington was incorporated with an initial ten million dollar trust fund set up by Andrew Carnegie in registered five percent bonds of the U. S. Steel Corporation. Billings was one of the original incorporators, and served continuously until his death.

Always involved in many things, he served as President of the American Library Association in 1902, and drew up the plans for the Peter Bent Brigham Hospital in Boston between 1905-1908. A bibliography of his published papers between 1861 and 1913 lists 171 titles.

Billings had four rules for the preparation of an article. (1) Have something to say; (2) Say it; (3) Stop as soon as you have said it; and (4) Give the paper a proper title.

He had little time or patience with the mediocre, and often quoted an old saying that it does not pay to give a $5,000 education to a $5 boy, or to entrust costly apparatus to a careless engineer selected not on account of his knowledge, but because he is someone's nephew, or is active in politics, or is unable to support his family. He believed in the Anglo-Saxon theory of life, that what we are, what we become, what we acquire in this world, our successes and failures are due to ourselves alone, and not to any artificial social order.

Billings had achieved excellence in no less than six different fields—military and public hygiene; hospital construction and sanitary engineering; vital and medical statistics; medical bibliography and history; medical education; and the standards of practice. The Army officer was apparent in countless ways, in what he expected as well as what he did. The medical man and the scientist appeared with equal frequency, in his attitude toward life, and in the scrupulously careful weighing of evidence when attacking new problems. This soldier, scholar, physician and librarian dominated the American medical scene for almost half a century. He never appeared hesitant about taking on new projects, and once confided his secret, "There's nothing really difficult, if you only begin—some people contemplate a task until it looms so big, it seems impossible, but I just begin, and it gets done somehow."

Throughout most of his life Billings suffered intermittently from biliary calculus. He underwent a cholecystectomy in 1908, and in 1913 was operated for calculus in another location. He was still mourning the death of his beloved wife the previous August, when he contracted pneumonia and died on 11 March 1913. His body was brought to Washington for services at St. John's Church in Georgetown, and he was buried in Arlington National Cemetery on 14 March 1913 beside his wife, in Section I, Grave 47A.*

Among the highly appropriate memorials to John Shaw Billings is an award for the young military medical officer (under 41), who possesses and demonstrates outstanding potential in the field of Executive Medicine.** Presentation of the John Shaw Billings Award is programmed annually during the meeting of the Association of Military Surgeons of the United States.

References

* Arlington National Cemetery records.
** Established in 1962 by the Eaton Laboratories of the Norwich Pharmaceutical Company. It consists of a suitably engraved Scroll and honorarium.
We have repeated to ourselves so much of late the slogan, "America must be strong," that we have forgotten what strength is. We appear to believe that strength consists of masses of men and machines. I do not deny that they have their role. But surely the essential ingredients of strength are trained intelligence, love of country, the understanding of its ideals, and such devotion to those ideals that they become a part of the thought and life of every citizen. We cannot hope to make ourselves intelligible to the rest of the world unless we understand ourselves.

Robert Hutchins